Title
Developing a Draft Management Plan for the Dike Rock Intertidal Area Scripps Coastal Reserve, La Jolla, California

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Developing a Draft Management Plan for the Dike Rock Intertidal Area
Scripps Coastal Reserve
La Jolla, California

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June 2015

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Capstone Advisory Committee Final Capstone Project Signature Form

Developing a Draft Management Plan for the Dike Rock Intertidal Area

Scripps Coastal Reserve
La Jolla, California
Marina Som

MAS Marine Biodiversity and Conservation
Capstone Project

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ABSTRACT

The Scripps Coastal Reserve (SCR) is one of 39 reserves in the University of California (UC) Natural Reserve System (NRS) established by the UC Board of Regents to support university-level research, education, and public service. A ten-year review (May 2006) of the SCR identified that the reserve faces external threats to its long-term viability from heavy public use, particularly in the shoreline/marine portion of the SCR, and recommended that the UC San Diego take a stronger role in protecting the natural resources located within the SCR. This draft management plan has been developed for the approximately 4-acre area rocky intertidal portion of the SCR known as Dike Rock. The purpose of this draft management plan is to provide a mechanism for the integration of information and a structure for the protection, management, and use of the Dike Rock intertidal area and its biological and physical resources. The plan is organized into three program areas: Administrative; Research, Education, and Public Service; and Interagency Coordination. Goals, objectives, policies, and implementing actions were developed for these three program areas based on consultation with the UCSD Reserve Manager and Reserve Faculty Advisor, on-site observations, and feedback from reserve users. It is anticipated that this draft management plan can be incorporated into a larger planning document for the SCR as a whole when that effort is undertaken.

ACKNOWLEDGEMENTS

A special thank you to my committee members, Isabelle Kay and Dr. Jen Smith, who had contribute considerable time, knowledge, and experience in the completion of this project. This project would not have been possible without their guidance and support. I would also like to thank Keith Greer, SANDAG, for guidance on using conceptual models as an evaluation and analysis tool for the development of the draft management plan. And, I would like to express my sincere thanks to all the Scripps Coastal Reserve users who had responded to my Dike Rock user questionnaire, whose participation were invaluable in providing on-the-ground knowledge of Dike Rock.
Draft
Adaptive Management Plan for the Dike Rock Intertidal Area
Scripps Coastal Reserve
La Jolla, California

Marina Som
Capstone Project
Marine Biodiversity & Conservation Program
Scripps Institution of Oceanography
June 2015

Capstone Committee:
Isabelle Kay, UC San Diego Reserve Manager (Chair)
Dr. Jennifer Smith, Scripps Institution of Oceanography
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# ACRONYMS AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>ac.</td>
<td>acre</td>
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<td>ASBS</td>
<td>Area of Biological Significance</td>
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<td>CCC</td>
<td>California Coastal Commission</td>
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<td>CDFW</td>
<td>California Department of Fish and Wildlife</td>
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<td>lat.</td>
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<td>mi.</td>
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<td>MPAs</td>
<td>marine protected areas</td>
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<td>NGOs</td>
<td>Non-governmental organizations</td>
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<td>NMPAC</td>
<td>National Marine Protected Areas Center</td>
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<tr>
<td>NOAA</td>
<td>National Oceanographic and Atmospheric Administration</td>
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<td>NRS</td>
<td>Natural Reserve System</td>
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<td>SCR</td>
<td>Scripps Coastal Reserve</td>
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<td>SDAB</td>
<td>San Diego Air Basin</td>
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<td>SIO</td>
<td>Scripps Institution of Oceanography</td>
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<tr>
<td>SMCA</td>
<td>State Marine Conservation Area</td>
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<td>SWRCB</td>
<td>State Water Resources Control Board</td>
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<td>UC</td>
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EXECUTIVE SUMMARY

The University of California (UC) Natural Reserve System (NRS) was established to support the research and teaching mission of the UC and, where appropriate, public service programs. The SCR is located in the community of La Jolla, in the City of San Diego, California, and is comprised of an upland and shoreline/marine portion. The rocky intertidal portion of the SCR, known as Dike Rock, provides habitat for a diverse assemblage of plants including sea grass and algae as well as a diverse population of invertebrates, such as mollusks, echinoderms, sponges, and arthropods.

A 10-Year review of UC NRS reserves under the administration of UC San Diego has identified that the Dike Rock intertidal area of the SCR is a highly sensitive marine resource area that faces significant challenges due to heavy public use. High rates of human visitation and activities in this area such as fishing, tidepooling, walking, jogging, swimming, and surfing can produce extensive foot traffic in intertidal and shallow subtidal areas that can produce numerous disturbances to the ecosystem. Thus, this draft management plan has been developed to provide a mechanism for the integration of information and a structure for the protection, management, and use of the Dike Rock intertidal area and its biological and physical resources. The focus of this draft management plan is the Dike Rock intertidal area, an approximately 4-acre area within the SCR. The purpose of this plan is to guide future rocky shore resource use and recreation management of the SCR, and minor site/facility improvements and interpretive opportunities as feasible.

This draft management plan is divided into two parts. Part I of the draft management plan provides background information and natural history of the SCR as it pertains to the Dike Rock intertidal portion of the reserve. Part II of this draft management plan discusses the objectives, policies, and actions to implement the following goals:

a. Maintain and protect natural resources from overuse;
b. Provide opportunities for research, education, and public outreach that are appropriate for the shoreline/rocky intertidal area of the SCR; and
c. Promote public awareness, understanding, appreciation, and enjoyment of the Dike Rock rocky intertidal area.

Three program areas have been identified and organized, which include: (1) administrative, (2) research, education, and public service, and (3) interagency coordination. Each program includes objectives, policies, and actions relevant to the specifics of the programmatic focus.
Part I: Dike Rock Intertidal Area: Background and Natural History

A. INTRODUCTION

The Scripps Coastal Reserve (SCR) is one of 39 reserves that is part of the University of California (UC) Natural Reserve System (NRS) established to support the research and teaching mission of the UC and, where appropriate, public service programs. The SCR is located in the community of La Jolla, in the City of San Diego, California, and is comprised of an upland and shoreline/marine portion. The rocky intertidal portion of the SRC, known as Dike Rock, provides habitat for a diverse assemblage of plant, including sea grass, algae, as well as a diverse population of invertebrates such as mollusks, echinoderms, sponges, and arthropods. As such, Dike Rock is a popular area for research, education, and recreation. Part I of this draft management plan will provide an overview of the SCR and natural history of Dike Rock, including biological and physical resources, as described below.

1.0 University of California Natural Reserve System

The NRS was established by the UC Board of Regents in 1965 to “contribute to the understanding and wise stewardship of the Earth and its natural systems by supporting university-level teaching, research, and public service at protected natural areas throughout California” (UC NRS 2006a). The NRS is comprised of 39 reserves that encompass approximately 756,000 acres (ac.).

The NRS is an UC-wide program that is part of the Division of Agriculture and Natural Resources. The UC owns approximately 20% of this land, whereas the remaining 80% is managed by the UC through a combination of conservation easements, leases, or use agreements with individuals and public and private agencies (UC NRS 1991). Each reserve has been established to support the research and teaching mission of the UC and, where appropriate, public service programs (UC NRS 1991). Each reserve is under the administration of one of the eight UC campuses (Table 1).

2.0 Scripps Coastal Reserve

The SCR was established in 1965 as one of the seven original reserves in the NRS. The UC San Diego campus oversees the SCR. The reserve is located at 32°52.500’ North (N.) latitude (lat.), 117°15.250’ West (W.) longitude (long.). The SRC is comprised of an upland portion that lies approximately 0.3 mile (mi.) west of the main campus of the UC San Diego campus and 0.6 mi. north of the Scripps Institution of Oceanography (SIO) and a shoreline/marine portion that lies adjacent to SIO. The SCR encompasses approximately 943 ac. owned by the UC, 800 ac. submerged land leased from the City of San Diego, and 19 ac. under use agreement with private owners for the adjacent Sumner Canyon.
In addition, the shoreline/marine portion of the SCR overlaps the San Diego-Scripps Coastal State Marine Conservation Area (SMCA), which is part of a statewide network of marine protected areas (MPAs) under the management of the California Department of Fish and Wildlife (CDFW) (Figure 1). This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

- $32^\circ 53.000'$ N. lat., $117^\circ 15.166'$ W. long.;
- $32^\circ 53.000'$ N. lat., $117^\circ 16.400'$ W. long.;
- $32^\circ 51.964'$ N. lat., $117^\circ 16.400'$ W. long.; and
- $32^\circ 51.964'$ N. lat., $117^\circ 15.233'$ W. long. (CDFW 2014).

In addition, the SCR is also designated as an Area of Special Biological Significance (ASBS) that is monitored and maintained for water quality by the State Water Resources Control Board (SWRCB) (Figure 2). The Dike Rock intertidal area, which is a rocky intertidal portion of the SCR, located north of the Ellen Browning Scripps Memorial Pier (Scripps Pier), is included in the San Diego-Scripps Coastal SMCA and ASBS.

### 3.0 Purpose of the Management Plan

The purpose of this draft management plan is to provide a mechanism for the integration information and a structure for the protection, management, and use of the Dike Rock intertidal area and its biological and physical resources. To this end, program areas have been identified and organized into (1) administrative, (2) research, education, and public service, and (3) interagency coordination. Each program includes goals, policies, and actions relevant to the specifics of the programmatic focus.

### B. ENVIRONMENTAL SETTING

Dike Rock is located at $32^\circ 52.279'$ N. lat., $117^\circ 15.196'$ W. long., about 0.37 mi. north of the Scripps Pier in the community of La Jolla within in the City of San Diego, along the coast of San Diego County, California (Figure 3). Located within the shoreline portion the SRC, the Dike Rock area is an approximately 4-ac. rocky intertidal area bounded on the north and south by sandy beaches, on the east by cliffs, and on the west by the Pacific Ocean.

#### 1.0 Climate

The climate is Mediterranean with an average annual rainfall of approximately nine inches per year; however the range of rainfall varies greatly from year to year. The coastal climate is generally mild with average air temperatures ranging from $8^\circ C (47^\circ F)$ in January to $25^\circ C (78^\circ F)$ in September and average water temperatures ranging from $14^\circ C (57^\circ F)$ in February to $21^\circ C (69^\circ F)$ in August. Meteorological and hydrological data from the Scripps Pier are available through the North Pacific Experiment (NORPAX) data library at SIO (UC NRS 1991).
2.0 Topography

The shoreline portion of SCR is comprised of approximately 80 ac. and consists of predominantly sandy plain. A boulder field and volcanic dike, known as Dike Rock, provides a rocky substrate near the northern end of the SCR, and the pilings of the Scripps Pier are another hard substrate at the southern end of the SCR. Dike Rock is comprised of black, fine-grained, basaltic-andesite with an approximate age of 11 million years (Kennedy and Tan 2008). The Dike Rock area is a unique habitat in this region of California’s coast, supporting a significantly different invertebrate fauna than at nearby rocky sites (UC NRS 2006b). To the east of the Dike Rock area, the cliffs adjacent to the shoreline are topped by Plio-Pleistocene marine terrace. These steep coastal bluffs present a well-defined series of geological exposures with several distinct layers visible (NRS 2006b). To the west of the Dike Rock area, the subtidal portion of the SRC extends 1000 feet offshore and includes sandy and rocky substrates, including the beginning of the Scripps Submarine Canyon. No other NRS sites contain these intertidal and subtidal habitats south of Santa Barbara (NRS 2006b).

2.0 Biological Resources

The rocky intertidal portion of the SCR contains an abundance of invertebrates, seagrass and algae. A list of flora and fauna found at Dike Rock is attached to this draft management plan as Appendix A and B, respectively.

C. LAND USE

1.0 Facilities and Use

1.1 Research, Instructional and Public Use

The UC NRS has been established to support the mission of research and education, and where appropriate, public service programs. Proposed activities and the level of use at the reserve are carefully reviewed by the Reserve Manager (or other designated UC official) for consistency with the NRS Reserve Use Guidelines, and with regulations and management plans for that particular reserve. Activities that will or are highly likely to irreversibly harm the natural values, ecosystem functions, and native biodiversity of the reserve, or preclude its possible future use for University-level research or instruction are not allowed (UC NRS 2006a). As such, groups with more than 25 people total (including instructors and students) are not allowed on the rocky intertidal of the SCR.

1.2 Scientific Collecting

The take, collection, capture, marking, or salvaging of flora and fauna at Dike Rock for scientific, educational, and non-commercial purposes requires a Scientific Collecting Permit from the CDFW (Fish and Game Code Section 1002 and Title 14 Sections 650 and 670.7). The take of some animals may also require a Memorandum of Understanding or other additional written
authorization from CDFW (CDFW 2015).

D. REGULATORY AND ADVISORY AGENCIES

There are a number of public entities that have jurisdiction over various aspects of development, management, and enforcement of the natural resources and activities that affect the resources at the Dike Rock intertidal area. These entities are described below.

1.0 University of California Natural Reserve System

The UC NRS is an intercampus program administered through the Office of Research - Division of Academic Affairs, in the UC Office of the President. The NRS Director provides leadership and coordination for the reserves, and an NRS UC-wide Advisory Committee, which is composed of representatives from each UC campus. The NRS Advisory Committee meets biannually to provide broad input on the activities, policies, and priorities of the NRS. Each reserve is assigned to one of the 9 UC campuses for day-to-day administration and is managed by a reserve manager, with oversight provided by a campus NRS administrative structure; and, at most campuses, by a faculty reserve manager with advice from a campus advisory committee. Use of a reserve is approved if the proposed activity and level of use are determined by the reserve manager (or other designated UC official) to be consistent with the NRS Reserve Use Guidelines (Appendix C) and with regulations and management plans for that reserve.

2.0 Federal Agencies

2.1 National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration (NOAA), National Marine Protected Areas Center (NMPAC), is responsible for the development and implementation of a national system of MPAs. The National System of MPAs is comprise of existing MPAs that work together to link and strengthen connections between the nation’s federal, state, tribal and local MPA programs (NMPAC 2015). National System MPAs are managed independently, but work together at the regional and national levels to achieve common objectives. The San Diego-Scripps ASBS is formally recognized as part of the national system (Appendix D).

3.0 State Agencies

3.1 California Coastal Commission

The California Coastal Commission (CCC) is an independent, quasi-judicial state agency that, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone pursuant to the California Coastal Act of 1976 (Public Resources Code Division 20). Development activities under the purview of the CCC include construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, which generally require a coastal permit from either the CCC or the local
government (CCC 2014). In addition, the CCC is responsible for protecting marine and terrestrial coastal resources and ensuring the public’s ability to use and enjoy the coast for recreation.

3.2 California Department of Fish and Wildlife

The CDFW is the state agency responsible for the protection and management of California’s diverse fish, wildlife, and plant resources, and native habitats. In 1999, the California State Legislator passed the Marine Life Protection Act (MLPA) that mandated the CDFW to serve as the lead agency responsible for the implementation and management of the state’s MPAs network (Title 14, Section 632, California Code of Regulations; Appendix E). California’s MPA network includes three MPA designations: State Marine Reserve, State Marine Conservation Area, and State Marine Park. Other designations, such as special closures and marine recreational management areas are not technically MPAs, but are also managed within the MPA network (CDFW 2014). In addition to the management of the MPA network, the CDFW is responsible for enforcement, education, monitoring and research activities under the MLPA program.

3.3 State Water Resources Control Board

The SWRCB is responsible for the preservation, protection, enhancement and restoration water quality pursuant to the Clean Water Act. The SWRCB adopted Resolutions No. 74-28, 74-32, and 75-61, which designated coastal areas as Areas of Special Biological Significance (ASBS) that require special water quality protection. Currently, there are 34 of these ocean areas monitored and maintained for water quality by the SWRCB (SWRCB 2015). Included in the designated ASBS is the San-Diego Scripps ASBS State Water Quality Protection Area.

4.0 City Agencies

4.1 City of San Diego Life Guard Services

A division of the San Diego Fire-Rescue Department, the City of San Diego Life Guard Services is a 24-hour rescue agency whose service area spans approximately 24 miles of coastline within the jurisdiction of the City (City of San Diego 2015). The San Diego Life Guard Services administer water rescue, boat rescue, marine fire suppression up to three miles offshore, coastal cliff rescue, underwater search and recovery, swift water and flood search and rescue, and emergency medical response on and around beach, bay and ocean areas in the City (City of San Diego 2015). In addition, San Diego Lifeguards are also responsible for the enforcement of local, state, and federal laws and regulations concerning beach and water uses through prevention, citation and arrest. All full-time lifeguards are classified as peace officers and seasonal lifeguards are classified as public officers, both with the power of arrest (City of San Diego 2015).
Part II: Dike Rock Intertidal Area: The Management Plan

A. INTRODUCTION

According to the NRS 10-Year Review (May 2006) of the four reserves managed by the UC San Diego, it was recommended that each reserve should have a fully developed management plan completed and adopted. Although prior planning efforts were undertaken in 2003 by the UC San Diego, no formal management plan has been adopted for the SCR to date.

The focus for this draft management plan is the Dike Rock intertidal area, an approximately 4-ac. area of the SCR. The objective of this plan is to guide future rocky shore resource use and recreation management of the SCR, and minor site/facility improvements and interpretive opportunities as feasible. Upland and underwater issues not directly related to use of the rocky intertidal area of the SCR are not addressed in this plan. It is anticipated that this draft management plan can be incorporated into a larger planning document for the SCR as a whole when that effort is undertaken.

The NRS 10-Year Review has identified that the Dike Rock intertidal area of the SCR is a highly sensitive marine resource area that faces significant challenges due to heavy public use. This area does not only support scientific research and education by local school districts (K-12), colleges, and universities, but is a popular site for recreational uses as well.

Numerous studies have found that high rates of human visitation in coastal habitats involving activities such as fishing, tidepooling, walking, jogging, swimming, and surfing can produce extensive foot traffic in intertidal and shallow subtidal areas, which can produce numerous disturbances to coastal ecosystems (Huff 2011). These disturbances include: trampling, legal and illegal resource harvesting and collecting, physical and chemical pollution, overturning of rocks and boulders, coastline modification by artificial structures, and displacement of shorebirds. In addition, some visitors are not fully aware of rules and guidelines for the use of the reserve and regulations for protecting marine resources within the Dike Rock intertidal area, and disturbance by dogs off-leash out on the rocks has been observed.

The goal of this document is to provide a management framework for the Dike Rock intertidal area of the SCR that will:

a. Maintain and protect natural resources from overuse;
b. Provide opportunities for research, education, and public outreach that are appropriate for the shoreline/rocky intertidal area of the SCR; and
c. Promote public awareness, understanding, appreciation, and enjoyment of the Dike Rock rocky intertidal area.

The following objectives, policies, and actions that implement the above goals are organized
into three program areas: Administrative; Research, Education, and Public Service; and Interagency Coordination.\(^1\) The objectives, policies, and implementing actions of these program areas were developed based on consultation with the UCSD Reserve Manager and Reserve Faculty Advisor, on-site observations, and questionnaire responses from users of the Dike Rock intertidal area identified by the Reserve Application Management System (RAMS). The questionnaire and observation sheets are attached to this document as Appendix F. As an overarching principle, adaptive management should be employed to periodically review, and as appropriate update these objectives, policies, and actions.

**B. ADMINISTRATIVE PROGRAM**

Administrative programs are those administered directly through the office of the UC San Diego Reserve Manager. These programs are directly related to the overall reserve administration that includes planning, resource management, and access to the rocky intertidal portion of the SCR.

**1.0 Current Status**

As discussed above, no formal management plan has been adopted for the SCR, which includes the Dike Rock intertidal area. Although an extensive draft management plan for the SCR was developed in May 2003 (Appendix G), this plan has not been completed or adopted.

In the absence of a management plan, an application and reservation process has been implemented to account for and regulate the number of users of the Dike Rock intertidal area. Reserve use for educational purposes, including university-level research and instruction, K-12 or other types of classes, or environmental non-governmental organizations (NGOs) or agencies is reviewed based on an online application via the RAMS available at [http://rams.ucnrs.org/](http://rams.ucnrs.org/). Approval of reserve use is granted by the UCSD Reserve Manager if the proposed activity and level of use are deemed to be consistent with the NRS Reserve Use Guidelines and with regulations and guidelines for the reserve, as described in Appendix C. In addition to submitting the online application, users are required to make a reservation with the Reserve Manager that details the specific dates, the participants, and description of the activities proposed for final approval.

Although the application and information on how to arrange a visit to the reserve is available online at [http://nrs.ucsd.edu/reserves/visit-a-reserve.html](http://nrs.ucsd.edu/reserves/visit-a-reserve.html), not all reserve users are aware that they are required to complete the application and/or make reservations prior to use of the reserve. Additionally, the online application system and reservation process were found to be not user-friendly and cumbersome for some reserve users.

\(^1\) Plan organization, policy considerations, and implementing actions for this draft management plan were modeled after the UC NRS Management Plan for Carpinteria Salt Marsh Reserve ([http://carpinteria.ucnrs.org/managementplan.html](http://carpinteria.ucnrs.org/managementplan.html)).
Furthermore, there has been a long history of scientific research and resource monitoring by various NGOs and agencies in the Dike Rock intertidal area. Those data exist in various silos that have not been complied or inventoried in a database or mapping system that would facilitate new research projects or guide management decisions in the rocky intertidal portion of the SCR. Thus to meet the NRS mission on reserve lands, an accessible and centralized information management system needs to be established for the SCR to store, integrate, and disseminate information for the purpose of research, education, and public service.

2.0 Objective, Policies, and Actions

The following objective, policies, and actions have been developed to address the above-identified management issues associated with administration of the reserve.

Objective 1.0 Develop a management structure that will provide for the management and protection of the Dike Rock intertidal area of the SCR.

Policy 1.1 Provide for the management, protection, restoration, and use of Dike Rock intertidal area consistent with the UC Natural Reserve System mission.

Action 1.1.1. Implementation of the Management Plan shall be the responsibility of the UC San Diego Reserve Manager who shall coordinate with responsible agencies and interested groups.

Action 1.1.2. Implementation of and updates to the Management Plan shall be coordinated with the UC San Diego Reserve Manager and other agencies and groups that have jurisdiction or interest in the Dike Rock intertidal area.

Action 1.1.3 Consult with responsible agencies and interest groups on issues where they have expertise or experience.

Policy 1.2 Develop a system that provides for on-going monitoring of access and uses at the Dike Rock intertidal area to inform management activities, policies, and priorities.

Action 1.2.1 Improve the Reserve Application Management System (RAMS) by streamlining the application process for research, educational, and other uses of the SRC that is consistent with the goals of this Plan.

Action 1.2.2 Design and implement baseline inventories (e.g., vegetation, species lists/distributions, hydrology, etc.) to monitor short-term and long-term habitat and ecological changes.

Action 1.2.3 Develop and implement user/visitor surveys to develop more focused and long-term impact studies for management.
Action 1.2.4 Identify and collaborate with interest groups who have existing monitoring programs in the place at Dike Rock to further long-term monitoring efforts of the rocky intertidal community.

C. RESEARCH, EDUCATION AND PUBLIC SERVICE PROGRAM

Three components of the UC NRS mission are research, education, and public service on reserve lands. Research, Education, and Public Service programs below describe how this mission will be carried out while protecting sensitive natural resources at the rocky intertidal area of the SCR.

1.0 Current Status

The Dike Rock intertidal area is an easily accessible and heavily utilized portion of the SCR for research, education, and recreation. The NRS 10-Year Review (May 2006) identified the following management issues in regards to research, instruction, and public use:

Research Use – The shoreline component of SCR has seen considerable research use by faculty and grad students from UCSD and from 3 other campuses of UC, as well as from other institutions. Research has covered a wide range of topics from intertidal ecology to geology and near-shore oceanography, and has included studies of effects of heavy human use on intertidal resources. Despite this use, only four publications are listed for the past 5 years stemming from research at the site, which must surely be an incomplete list. Current research use is appropriate for the site, and should continue to be encouraged, but some kinds of research are precluded by the heavy public use of the intertidal zone.

Teaching Use – The shoreline component of SCR is heavily used for teaching by UCSD and other area colleges. This is not surprising, given its location so close to campus and Scripps, its easy access, and the teaching opportunity it provides for studies of biology, geology and oceanography. It is unlikely that teaching use could become too heavy for this Reserve, so efforts to publicize the availability of the site for teaching within the University and among other institutions should continue.

Public Outreach – Public use of the shoreline component is extremely heavy, probably numbering in the hundreds of thousands per year. Because the Reserve is freely open to the public and is used recreationally, these visitors are not monitored or counted... a strong docent-led intertidal program might be combined with the K-12 and public outreach programs of the [Stephen] Birch Aquarium in ways that would benefit both programs... [In addition], the community seems largely unaware that the shoreline component of Scripps Coastal Reserve is a UC Natural Reserve (despite the presence of a sign) or a State Marine Conservation Area, and many public visitors are unaware, or choose to ignore, the restrictions on collecting of marine invertebrates and plants.
2.0 Objective, Policies, and Actions

The following objective, policies, and actions have been developed to address the above-identified issues associated with research, education, and public service at the Dike Rock intertidal portion of the reserve.

Objective 2.0 Provide for a healthy, ecologically diverse rocky intertidal environment, accessible to all, in which to enjoy the SCR.

Policy 2.1 Enhance understanding and appreciation of the significance of the Dike Rock intertidal area to support the preservation of its resources for this and future generations.

Action 2.1.1 Develop interpretive signage for the rocky intertidal and on-site interpretive services (e.g.; docent program) to inform users/visitors of the sensitive resources on-site.

Action 2.1.2 Promote long-term monitoring and focused research projects that also can provide important information for the management and restoration of the Dike Rock intertidal area and its resources.

Action 2.1.3 Implement computer database and mapping systems to support research and education.

Action 2.1.4 Compile data and resource inventories and make them available to researchers and other users of the SCR.

Policy 2.2 Minimize disturbance, collection, injury, and other adverse impacts to intertidal organisms through public outreach and education.

Action 2.2.1 Develop a docent program to expand the visitors’ experience with an appreciation for the rocky intertidal.

Action 2.2.2 Develop rocky intertidal curriculum for K-12 and require readings for teachers and group leaders prior to visit.

Action 2.2.3 Encourage visitors to enjoy rocky intertidal organisms through observation-only interactions.

Action 2.2.4 Prohibit containers (e.g.; buckets or cups) and instruments for digging, scraping, poking, or prying (e.g.; shovel, knives, etc.) in any area of the rocky intertidal.
**Action 2.2.5** Prohibit access by dogs at all times in the rocky intertidal area of the SCR.

**Action 2.2.6** Coordinate with the Stephen Birch Aquarium to provide educational and outreach programs to inform the public of tidepooling rules and guidelines in the rocky intertidal portion of the SCR.

**D. INTERAGENCY COORDINATION PROGRAM**

As discussed in Part I of this draft Management Plan, the shoreline/marine portion of the SCR is under the jurisdiction of multiple state and local agencies. The Interagency Programs addresses interagency mandates, policies, and coordination that must be incorporated for the management of the Dike Rock intertidal area.

**1.0 Current Status**

The Dike Rock intertidal area of the SCR is under the oversight of multiple jurisdictions. Specifically, the area is designated as both a SMCA and ASBS by the CDFW and SWRCB, respectively. The SMCA designation prohibits public take of all living marine resources, with the exception for recreational fishing of coastal pelagic species, not including market squid, by hook and line (CDFW 2012). However, enforcement within the SMCA is deficient, requiring reserve users to police themselves. Unlawful take of marine organisms generally enforced through the CDFW CalTIP Program that is a confidential program that encourage the public to report any poaching and pollutng incident or fish and wildlife violation within the SMCA. The program is operated through a toll-free telephone number that operates 24 hours a day, 7 days a week. In addition, the shoreline portion of the SCR is patrolled by City of San Diego lifeguards that has the authority to enforce local, state, and federal laws and regulations concerning beach and water uses through citation and arrest.

Collection of marine plants and invertebrates by scientific institutions for research and education is permitted pursuant to a Scientific Collecting Permit (SCP) issued by the CDFW (Fish and Game Code Section 1002 and Title 14 Sections 650 and 670.7). However, scientific researches have encountered issues with the SCP process (Hall 2015). The following concerns were raised by the UC System and NRS: first, “the SCP review process was so slow that it stops or severely delays research;” and second, the “current SCP revenue is insufficient to support an effective, speedy review and processing of permit applications” (Hall 2015). Thus, more collaboration and coordination was recommended between the NRS, institutions, and CDFW.

Additionally, the ASBS designation restricts the discharge of waste to protect and improve water quality within the San Diego-Scripps SMCA. According to the NRS 10-Year Review (May 2006), UCSD has worked with the SRWCB to correct problems associated with SIO research aquaria and storm water discharge and to undertake a monitoring program of all inputs in the future. However, the process of working out these agreements has been conducted through
the SIO administration, with little consultation with the Reserve Manager. Therefore, NRS 10-Year Review recommends that the Reserve Manager should be included in such discussions that might affect the resources of the SCR.

2.0 Objective, Policies, and Actions

The following objective, policies, and actions have been developed to address the above-identified issues associated with interagency coordination and cooperation at the Dike Rock intertidal portion of the reserve.

Objective 3. Coordinate management of the Dike Rock intertidal area with the agencies and public interest groups that have an interest and/or responsibilities shoreline/marine portion of the SCR.

Policy 3.1 Provide management programs to facilitate discussion and serve as a mechanism for integration and reconciliation of the many missions, mandates, policies, and interests of participating institutions, agencies, and organizations.

Action 3.1.1 Develop a memorandum of agreement between the UC NRS and CDFW for expedited and priority review of Scientific Collection Permits for applications that are submitted into the UC NRS RAMS.

Action 3.1.2 Identify and track monitoring programs conducted by various agencies, institution, and organizations to determine program overlap and engage these different entities in data sharing and information dissemination.

Action 3.1.3 Engage and collaborate with SIO administration on water quality issues that impacts resources within the SCR.

Policy 3.2 Marine plants, invertebrates and fish are protected and shall not be removed without appropriate permits from the UC NRS and CDFW.

Action 3.1.3 Coordinate with CDFW Warden and City of San Diego Lifeguards to improve information sharing regarding illegal activities and enforcement issues within the rocky intertidal portion of the SCR, and encourage development of a collaborative enforcement program coordinated between the CDFW and City of San Diego Lifeguard Services to minimize poaching of intertidal organisms.

E. Conclusion

The objectives, policies, and implementing actions of the three programmatic areas of this draft plan all contribute to enriching the experience of those using Dike Rock while protecting the sensitive marine resources located within the SCR. Although the focus of this draft plan is the
management of uses, this draft management plan also provides measures that would contribute to the understanding of ecological and physical changes occurring within this rocky intertidal portion of the SCR and facilitate the integration of information to guide management decisions. Thus, adaptive management should be employed to periodically review, and, as appropriate, update the objectives, policies, and actions of this draft plan.

It is important to note that implementing the policies described in this draft management plan will require not only substantial funding, but collaboration and coordination between the SCR, agencies, organizations, and interest groups that have an interest and/or responsibilities in the shoreline/marine portion of the SRC. The availability of funding and UC NRS staff are issues that would have to be examined within the framework of the subsequent review process for this draft management plan.
# TABLES AND FIGURES

## Table 1. UC NRS Reserves by Campus

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<tr>
<th>Campus</th>
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<td>UC Irvin</td>
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<td>Younger Lagoon Reserve</td>
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Figure 1. San Diego-Scripps Coastal State Marine Conservation Area

Source: CDFW. Southern California Marine Protected Areas. (http://www.dfg.ca.gov/marine/mpa/scmpas_list.asp)
Figure 2. Area of Special Biological Significance (ASBS No.31)

Figure 3. Aerial Map of the Dike Rock Intertidal Area, Scripps Coastal Reserve
REFERENCES


Hall, Jeff. Letter to California Department of Fish & Wildlife. 16 Apr. 2015. MS. N.p.


----. 2006b. Natural Reserve System University Of California, San Diego: 10-Year Review.
APPENDICES

Appendix A. Scripps Coastal Reserve Rocky Intertidal Species List – Flora

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>COMMON NAME</th>
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<tr>
<td>Acrosorium</td>
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<td>Callophyllis</td>
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<tr>
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<td>Gigartina exasperata</td>
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<td>Halymenia</td>
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<td>Maripelta</td>
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## Appendix B. Scripps Coastal Reserve Rocky Intertidal Species List – Fauna

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<td>Acmaea spp.</td>
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<td>anemone</td>
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<td>Aplysia californica</td>
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<td>Balanus spp.</td>
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<td><em>Tylodina fungina</em></td>
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<tr>
<td><em>Velella velella</em></td>
<td>by-the-wind-sailor</td>
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<tr>
<td><em>Volvarina taeniolata</em></td>
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<tr>
<td><strong>Fish</strong></td>
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<tr>
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<td>opaleye</td>
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<td><em>Gobiesox rhessodon</em></td>
<td>California clingfish</td>
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<td><strong>SCIENTIFIC NAME</strong></td>
<td><strong>COMMON NAME</strong></td>
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Appendix C. University of California Natural Reserve System Reserve Use Guidelines
Reserve Use Guidelines

Introduction

The Natural Reserve System (NRS) is a unique assemblage of protected wildland sites throughout California. Its reserves encompass nearly all of the state's major ecosystems preserved in as undisturbed a condition as possible to support University-level research and teaching programs. The ecosystems and facilities offered by each reserve are available to faculty and students from all University of California campuses, and to users from other institutions, public or private, throughout the world.

The NRS is an intercampus program through the Office of Research - Division of Academic Affairs, in the UC Office of the President. The NRS Director provides leadership and coordination for the reserves, and an NRS Universitywide Advisory Committee, composed of representatives from each campus, meets biannually to provide broad input on the activities, policies, and priorities of the NRS. Each reserve is assigned to a particular UC campus for day-to-day administration and is managed by a resident or non-resident reserve manager, with oversight provided by a campus NRS administrative structure and, at most campuses, by a faculty reserve manager with advice from a campus advisory committee.

1. GENERAL GUIDELINES

Each reserve has been established to support the University of California's research and teaching mission and, where appropriate, public service programs. Use of a reserve will be allowed if the proposed activity and level of use, after careful review by the reserve manager (or other designated University official), are deemed to be consistent with the NRS Reserve Use Guidelines and with regulations and management plans for that particular reserve. General Systemwide guidelines are set by the NRS Director in consultation with the Systemwide NRS Advisory Committee, and more reserve-specific guidelines emerge from discussions among campus NRS administrators, reserve managers, and the campus NRS advisory committee. Activities that will or are highly likely to irreversibly harm the natural values, ecosystem functions, and native biodiversity of the reserve, or preclude its possible future use for University-level research or instruction will not be allowed. Thus, the number and duration of stay by visiting researchers, classes, and members of the public will necessarily be limited at each reserve. Similarly, facility development at each reserve may be allowed only in designated areas and may be limited in size so that natural and cultural values are not adversely affected.

2. PROCESS

The reserve manager has primary responsibility for approving proposed uses under the NRS Use Guidelines and applicable reserve guidelines, and will coordinate management and all other uses of the reserve. In difficult cases, the reserve manager will consult the faculty reserve manager or other faculty with appropriate areas of expertise before approving or rejecting an application. If a user fails to comply with any of the requirements, the reserve manager, after proper consultation, could restrict or terminate ongoing reserve use, and the user's subsequent use applications may be rejected. Each campus will establish an appeals process to deal with disputes between potential or current users and reserve managers regarding reserve use. This appeals process may consist of dispute resolution by an informed, ad hoc board consisting of faculty members with appropriate areas of expertise.

3. MANAGEMENT PLANS

Each reserve has or is developing a management plan to ensure that the intrinsic ecosystem functions of the reserve are maintained and, where needed, manipulated to achieve desired ecosystem functions. These plans (which include specific reserve regulations) guide resource management decisions, identify areas suitable (in some instances, exclusively) for certain uses. Some plans may zone
certain areas that contain fragile resources "off-limits" to most users. All activities (e.g., management, facilities construction) must comply with applicable federal, state, and local regulations.

1. Research Areas
   Many research protocols require that the research area, including its biological resources and any equipment, be minimally disturbed by humans. Thus, some areas of each reserve may be set aside permanently or temporarily for research use only.

2. Instructional Areas
   Areas designated for class use (e.g., for observing wildlife and plants) may also be used by researchers if their research will not be adversely affected by instructional use.

3. Natural Areas
   Reserves often include areas that have been relatively undisturbed by agriculture, grazing, logging, or other consumptive land-use history. Such natural areas will be identified and mapped. Based on the best available scientific evidence, management of such natural areas may require occasional large-scale management actions, such as controlled burning or flooding.

4. Disturbed Areas
   Reserves frequently include former agricultural fields and other areas degraded by past intensive land uses. Management of these disturbed areas may involve manipulative measures (e.g., the use of herbicides, fire, cultivation). Where needed, these areas should be restored or enhanced when funds for such restoration and/or other resources become available. Restoration projects will only be implemented if the best available knowledge or scientific evidence indicates that the proposed restoration activity will not harm the natural values of the reserve or preclude the present or future long-term use of the natural area for research or instruction.

5. Administrative Areas
   Each reserve management plan will identify a projected "build-out" location that specifies the optimum allowable facilities for resident staff, researchers, classes, and public outreach programs to ensure minimal impacts on the natural systems (e.g., carrying capacity based on the ecosystem responses or biodiversity). These locations may in some cases overlap with disturbed areas.

4. RESEARCH USE
   All researchers using NRS reserves must have valid academic qualifications. Research in any subject area may be allowed if the researcher can demonstrate that the resources and/or facilities available at the reserve are reasonably necessary for the proposed research project.

1. Research Application
   All researchers should discuss their proposed research project with the reserve manager before formally applying for permission to conduct their studies. All researchers must complete an NRS Research Application (Exhibit A) and agree to comply with all reserve-specific regulations. The applicant must specify the proposed project duration, dates of reserve use, contract and grant information, and provide a statement of purpose describing prospective research site(s), animal and plant populations that may be affected by the proposed research, as well as housing and other resources needed during their research. Applicants desiring the use of housing or facilities must include estimated arrival and departure dates, whereas day-use applicants should provide approximate dates of use and should sign in at entrance kiosks where required. Any potential disturbances to the reserve's ecosystem or cultural resources must be clearly described.

2. Evaluation
   The reserve manager will use the following criteria to evaluate each application for research use:
   a. Impacts on Natural Systems
      Potential positive and negative impacts on natural systems (e.g., significant new research, extensive collections, significant habitat alterations, introductions of species or genes);
Impacts on Present or Long-term Use
Potential positive and negative impacts on present or future long-term use of reserve for research or instructional purposes;

Laws and Policies
Compliance with applicable state and federal laws, and with any established research guidelines of the reserve;

Feasibility
Feasibility and scientific merit of proposed project;

Academic Credentials
Researcher's academic credentials and affiliation with institution of higher education or governmental agency or research institute. University of California researchers will generally be given priority, but every effort will be made to accommodate other users;

Funding
Certification of grant approval by the applicant’s funding source;

Alternative Sites
Availability and proximity of alternative sites;

Safety
Ability of researcher to conduct research in a safe manner.

3. Decision
The reserve manager will inform the applicant that his/her request has been approved, denied, or approved with conditions. If an application is approved, the researcher must comply with all applicable University regulations, including those that are reserve-specific, and provide all required state and federal permits. Reserve managers and potential users will discuss appropriate restrictions on research projects involving experimental manipulations. For highly manipulative research that may irrevocably harm the natural values of the reserve or preclude its future use for University-level research or instruction, the prospective researcher may be directed to areas outside the reserve if such areas are available, or the application may be denied. If an application is rejected and the applicant disagrees with this decision, the applicant may appeal this decision to an ad hoc board of experts in that particular field appointed by the campus NRS administration or by the campus advisory committee.

4. Data
All researchers are strongly encouraged to annually provide, at a minimum, a text file that describes each data set derived from their work on the reserve and a summary of research results. Minimum required metadata include the title of each data set, the investigator’s name, mailing address, e-mail address, and an abstract. All researchers are strongly encouraged to provide copies of mature data sets derived from work on the reserve, which will be archived at the reserve.

5. Publications and Reports
All researchers must identify the University of California and the specific reserve where the research was completed in any publications or reports that result from use of the reserve. Two copies of each publication resulting from work done at a reserve shall be provided to the reserve manager as soon as they become available. One copy of each thesis, preferably bound, shall be provided to the reserve manager.

5. INSTRUCTIONAL USE
Reserves may be available for classes offered for credit by state- or nationally accredited colleges or universities. Classes in any subject may be allowed on site if the instructor can adequately demonstrate that unique resources at a reserve are reasonably necessary for the class.

1. Class Use Application
All instructors should discuss their proposed class visit with the reserve manager before formally applying for permission to visit the reserve. All instructors must complete an NRS Class Use Application (Exhibit B) and agree to comply with all reserve specific regulations. The instructor must specify the requested arrival and departure dates, the number of class participants, and a statement of purpose describing prospective teaching site(s), animal and plant populations that may be affected by the proposed class visit, and housing and other resources that will be needed during the visit. Any potential disturbances to the reserve’s ecosystem or cultural resources must be clearly described. If applicable, the instructor must provide an approved
animal care and use protocol from his/her home institution and all required state and federal permits.

2. Evaluation
The reserve manager will use the following criteria to evaluate each application for instructional use:

a. Impacts on Natural Systems
   Potential positive and negative impacts on natural systems (e.g., significant new research, extensive collections, significant habitat alterations, introductions of species or genes);

b. Impacts on Present or Long-term Use
   Potential positive and negative impacts on present or future long-term use of reserve for research or instructional purposes;

c. Academic Credentials
   Instructor's academic credentials and affiliation with institution of higher education. University of California instructors will generally be given priority, but every effort will be made to accommodate other users;

d. Alternative Sites
   Availability and proximity of alternative sites.

3. Decision
The reserve manager will inform the applicant that his/her request has been approved, denied, or approved with conditions. If an application is approved, the instructor must comply with all applicable University regulations, including those that are reserve-specific, and provide all required state and federal permits. If an application is rejected and the applicant disagrees with this decision, the applicant may appeal this decision to an ad hoc board of experts in that particular field appointed by the campus NRS administration or by the campus advisory committee.

4. Publications and Reports
All instructors should acknowledge the University of California and the specific reserve where the instruction was completed in any publications or reports that result from use of the reserve. Two copies of each publication resulting from work done at a reserve shall be provided to the reserve manager as soon as they become available.

6. PUBLIC OUTREACH USE
Where appropriate, reserves may be used to support research and education activities by K-12 classes, community groups, and qualified non-profit organizations. Except as specifically allowed, recreational use is expressly prohibited to protect sensitive habitats, ongoing research, and instructional programs.

1. Public Outreach Use Application
All group leaders should discuss their proposed reserve visit with the reserve manager before formally applying for permission to visit the reserve. All group leaders must complete an NRS Public Outreach Use Application (Exhibit C) and agree to comply with all reserve-specific regulations. The group leader must specify the requested arrival and departure dates, the number of group participants, and a statement of purpose describing prospective teaching site(s), animal and plant populations that may be affected by the proposed group visit, and housing and other resources that will be needed during the visit. Any potential disturbances to the reserve's ecosystem or cultural resources must be clearly described and discussed in advance with the reserve manager.

2. Evaluation
The reserve manager will use the following criteria to evaluate each application for public outreach use:

a. Impacts on Natural Systems
   Potential positive and negative impacts on natural systems (e.g., significant new research, extensive collections, significant habitat alterations, introductions of species or genes);

b. Impacts on Present or Long-term Use
   Potential positive and negative impacts on present or future long-term use of reserve for research or instructional purposes;

c. Alternative Sites
   Availability and proximity of alternative sites.
3. **Decision**  
The reserve manager will inform the applicant that his/her request has been approved, denied, or approved with conditions. If an application is approved, the group leader must comply with all applicable University regulations, including those that are reserve-specific, and provide all required state and federal permits. If an application is rejected and the applicant disagrees with this decision, the applicant may appeal this decision to an ad hoc board of experts in that particular field appointed by the campus NRS administration or by the campus advisory committee.

7. **OTHER USES**  
NRS reserves may occasionally be available for purposes other than research or education activities (e.g., reasonably passive activities, such as nature film production and non-educational conferences), but only if there is a clear benefit to the research and teaching mission of the reserve, and if such use will not conflict with other uses of the reserve. Special permission must be obtained for these activities and will be granted only if, based on best available knowledge or scientific evidence, such proposed activities will not harm the natural values of the reserve or preclude the present or future long-term use of the natural area for research or instruction.

1. **Application Process**  
Applicants proposing non-educational or non-research use of the reserve must apply to the reserve manager, who will determine if such use is appropriate. In most instances, a formal license agreement with the University will be required and applicants will need to meet University contracting requirements (e.g., insurance, bonding, indemnity). If a formal agreement is not required, the applicant must, at a minimum, sign a release agreement.

2. **Evaluation**  
The reserve manager will use the following criteria to evaluate the application:

   a. Impacts on Natural Systems  
      Potential positive and negative impacts on natural systems (e.g., significant new research, extensive collections, significant habitat alterations, introductions of species or genes);
   b. Impacts on Present or Long-term Use  
      Potential positive and negative impacts on present or future long-term use of reserve for research or instructional purposes;
   c. Alternative Sites  
      Availability and proximity of alternative sites.

3. **Decision**  
The reserve manager will inform the applicant that his/her request has been approved, denied, or approved with conditions. If an application is approved, the applicant must comply with all applicable University regulations, including those that are reserve-specific, and provide all required state and federal permits. If an application is rejected and the applicant disagrees with this decision, the applicant may appeal this decision to an ad hoc board of experts in that particular field appointed by the campus NRS administration or by the campus advisory committee.

4. **Non-educational/research Fees**  
Applicants for non-educational or non-research use will be charged reasonable rates based on prevailing rates for similar situations. An appropriate in-kind fee or service, such as artwork relating to reserve use, may be considered on a case-by-case basis in lieu of a fee. These fees and materials will be used to support the research and educational programs of the reserve.

5. **Non-Disclosure**  
Unless specifically agreed to in writing, neither University of California nor the name and location of the reserve shall be disclosed in any materials or publications that result from use of the reserve by these non-education or non-research users.

8. **SCHEDULING**  
Priority for reserve use will be determined at each reserve based on its particular resources, facilities, and programs, and generally...
Priority for reserve use will be determined at each reserve based on its particular resources, facilities, and programs, and generally will be given to research and University-level educational uses.

9. **USER FEES**
   Each campus has established a fee structure for research and instructional use and public outreach programs that is appropriate to the particular situation at each reserve.

[April 1999]
Appendix D. National Marine Protected Areas Center List of National System Marine Protected Areas - American Samoa Territorial Sites
Appendix E. Existing Marine Protected Areas in California: Regulations (Title 14, Section 632)
Existing Marine Protected Areas in California:
Regulations (Title 14, Section 632)

This page contains updates to MPA regulations that went into effect October 1, 2014.

632. Marine Protected Areas (MPAs), Marine Managed Areas (MMAs), and Special Closures.

(a) General Rules and Regulations:

The areas specified in this section have been declared by the commission to be marine protected areas, marine managed areas, or special closures. Public use of marine protected areas, marine managed areas, or special closures shall be compatible with the primary purposes of such areas. MPAs, MMAs, and special closures are subject to the following general rules and regulations in addition to existing Fish and Game Code statutes and regulations of the commission, except as otherwise provided for in subsection 632(b), areas and special regulations for use. Nothing in this section expressly or implicitly precludes, restricts or requires modification of current or future uses of the waters identified as marine protected areas, special closures, or the lands or waters adjacent to these designated areas by the Department of Defense, its allies or agents.

(1) Protection of Resources.

(A) State Marine Reserves: In a state marine reserve, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource, except under a scientific collecting permit issued by the department pursuant to Section 650 or specific authorization from the commission for research, restoration, or monitoring purposes.

(B) State Marine Parks: In a state marine park, it is unlawful to injure, damage, take, or possess any living or nonliving marine resource for commercial purposes. Any human use that would compromise protection of the species of interest, natural community or habitat, or geological, cultural, or recreational features, may be restricted by the commission as specified in subsection 632(b), areas and special regulations for use. The department may issue scientific collecting permits pursuant to Section 650. The commission may authorize research, education, and recreational activities and certain commercial and recreational harvest of marine resources, provided that these uses do not compromise protection of the species of interest, natural community, habitat, or geological features.

(C) State Marine Conservation Areas: In a state marine conservation area, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource for commercial or recreational purposes, or a combination of commercial and recreational purposes except as specified in subsection 632(b), areas and special regulations for use. The department may issue scientific collecting permits pursuant to Section 650. The commission may authorize research, education, and recreational activities, and certain commercial and recreational harvest of marine resources, provided that these uses do not compromise protection of the species of interest, natural community, habitat, or geological features.

(D) State Marine Recreational Management Areas: In a state marine recreational management area, it is unlawful to perform any activity that would compromise the recreational values for which the area may be designated. Recreational opportunities may be protected, enhanced, or restricted, while preserving basic resource values of the area. No other use is restricted unless specified in subsection 632(b), areas and special regulations for use.

(2) Finfish. Finfish, for the purpose of this section, are defined as any species of bony fish or cartilaginous fish (sharks, skates and rays). Finfish do not include amphibians, invertebrates, plants or algae. The definition of finfish provided in Section 159 does not apply to this Section.

(3) Pelagic Finfish. Pelagic finfish, for the purpose of this section, are a subset of finfish defined as: northern anchovy (Engraulis mordax), barracudas (Sphyraena spp.), billfishes* (family Istiophoridae), dolphinfish (Coryphaena hippurus),
Pacific herring (Clupea pallasi), jack mackerel (Trachurus symmetricus), Pacific mackerel (Scomber japonicus), salmon (Onchorhynchus spp.), Pacific sardine (Sardinops sagax), blue shark (Prionace glauca), salmon shark (Lamna ditropis), shortfin mako shark (Isurus oxyrinchus), thresher sharks (Alopias spp.), swordfish (Xiphias gladius), tunas (family Scombridae) including Pacific bonito (Sarda chiliensis), and yellowtail (Seriola lalandi). *Marlin is not allowed for commercial take.

(4) Access. Access into marine protected areas or marine managed areas for non-consumptive uses including but not limited to swimming, surfing, diving, boating, hiking and walking is allowed unless otherwise specified in subsection 632(b), areas and special regulations for use.

(5) Introduction of Species. Unless authorized by the commission or as a result of authorized fishing activities, the release of any fish or wildlife species, including domestic or domesticated species, or the introduction of any plant species, is prohibited. The department may reintroduce endemic species to marine protected areas or marine managed areas for management purposes.

(6) Feeding of Fish and Wildlife. The feeding of fish and wildlife is prohibited except permitted scientific collection pursuant to Section 650 or as a result of authorized fishing within state marine conservation areas, state marine parks, and state marine recreational management areas, or unless feeding of fish is specifically authorized in subsection 632(b) for purposes of marine life viewing.

(7) Anchoring. Vessels shall be allowed to anchor in any marine protected area or marine managed area with catch onboard unless otherwise specified in subsection 632(b), areas and special regulations for use. Fishing gear shall not be deployed in the water while anchored in a state marine reserve. Fishing gear, except legal fishing gear used to take species identified as allowed for take in subsection 632(b), shall not be deployed in the water while anchored in a state marine recreational management area, state marine park or state marine conservation area. Anchoring regulations shall be consistent with federal law and allowances made for anchoring required by emergency or severe weather.

(8) Transit or Drifting. Vessels shall be allowed to transit through marine protected areas and marine managed areas with catch onboard. Fishing gear shall not be deployed in the water while transiting through a state marine reserve. Fishing gear, except legal fishing gear used to take species identified as allowed for take in subsection 632(b), shall not be deployed in the water while transiting through a state marine recreational management area, state marine park or state marine conservation area.

(A) Vessels shall be allowed to transit through MPAs and MMAs with catch onboard. Fishing gear shall not be deployed in the water while transiting through a state marine reserve. Fishing gear, except legal fishing gear used to take species identified as allowed for take in subsection 632(b), shall not be deployed in the water while transiting through a state marine recreational management area, state marine park or state marine conservation area.

(B) Spearfishermen with or without catch shall be allowed to transit through MPAs and MMAs. While transiting MPAs and MMAs that prohibit spearfishing or while in possession of species not identified as allowed for take in the MPA or MMA being transited, spearfishing gear shall be in an unloaded condition, not carried in hand, and the diver shall remain at the surface.

(9) Water Quality Monitoring. Sampling of water, sediment and marine life, for water quality monitoring or pollution research, or as required in a Monitoring and Reporting Program of a National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements issued by the State or Regional Water Boards pursuant to the United States Clean Water Act and the California Water Code, is allowed within state marine reserves, state marine conservation areas, state marine parks, and state marine recreational management areas pursuant to a valid scientific collecting permit issued by the department.

(10) Public Safety. Public safety activities, including installation, maintenance and/or seasonal placement and removal of safety-related artificial structures, including but not limited to lifeguard towers, are allowed within any MPA classification pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(11) Tribal Take. For purposes of this regulation, “federally recognized tribe” means any tribe on the List of Indian Entities Recognized and Eligible to Receive Services from the United States Bureau of Indian Affairs, published annually in the Federal Register. Any member of a federally recognized tribe authorized to take living marine resources from an area with area-specific take restrictions in subsection 632(b), when engaging in take within an authorized area shall possess on his person, in his immediate possession, or where otherwise specifically required by law to be kept, any valid license, report card, tag, stamp, validation, permit, or any other entitlement that is required in the Fish and Game Code, or required by other state, federal, or local entities, in order to take living marine resources. Members shall possess a valid photo identification card issued by a federally recognized tribe that contains expiration date, tribal name, tribal member number, name, signature, date of birth, height, color of eyes, color of hair, weight, and sex; and
display any of the items listed above upon demand to any peace officer. Members taking living marine resources under this provision are subject to current seasonal, bag, possession, gear and size limits in existing Fish and Game Code statutes and regulations of the commission, except as otherwise provided for in subsection 632(b). No member, while taking living marine resources pursuant to this section, may be assisted by any person who does not possess a valid tribal identification card and is not properly licensed to take living marine resources. Nothing in the regulation is intended to conflict with, or supersede, any state or federal law regarding the take of protected, threatened or endangered species.

(12) Shore Fishing. Take from shore, or shore fishing, for purposes of this section, means take of living marine resources from shore, including beaches, banks, piers, jetties, breakwaters, docks, and other man-made structures connected to the shore. Unless specifically authorized in subsection 632(b), no vessel, watercraft (motorized or non-motorized), or floating device may be used to assist in the take, transport or possession of species taken while shore fishing, except that a float tube or similar flotation device may be used when taking abalone only.

(b) Areas and Special Regulations for Use.

Pursuant to the commission's authority in Fish and Game Code Section 2860 to regulate commercial and recreational fishing and any other taking of marine species in MPAs, Fish and Game Code Sections 10500(f), 10500(g), 10502.5, 10502.6, 10502.7, 10502.8, 10655, 10655.5, 10656, 10657, 10657.5, 10658, 10660, 10661, 10664, 10666, 10667, 10711, 10801, 10900, 10901, 10902, 10903, 10904, 10905, 10906, 10907, 10908, 10909, 10910, 10911, 10912, 10913, and 10932 are superseded as they apply to designations in Subsection 632(b). All geographic coordinates listed use the North American Datum 1983 (NAD83) reference datum:

(1) Pyramid Point State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

42° 00.000' N. lat. 124° 12.735' W. long.;

42° 00.000' N. lat. 124° 19.814' W. long.; thence southward along the three nautical mile offshore boundary to

41° 57.500' N. lat. 124° 17.101' W. long.; and

41° 57.500' N. lat. 124° 12.423' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of surf smelt [Section 28.45] by dip net or Hawaiian type throw net [Section 28.80] is allowed.

2. The following federally recognized tribes (listed alphabetically) are exempt from the area and take regulations found in subsection 632(b)(1) of these regulations and shall comply with all other existing regulations and statutes: Smith River Rancheria.

(2) Point St. George Reef Offshore State Marine Conservation Area.

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:

41° 52.000' N. lat. 124° 23.189' W. long.;

41° 52.000' N. lat. 124° 25.805' W. long.; thence southward along the three nautical mile offshore boundary to

41° 49.000' N. lat. 124° 26.252' W. long.;

41° 49.000' N. lat. 124° 23.189' W. long.; and

41° 52.000' N. lat. 124° 23.189' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of salmon by trolling [subsection 27.80(a)(3)]; and Dungeness crab by trap is allowed.

2. The commercial take of salmon with troll fishing gear [subsection 182.1(l)]; and Dungeness crab by trap is allowed.

3. The following federally recognized tribes (listed alphabetically) are exempt from the area and take regulations
found in subsection 632(b)(2) of these regulations and shall comply with all other existing regulations and statutes:

Elk Valley Rancheria
Smith River Rancheria.

**3) Southwest Seal Rock Special Closure.** Special restrictions on boating and access apply to Southwest Seal Rock as follows.

(A) A special closure is designated from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Southwest Seal Rock, located in the vicinity of 41° 48.810’ N. lat. 124° 21.099’ W. long.

(B) Except as permitted by federal law or emergency caused by hazardous weather, or as authorized by subsection 632(b)(3)(C), no vessel shall be operated or anchored at any time from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Southwest Seal Rock.

(C) No person except department employees or employees of the United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter the area defined in subsection 632(b)(3)(B).

**4) Castle Rock Special Closure.** Special restrictions on boating and access apply to Castle Rock as follows.

(A) A special closure is designated from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Castle Rock, located in the vicinity of 41° 45.706’ N. lat. 124° 14.949’ W. long.

(B) Except as permitted by federal law or emergency caused by hazardous weather, or as authorized by subsection 632(b)(4)(C), no vessel shall be operated or anchored at any time from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Castle Rock.

(C) No person except department employees or employees of the United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter the area defined in subsection 632(b)(4)(B).

**5) False Klamath Rock Special Closure.** Special restrictions on boating and access apply to False Klamath Rock as follows.

(A) A special closure is designated from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of False Klamath Rock, located in the vicinity of 41° 35.633’ N. lat. 124° 06.699’ W. long. during the period of March 1 to August 31.

(B) Except as permitted by federal law or emergency caused by hazardous weather, or as authorized by subsection 632(b)(5)(C), no vessel shall be operated or anchored from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of False Klamath Rock during the period of March 1 to August 31.

(C) No person except department employees or employees of the United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter the area defined in subsection 632(b)(5)(B) during the period of March 1 to August 31.

**6) Reading Rock State Marine Conservation Area.**

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

- 41° 20.100’ N. lat. 124° 04.911’ W. long.;
- 41° 20.100’ N. lat. 124° 10.000’ W. long.;
- 41° 17.600’ N. lat. 124° 10.000’ W. long.; and
- 41° 17.600’ N. lat. 124° 05.497’ W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of salmon by trolling [subsection 27.80(a)(3)]; surf smelt [Section 28.45] by dip net or Hawaiian type throw net [Section 28.80]; and Dungeness crab by trap, hoop net or hand is allowed.
2. The commercial take of salmon with troll fishing gear [subsection 182.1(l)]; surf smelt by dip net; and Dungeness crab by trap is allowed.

3. The following federally recognized tribe is exempt from the area and take regulations found in subsection 632(b) (6) of these regulations and shall comply with all other existing regulations and statutes:

   Yurok Tribe of the Yurok Reservation.

7) Reading Rock State Marine Reserve.

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:

41° 20.100' N. lat. 124° 10.000' W. long.;
41° 20.100' N. lat. 124° 14.655' W. long.; thence southward along the three nautical mile offshore boundary to
41° 17.600' N. lat. 124° 11.963' W. long.;
41° 17.600' N. lat. 124° 10.000' W. long.; and
41° 20.100' N. lat. 124° 10.000' W. long.

(B) Take of all living marine resources is prohibited.

8) Samoa State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

40° 55.000' N. lat. 124° 08.432' W. long.;
40° 55.000' N. lat. 124° 12.677' W. long.; thence southward along the three nautical mile offshore boundary to
40° 52.000' N. lat. 124° 14.225' W. long.; and
40° 52.000' N. lat. 124° 09.803' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of salmon by trolling [subsection 27.80(a)(3)]; surf smelt [Section 28.45] by dip net or Hawaiian type throw net [Section 28.80]; and Dungeness crab by trap, hoop net or hand is allowed.

2. The commercial take of salmon with troll fishing gear [subsection 182.1(l)]; surf smelt by dip net; and Dungeness crab by trap is allowed.

3. The following federally recognized tribe is exempt from the area and take regulations found in subsection 632(b) (8) of these regulations and shall comply with all other existing regulations and statutes:

   Wiyot Tribe.

9) South Humboldt Bay State Marine Recreational Management Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

40° 43.000' N. lat. 124° 15.527' W. long.;
40° 43.000' N. lat. 124° 15.000' W. long.;
40° 42.000' N. lat. 124° 15.000' W. long.; and
40° 42.000' N. lat. 124° 16.141' W. long.

(B) Take of all living marine resources is prohibited except:

1. The following federally recognized tribe is exempt from the area and take regulations found in subsection 632(b) (9) of these regulations and shall comply with all other existing regulations and statutes:

   Wiyot Tribe.
(C) Waterfowl may be taken in accordance with the general waterfowl regulations (Sections 502, 550, 551, and 552).

(10) **Sugarloaf Island Special Closure.** Special restrictions on boating and access apply to Sugarloaf Island as follows.

(A) A special closure is designated from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Sugarloaf Island, located in the vicinity of 40° 26.326’ N. lat. 124° 24.827’ W. long.

(B) Except as permitted by federal law or emergency caused by hazardous weather, or as authorized by subsection 632(b)(10)(C), no vessel shall be operated or anchored at any time from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Sugarloaf Island.

(C) No person except department employees or employees of the United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter the area defined in subsection 632(b)(10)(B).

(11) **South Cape Mendocino State Marine Reserve.**

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

- 40° 26.100’ N. lat. 124° 24.353’ W. long.;
- 40° 26.100’ N. lat. 124° 31.958’ W. long.; thence southward along the three nautical mile offshore boundary to
- 40° 24.900’ N. lat. 124° 31.084’ W. long.; and

(B) Take of all living marine resources is prohibited.

(12) **Steamboat Rock Special Closure.** Special restrictions on boating and access apply to Steamboat Rock as follows.

(A) A special closure is designated from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Steamboat Rock, located in the vicinity of 40° 24.919’ N. lat. 124° 24.241’ W. long. during the period of March 1 to August 31.

(B) Except as permitted by federal law or emergency caused by hazardous weather, or as authorized by subsection 632(b)(12)(C), no vessel shall be operated or anchored from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Steamboat Rock during the period of March 1 to August 31.

(C) No person except department employees or employees of the United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter the area defined in subsection 632(b)(12)(B) during the period of March 1 to August 31.

(13) **Mattole Canyon State Marine Reserve.**

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:

- 40° 20.000’ N. lat. 124° 22.500’ W. long.;
- 40° 20.000’ N. lat. 124° 25.902’ W. long.; thence southward along the three nautical mile offshore boundary to
- 40° 17.000’ N. lat. 124° 25.869’ W. long.;
- 40° 17.000’ N. lat. 124° 22.500’ W. long.; and
- 40° 20.000’ N. lat. 124° 22.500’ W. long.

(B) Take of all living marine resources is prohibited.

(14) **Sea Lion Gulch State Marine Reserve.**

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order
Take of all living marine resources is prohibited.

(15) Big Flat State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

40° 09.400' N. lat. 124° 12.671' W. long.;
40° 09.400' N. lat. 124° 19.366' W. long.; thence southward along the three nautical mile offshore boundary to
40° 07.500' N. lat. 124° 16.203' W. long.; and
40° 07.500' N. lat. 124° 10.313' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of salmon by trolling [subsection 27.80(a)(3)]; and Dungeness crab by trap, hoop net or hand is allowed.
2. The commercial take of salmon with troll fishing gear [subsection 182.1(l)]; and Dungeness crab by trap is allowed.
3. The following federally recognized tribes (listed alphabetically) are exempt from the area and take regulations found in subsection 632(b)(15) of these regulations and shall comply with all other existing regulations and statutes:
   Bear River Band of the Rohnerville Rancheria
   Big Valley Band of Pomo Indians of the Big Valley Rancheria
   Cahto Indian Tribe of the Laytonville Rancheria
   Coyote Valley Band of Pomo Indians
   Elem Indian Colony of Pomo Indians of the Sulphur Bank Rancheria
   Guidiville Rancheria
   Habematolel Pomo of Upper Lake
   Hopland Band of Pomo Indians of the Hopland Rancheria
   Lower Lake Rancheria
   Manchester Band of Pomo Indians of the Manchester-Point Arena Rancheria
   Middletown Rancheria of Pomo Indians
   Pinoleville Pomo Nation
   Potter Valley Tribe
   Redwood Valley Rancheria of Pomo Indians
   Robinson Rancheria of Pomo Indians
   Round Valley Indian Tribes of the Round Valley Reservation
   Scotts Valley Band of Pomo Indians, and
   Sherwood Valley Rancheria of Pomo Indians.

(16) Double Cone Rock State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

39° 48.500' N. lat. 123° 50.713' W. long.;
39° 48.500' N. lat. 123° 55.875' W. long.; thence southward along the three nautical mile offshore boundary to
39° 44.300' N. lat. 123° 54.178' W. long.; and
(B) Take of all living marine resources is prohibited except:

1. The recreational take of salmon by trolling [subsection 27.80(a)(3)]; and Dungeness crab by trap, hoop net or hand is allowed.

2. The commercial take of salmon with troll fishing gear [subsection 182.1(l)]; and Dungeness crab by trap is allowed.

3. The following federally recognized tribes (listed alphabetically) are exempt from the area and take regulations found in subsection 632(b)(16) of these regulations and shall comply with all other existing regulations and statutes:

   Big Valley Band of Pomo Indians of the Big Valley Rancheria
   Cahto Indian Tribe of the Laytonville Rancheria
   Coyote Valley Band of Pomo Indians
   Elem Indian Colony of Pomo Indians of the Sulphur Bank Rancheria
   Guidiville Rancheria
   Habematolel Pomo of Upper Lake
   Hopland Band of Pomo Indians of the Hopland Rancheria
   Lower Lake Rancheria
   Manchester Band of Pomo Indians of the Manchester-Point Arena Rancheria
   Middletown Rancheria of Pomo Indians
   Pinoleville Pomo Nation
   Potter Valley Tribe
   Redwood Valley Rancheria of Pomo Indians
   Robinson Rancheria of Pomo Indians
   Round Valley Indian Tribes of the Round Valley Reservation
   Scotts Valley Band of Pomo Indians, and
   Sherwood Valley Rancheria of Pomo Indians.

(17) Rockport Rocks Special Closure. Special restrictions on boating and access apply to Rockport Rocks as follows.

   (A) A special closure is designated from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Rockport Rocks, located in the vicinity of 39° 44.184’ N. lat. 123° 50.020’ W. long. during the period of March 1 to August 31.

   (B) Except as permitted by federal law or emergency caused by hazardous weather, or as authorized by subsection 632(b)(17)(C), no vessel shall be operated or anchored from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Rockport Rocks during the period of March 1 to August 31.

   (C) No person except department employees or employees of the United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter the area defined in subsection 632(b)(17)(B) during the period of March 1 to August 31.

(18) Vizcaino Rock Special Closure. Special restrictions on boating and access apply to Vizcaino Rock located in the vicinity of 39° 43.618’ N. lat. 123° 49.950’ W. long. as follows.

   (A) A special closure is designated from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Vizcaino Rock westward of 123° 49.887’ W. longitude, during the period of March 1 to August 31.

   (B) Except as permitted by federal law or emergency caused by hazardous weather, or as authorized by subsection 632(b)(18)(C), no vessel shall be operated or anchored from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Vizcaino Rock westward of 123° 49.887’ W. longitude during the period of March 1 to August 31.

   (C) No person except department employees or employees of the United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter the area defined in subsection 632(b)(18)(B) during the period
of March 1 to August 31.

(19) Ten Mile State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

39° 35.900' N. lat. 123° 47.243' W. long.;
39° 35.900' N. lat. 123° 51.479' W. long.; thence southward along the three nautical mile offshore boundary to
39° 33.300' N. lat. 123° 50.559' W. long.; and
39° 33.300' N. lat. 123° 46.015' W. long.

(B) Take of all living marine resources is prohibited.

(20) Ten Mile Beach State Marine Conservation Area.

(A) This area is bounded by the mean high tide and straight lines connecting the following points in the order listed except where noted:

39° 33.300' N. lat. 123° 46.015' W. long.;
39° 33.300' N. lat. 123° 50.559' W. long.; thence southward along the three nautical mile offshore boundary to
39° 32.500' N. lat. 123° 50.418' W. long.;
39° 32.500' N. lat. 123° 46.227' W. long.; thence northward along the mean high tide line onshore boundary to
39° 33.098' N. lat. 123° 46.003' W. long.;
39° 33.199' N. lat. 123° 45.966' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of Dungeness crab by trap, hoop net or hand is allowed.
2. The commercial take of Dungeness crab by trap is allowed.
3. The following federally recognized tribes (listed alphabetically) are exempt from the area and take regulations found in subsection 632(b)(20) of these regulations and shall comply with all other existing regulations and statutes:

   Big Valley Band of Pomo Indians of the Big Valley Rancheria
   Cahto Indian Tribe of the Laytonville Rancheria
   Coyote Valley Band of Pomo Indians
   Elem Indian Colony of Pomo Indians of the Sulphur Bank Rancheria
   Guidiville Rancheria
   Habematolel Pomo of Upper Lake
   Hopland Band of Pomo Indians of the Hopland Rancheria
   Lower Lake Rancheria
   Manchester Band of Pomo Indians of the Manchester-Point Arena Rancheria
   Middletown Rancheria of Pomo Indians
   Pinoleville Pomo Nation
   Potter Valley Tribe
   Redwood Valley Rancheria of Pomo Indians
   Robinson Rancheria of Pomo Indians
   Round Valley Indian Tribes of the Round Valley Reservation
   Scotts Valley Band of Pomo Indians, and
   Sherwood Valley Rancheria of Pomo Indians.

(21) Ten Mile Estuary State Marine Conservation Area.

(A) This area consists of waters below the mean high tide line within the Ten Mile Estuary, eastward of a line connecting the following two points:
39° 33.199' N. lat. 123° 45.966' W. long.; and
39° 33.098' N. lat. 123° 46.003' W. long.

And westward of a line connecting the following two points:
39° 32.400' N. lat. 123° 44.785' W. long.; and
39° 32.382' N. lat. 123° 44.769' W. long.

(B) Take of all living marine resources is prohibited except:

1. The following federally recognized tribes (listed alphabetically) are exempt from the area and take regulations found in subsection 632(b)(21) of these regulations and shall comply with all other existing regulations and statutes:

   - Big Valley Band of Pomo Indians of the Big Valley Rancheria
   - Cahto Indian Tribe of the Laytonville Rancheria
   - Coyote Valley Band of Pomo Indians
   - Elem Indian Colony of Pomo Indians of the Sulphur Bank Rancheria
   - Guidiville Rancheria
   - Habematolel Pomo of Upper Lake
   - Hopland Band of Pomo Indians of the Hopland Rancheria
   - Lower Lake Rancheria
   - Manchester Band of Pomo Indians of the Manchester-Point Arena Rancheria
   - Middletown Rancheria of Pomo Indians
   - Pinoleville Pomo Nation
   - Potter Valley Tribe
   - Redwood Valley Rancheria of Pomo Indians
   - Robinson Rancheria of Pomo Indians
   - Round Valley Indian Tribes of the Round Valley Reservation
   - Scotts Valley Band of Pomo Indians, and
   - Sherwood Valley Rancheria of Pomo Indians.

2. Take pursuant to activities authorized in subsection 632(b)(21)(D) is allowed.

(C) Waterfowl may be taken in accordance with the general waterfowl regulations (Sections 502, 550, 551, and 552).

(D) Operation and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(22) MacKerricher State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
39° 30.100' N. lat. 123° 47.390' W. long.;
39° 30.100' N. lat. 123° 49.000' W. long.;
39° 27.120' N. lat. 123° 49.000' W. long.; and
39° 27.120' N. lat. 123° 48.830' W. long.

(B) Commercial take of bull kelp (Nereocystis luetkeana) and giant kelp (Macrocystis pyrifera) is prohibited. All other commercial and recreational take is allowed in accordance with current regulations.

(23) Point Cabrillo State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
39° 21.400' N. lat. 123° 49.418' W. long.;
39° 21.400' N. lat. 123° 50.000' W. long.;
39° 20.600' N. lat. 123° 50.000' W. long.; and
(24) **Russian Gulch State Marine Conservation Area.**

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

- 39° 19.860' N. lat. 123° 49.000' W. long.
- 39° 19.470' N. lat. 123° 49.000' W. long.; and

(B) Commercial take of bull kelp (Nereocystis luetkeana) and giant kelp (Macrocystis pyrifera) is prohibited. All other commercial and recreational take is allowed in accordance with current regulations.

(25) **Big River Estuary State Marine Conservation Area.**

(A) This area consists of waters below the mean high tide line within the Big River Estuary, eastward of a line connecting the following two points:

- 39° 18.134' N. lat. 123° 47.517' W. long.; and
- 39° 18.079' N. lat. 123° 47.540' W. long.

And westward of a line connecting the following two points:

- 39° 18.222' N. lat. 123° 46.242' W. long.; and
- 39° 18.150' N. lat. 123° 46.240' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of surfperch (family Embiotocidae) by hook and line from shore only; and Dungeness crab by hoop net or hand is allowed.

2. The following federally recognized tribes (listed alphabetically) are exempt from the area and take regulations found in subsection 632(b)(25) of these regulations and shall comply with all other existing regulations and statutes:
   - Big Valley Band of Pomo Indians of the Big Valley Rancheria
   - Cahto Indian Tribe of the Laytonville Rancheria
   - Coyote Valley Band of Pomo Indians
   - Elem Indian Colony of Pomo Indians of the Sulphur Bank Rancheria
   - Guidiville Rancheria
   - Habematolel Pomo of Upper Lake
   - Hopland Band of Pomo Indians of the Hopland Rancheria
   - Lower Lake Rancheria
   - Manchester Band of Pomo Indians of the Manchester-Point Arena Rancheria
   - Middletown Rancheria of Pomo Indians
   - Pinoleville Pomo Nation
   - Potter Valley Tribe
   - Redwood Valley Rancheria of Pomo Indians
   - Robinson Rancheria of Pomo Indians
   - Round Valley Indian Tribes of the Round Valley Reservation
   - Scotts Valley Band of Pomo Indians, and
   - Sherwood Valley Rancheria of Pomo Indians.

3. Take pursuant to activities authorized in subsection 632(b)(25)(D) is allowed.

(C) Waterfowl may be taken in accordance with the general waterfowl regulations (Sections 502, 550, 551, and 552).
Operation and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(26) Van Damme State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and a straight line connecting the following points:

39° 16.335' N. lat. 123° 47.712' W. long.; and

39° 16.147' N. lat. 123° 47.429' W. long.

(B) Commercial take of bull kelp (Nereocystis luetkeana) and giant kelp (Macrocystis pyrifera) is prohibited. All other commercial and recreational take is allowed in accordance with current regulations.

(27) Navarro River Estuary State Marine Conservation Area.

(A) This area consists of waters below the mean high tide line within the Navarro River Estuary, eastward of a line connecting the following two points:

39° 11.575' N. lat. 123° 45.653' W. long.; and

39° 11.415' N. lat. 123° 45.487' W. long.

And westward of a line connecting the following two points

39° 11.849' N. lat. 123° 44.808' W. long.; and

39° 11.807' N. lat. 123° 44.842' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of salmonids by hook and line is allowed consistent with salmonid regulations in Section 7.50

2. The following federally recognized tribes (listed alphabetically) are exempt from the area and take regulations found in subsection 632(b)(27) of these regulations and shall comply with all other existing regulations and statutes:

Big Valley Band of Pomo Indians of the Big Valley Rancheria
Cahto Indian Tribe of the Laytonville Rancheria
Coyote Valley Band of Pomo Indians
Elem Indian Colony of Pomo Indians of the Sulphur Bank Rancheria
Guidiville Rancheria
Habematolel Pomo of Upper Lake
Hopland Band of Pomo Indians of the Hopland Rancheria
Lower Lake Rancheria
Manchester Band of Pomo Indians of the Manchester-Point Arena Rancheria
Middletown Rancheria of Pomo Indians
Pinoleville Pomo Nation
Potter Valley Tribe
Redwood Valley Rancheria of Pomo Indians
Robinson Rancheria of Pomo Indians
Round Valley Indian Tribes of the Round Valley Reservation
Scotts Valley Band of Pomo Indians, and
Sherwood Valley Rancheria of Pomo Indians.

(C) Waterfowl may be taken in accordance with the general waterfowl regulations (Sections 502, 550, 551, and 552).

(28) Point Arena State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

38° 57.35' N. lat. 123° 44.50' W. long;

38° 59.00' N. lat. 123° 44.50' W. long;
38° 59.00’ N. lat. 123° 46.00’ W. long;
38° 56.40’ N. lat. 123° 46.00’ W. long; and
38° 56.40’ N. lat. 123° 43.82’ W. long.

(B) Take of all living marine resources is prohibited.

(29) Point Arena State Marine Conservation Area.

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:
38° 59.00’ N. lat. 123° 46.00’ W. long.;
38° 59.00’ N. lat. 123° 48.16’ W. long.; thence southward along the three nautical mile offshore boundary to
38° 56.40’ N. lat. 123° 48.35’ W. long.;
38° 56.40’ N. lat. 123° 46.00’ W. long.; and
38° 59.00’ N. lat. 123° 46.00’ W. long.

(B) Take of all living marine resources is prohibited except:
   1. The recreational take of salmon by trolling [subsection 27.80(a)(3)] is allowed.
   2. The commercial take of salmon with troll fishing gear [subsection 182.1(l)] is allowed.

(30) Sea Lion Cove State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
38° 56.40’ N. lat. 123° 43.82’ W. long.;
38° 56.40’ N. lat. 123° 44.00’ W. long.;
38° 55.79’ N. lat. 123° 44.00’ W. long.; and
38° 55.79’ N. lat. 123° 43.74’ W. long.

(B) Take of all living marine resources is prohibited except the recreational and commercial take of fish [subsection 632(a)(2)].

(31) Saunders Reef State Marine Conservation Area

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:
38° 51.80’ N. lat. 123° 39.23’ W. long.;
38° 51.80’ N. lat. 123° 44.78’ W. long.; thence southward along the three nautical mile offshore boundary to
38° 50.00’ N. lat. 123° 42.58’ W. long.; and
38° 50.00’ N. lat. 123° 37.60’ W. long.

(B) Take of all living marine resources is prohibited except:
   1. The recreational take of salmon by trolling [subsection 27.80(a)(3)] is allowed.
   2. The commercial take of salmon with troll fishing gear [subsection 182.1(l)] and urchin is allowed.

(32) Del Mar Landing State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
38° 44.70’ N. lat. 123° 31.00’ W. long.
38° 44.20′ N. lat. 123° 31.00′ W. long.;
38° 44.20′ N. lat. 123° 30.30′ W. long.; and
38° 44.43′ N. lat. 123° 30.30′ W. long.

(B) Take of all living marine resources is prohibited.

(33) Stewarts Point State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
38° 40.500′ N. lat. 123° 25.370′ W. long.;
38° 40.500′ N. lat. 123° 25.500′ W. long.;
38° 37.500′ N. lat. 123° 23.500′ W. long.;
38° 37.535′ N. lat. 123° 23.027′ W. long.

(B) Take of all living marine resources is prohibited except the following may be taken recreationally from shore only: marine aquatic plants other than sea palm, marine invertebrates, finfish [subsection 632(a)(2)] by hook and line, surf smelt by beach net, and species authorized in Section 28.80 of these regulations by hand-held dip net.

(34) Stewarts Point State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:
38° 40.50′ N. lat. 123° 25.37′ W. long.;
38° 40.50′ N. lat. 123° 30.24′ W. long.; thence southward along the three nautical mile offshore boundary to
38° 35.60′ N. lat. 123° 26.01′ W. long.; and
38° 35.60′ N. lat. 123° 20.80′ W. long., except that Stewarts Point State Marine Conservation Area as described in subsection 632(b)(33)(A) is excluded.

(B) Take of all living marine resources is prohibited.

(35) Salt Point State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
38° 35.60′ N. lat. 123° 20.80′ W. long.;
38° 35.60′ N. lat. 123° 21.00′ W. long.;
38° 33.50′ N. lat. 123° 21.00′ W. long.; and
38° 33.50′ N. lat. 123° 18.91′ W. long., except that Gerstle Cove as described in subsection 632(b)(36)(A) is excluded.

(B) Take of all living marine resources is prohibited except the recreational take of abalone and finfish [subsection 632(a)(2)].

(36) Gerstle Cove State Marine Reserve.

(A) This area lies within the Salt Point State Marine Conservation Area and is bounded by the mean high tide line and a straight line connecting the following points:
38° 33.95′ N. lat. 123° 19.92′ W. long.; and
38° 33.95′ N. lat. 123° 19.76′ W. long.

(B) Take of all living marine resources is prohibited.
(37) **Russian River State Marine Recreational Management Area.**

(A) This area includes the waters below the mean high tide line eastward of the mouth of the Russian River estuary defined as a line connecting the following two points:

38° 27.16’ N. lat. 123° 07.91’ W. long.;
38° 27.01’ N. lat. 123° 07.74’ W. long.

And westward of the Highway 1 Bridge.

(B) Waterfowl may be taken in accordance with the general waterfowl regulations (Sections 502, 550, 551, and 552).

(C) Take of all living marine resources is prohibited.

(38) **Russian River State Marine Conservation Area.**

(A) This area is bounded by the mean high tide line, the mouth of the Russian River estuary as defined in subsection 632(b)(37)(A), and straight lines connecting the following points in the order listed:

38° 27.38’ N. lat. 123° 08.58’ W. long.;
38° 26.38’ N. lat. 123° 08.58’ W. long.;
38° 26.38’ N. lat. 123° 07.70’ W. long.

(B) Take of all living marine resources is prohibited except:

1. Only the following species may be taken recreationally: Dungeness crab by trap, and surf smelt using hand-held dip net or beach net.

2. Only the following species may be taken commercially: Dungeness crab by trap.

(39) **Bodega Head State Marine Reserve.**

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

38° 20.10’ N. lat. 123° 04.04’ W. long.;
38° 20.10’ N. lat. 123° 08.38’ W. long.; thence southward along the three nautical mile offshore boundary to
38° 18.00’ N. lat. 123° 08.08’ W. long.; and
38° 18.00’ N. lat. 123° 03.64’ W. long.

(B) Take of all living marine resources is prohibited except for take pursuant to Fish and Game Code Section 10661 and the director of the Bodega Marine Life Refuge may authorize certain activities in the formerly designated Bodega Marine Life Refuge (Section 10903, Fish and Game Code) pursuant to subsections (b) and (c) of Section 10502.7 and Section 10656 of the Fish and Game Code.

(40) **Bodega Head State Marine Conservation Area.**

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

38° 18.00’ N. lat. 123° 03.64’ W. long.;
38° 18.00’ N. lat. 123° 08.08’ W. long.; thence southward along the three nautical mile offshore boundary to
38° 13.34’ N. lat. 123° 03.51’ W. long.; and
38° 17.93’ N. lat. 123° 03.51’ W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of pelagic finfish [subsection 632(a)(3)] by trolling [subsection 27.80(a)(3)], Dungeness crab by trap, and market squid by hand-held dip net, are allowed.
2. The commercial take of pelagic finfish [subsection 632(a)(3)] by troll fishing gear [subsection 182.1(l)] or round haul net [Section 8750, Fish and Game Code], Dungeness crab by trap, and market squid by round haul net [Section 8750, Fish and Game Code], is allowed. Not more than five percent by weight of any commercial pelagic finfish or market squid catch landed or possessed shall be other incidentally taken species.

(41) Estero Americano State Marine Recreational Management Area.

(A) This area includes the waters below the mean high tide line within Estero Americano westward of longitude 122° 59.25’ W.

(B) Waterfowl may be taken in accordance with the general waterfowl regulations (Sections 502, 550, 551, and 552).

(C) Take of all living marine resources is prohibited.

(42) Estero de San Antonio State Marine Recreational Management Area.

(A) This area includes the waters below the mean high tide line within Estero de San Antonio westward of longitude 122° 57.40’ W.

(B) Waterfowl may be taken in accordance with the general waterfowl regulations (Sections 502, 550, 551, and 552).

(C) Take of all living marine resources is prohibited.

(43) Point Reyes State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

37° 59.90’ N. lat. 123° 01.29’ W. long.;
37° 59.90’ N. lat. 123° 02.00’ W. long.;
37° 59.00’ N. lat. 123° 02.00’ W. long.;
37° 59.00’ N. lat. 122° 57.34’ W. long.; and
38° 01.75’ N. lat. 122° 55.00’ W. long.; thence westward along the mean high tide line onshore boundary to
38° 01.783’ N. lat. 122° 55.286’ W. long.; and
38° 01.954’ N. lat. 122° 56.451’ W. long.

(B) Take of all living marine resources is prohibited.

(44) Point Reyes State Marine Conservation Area.

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:

37° 59.00’ N. lat. 123° 02.00’ W. long.;
37° 56.71’ N. lat. 123° 02.00’ W. long.; thence eastward along the three nautical mile offshore boundary to
37° 56.36’ N. lat. 122° 57.34’ W. long.;
37° 59.00’ N. lat. 122° 57.34’ W. long.; and
37° 59.00’ N. lat. 123° 02.00’ W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of salmon by trolling [subsection 27.80(a)(3)] and Dungeness crab by trap is allowed.
2. The commercial take of salmon with troll fishing gear [subsection 182.1(l)] and Dungeness crab by trap is allowed.

(45) Point Reyes Headlands Special Closure. Special restrictions on boating and access apply to the Point Reyes headlands as follows.

(A) A special closure is designated on the south side of the Point Reyes Headlands from the mean high tide line to a
distance of 1000 feet seaward of the mean lower low tide line of any shoreline between lines extending due south from each of the following two points:

37° 59.65' N. lat. 123° 01.00' W. long; and

37° 59.39' N. lat. 122° 57.80' W. long.

(B) No person except department employees or employees of the United States Fish and Wildlife Service, National Park Service, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter this area at any time.

(46) Estero de Limantour State Marine Reserve.

(A) This area consists of waters below the mean high tide line within Estero de Limantour and within Drakes Estero, southward of a line connecting the following two points:

38° 02.66' N. lat. 122° 56.89' W. long.; and

38° 02.66' N. lat. 122° 56.15' W. long.

And northward of a line connecting the following two points:

38° 01.783' N. lat. 122° 55.286' W. long.; and

38° 01.954' N. lat. 122° 56.451' W. long.

(B) Take of all living marine resources is prohibited.

(47) Drakes Estero State Marine Conservation Area.

(A) This area includes the waters below the mean high tide line within Drakes Estero northward of a line connecting the following two points:

38° 02.66' N. lat. 122° 56.89' W. long.; and

38° 02.66' N. lat. 122° 56.15' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of clams; and

2. Aquaculture of shellfish, pursuant to a valid State water bottom lease and stocking permit.

(48) Point Resistance Rock Special Closure. Special restrictions on boating and access apply to Point Resistance Rock as follows:

(A) A special closure is designated from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Point Resistance Rock, located in the vicinity of 37° 59.92' N. lat. 122° 49.75' W. long.

(B) No person except department employees or employees of the United States Fish and Wildlife Service, National Park Service, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter this area at any time.

(49) Double Point/Stormy Stack Rock Special Closure. Special restrictions on boating and access apply to Stormy Stack Rock as follows.

(A) A special closure is designated from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of Stormy Stack Rock, located in the vicinity of 37° 56.83' N. lat. 122° 47.14' W. long.

(B) No person except department employees or employees of the United States Fish and Wildlife Service, National Park Service, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter this area at any time.

(50) Duxbury Reef State Marine Conservation Area.

(A) This area is bounded by the mean high tide line, a distance of 1000 feet seaward of mean lower low water, and the following points:
37° 55.52' N. lat. 122° 44.17' W. long.;
37° 55.42' N. lat. 122° 44.31' W. long.;
37° 53.65' N. lat. 122° 41.91' W. long.; and
37° 53.77' N. lat. 122° 42.02' W. long.

(B) Take of all living marine resources is prohibited except the recreational take of finfish [subsection 632(a)(2)] from shore and abalone.

(51) North Farallon Islands State Marine Reserve

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:
37° 45.70' N. lat. 122° 59.08' W. long.; thence northwestward along the three nautical mile offshore boundary to
37° 49.34' N. lat. 123° 7.00' W. long.;
37° 45.70' N. lat. 123° 7.00' W. long.; and
37° 45.70' N. lat. 122° 59.08' W. long.

(B) Take of all living marine resources is prohibited.

(52) North Farallon Islands Special Closure. Special regulations on boating and access apply to the North Farallon Islands as follows.

(A) A special closure is established at the islets comprising the North Farallon Islands.

(B) Except as permitted by federal law or emergency caused by hazardous weather, or as authorized by subsection 632(b)(52)(C), no vessel shall be operated or anchored at any time from the mean high tide line to a distance of 1000 feet seaward of the mean lower low tide line of any shoreline of North Farallon Island, or to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of the remaining three southern islets, including the Island of St. James, in the vicinity of 37° 46.00' N. lat. 123° 06.00' W. long.

(C) No person except department employees or employees of the United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter the area defined in subsection 632(b)(52)(B).

(D) All vessels shall observe a five (5) nautical mile per hour speed limit within 1,000 feet seaward of the mean lower low tide line of any shoreline of the islets defined in subsection 632(b)(52)(B).

(E) In an area bounded by the mean high tide line and a distance of one nautical mile seaward of the mean lower low tide line of any of the four islets comprising the North Farallon Islands, the following restrictions apply:

1. All commercial diving vessels operating in the defined area shall have their vessel engine exhaust system terminate either through a muffler for dry exhaust systems, or below the vessel waterline for wet exhaust systems.

2. All commercial diving vessels equipped with an open, deck-mounted air compressor system, while operating in the defined area, shall have their air compressor's engine exhaust system terminate below the vessel waterline.

(53) Southeast Farallon Island State Marine Reserve.

(A) This area is bounded by straight lines connecting the following points in the order listed:
37° 42.60' N. lat. 122° 59.50' W. long.;
37° 42.60' N. lat. 123° 02.00' W. long.;
37° 40.50' N. lat. 123° 02.00' W. long.;
37° 40.50' N. lat. 122° 59.50' W. long.; and
37° 42.60' N. lat. 122° 59.50' W. long.

(B) Take of all living marine resources is prohibited.
(54) Southeast Farallon Island State Marine Conservation Area.

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:

37° 42.60’ N. lat. 123° 02.00’ W. long.;
37° 42.60’ N. lat. 123° 05.46’ W. long.; thence southeastward along the three nautical mile offshore boundary to
37° 38.66’ N. lat. 122° 59.50’ W. long;
37° 40.50’ N. lat. 122° 59.50’ W. long;
37° 40.50’ N. lat. 123° 02.00’ W. long.; and
37° 42.60’ N. lat. 123° 02.00’ W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of salmon by trolling [subsection 27.80(a)(3)] is allowed.
2. The commercial take of salmon with troll fishing gear [subsection 182.1(l)] is allowed.

(55) Southeast Farallon Island Special Closure. Special regulations on boating and access apply to the island and islets comprising the Southeast Farallon Island as follows.

(A) A special closure is established at the Southeast Farallon Island.

(B) Except as permitted by federal law or emergency caused by hazardous weather, or as authorized by subsection 632(b)(55)(D), no vessel shall be operated or anchored at any time from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of the Southeast Farallon Island year-round, EXCEPT:

1. The area north of Fisherman's Bay, from a line extending due west from 37° 42.26’ N. lat. 123° 00.16’ W. long., following clockwise around the island (including Fisherman's Bay), to a line extending due east from 37° 42.05’ N. lat. 123° 00.07’ W. long.
2. At East Landing, from a line extending due east from 37° 41.83’ N. lat. 122° 59.98’ W. long., following clockwise around the island, to a straight line connecting the following two points:

37° 41.72’ N. lat. 123° 00.05’ W. long.; and
37° 41.68’ N. lat. 123° 00.07’ W. long.

(C) This closure as defined in subsection 632(b)(55)(B) exists year round, except for the following areas, which are closed only from December 1 through September 14 of each year:

1. From Fisherman's Bay to East Landing, from a line extending due east from 37° 42.05’ N. lat. 123° 00.07’ W. long., following clockwise around the island to a line extending due east from 37° 41.83’ N. lat. 122° 59.98’ W. long.
2. The area southwest of East Landing, from a straight line connecting the following two points:

37° 41.72’ N. lat. 123° 00.05’ W. long.; and
37° 41.68’ N. lat. 123° 00.07’ W. long.

Following clockwise around the main island to a straight line extending due south from 37° 41.76’ N. lat. 123° 00.16’ W. long. to 37° 41.64’ N. lat. 123° 00.16’ W. long., and on the southeast side of Saddle (Seal) Rock, from a straight line extending due south from 37° 41.76’ N. lat. 123° 00.16’ W. long., following clockwise around Saddle (Seal) Rock, to a line extending due west from 37° 41.60’ N. lat. 123° 00.26’ W. long.

(D) No person except department employees or employees of the United States Fish and Wildlife Service, National Oceanic and Atmospheric Administration, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter the area defined in subsection 632(b)(55)(B) or 632(b)(55)(C) during the closure period.

(E) All vessels shall observe a five (5) nautical mile per hour speed limit 1,000 feet seaward of the mean lower low tide line of any shoreline of the Southeast Farallon Island.
In an area bounded by the mean high tide line and a distance of one nautical mile seaward of the mean lower low tide line of any of the islands and islets comprising the Southeast Farallon Island, the following restrictions apply:

1. All commercial diving vessels operating in the defined area shall have their vessel engine exhaust system terminate either through a muffler for dry exhaust systems, or below the vessel waterline for wet exhaust systems.

2. All commercial diving vessels equipped with an open, deck-mounted air compressor system, while operating in the defined area, shall have their air compressor's engine exhaust system terminate below the vessel waterline.

(56) Fagan Marsh State Marine Park.

(A) This area consists of waters below the mean high tide line within the Fagan Marsh Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants.

(C) Only lightweight, hand-carried boats may be launched or operated within the park.

(57) Peytonia Slough State Marine Park.

(A) This area consists of waters below the mean high tide line within the Peytonia Slough Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants.

(C) Only lightweight, hand-carried boats may be launched or operated within the park.


(A) This area consists of waters below the mean high tide line within the Corte Madera Marsh Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants from shore only.

(C) Only lightweight, hand-carried boats may be launched or operated within the park.

(D) Swimming, wading, and diving are prohibited within the park.

(59) Marin Islands State Marine Park.

(A) This area consists of waters below the mean high tide line within the Marin Islands Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants from shore only.

(C) Boating, swimming, wading, and diving are prohibited within the park.

(60) Albany Mudflats State Marine Park.

(A) This area consists of waters below the mean high tide line within the Albany Mudflats Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants from shore only.

(C) Boating, swimming, wading, and diving are prohibited within the park.


(A) This area is bounded by the mean high tide line and a distance of 150 feet seaward of mean lower low water, between the following points:

37° 45.97’ N. lat. 122° 16.84’ W. long.; and

37° 45.95’ N. lat. 122° 16.52’ W. long.

(B) Take of all living marine resources is prohibited except:

1. Finfish may be taken recreationally by hook and line only.
2. Finfish and kelp may be taken commercially.

(62) Redwood Shores State Marine Park.

(A) This area consists of waters below the mean high tide line within the Redwood Shores Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants.

(C) Only lightweight, hand-carried boats may be launched or operated within the park.

(63) Bair Island State Marine Park.

(A) This area consists of waters below the mean high tide line within the Bair Island Ecological Reserve.

(B) Take of all living marine resources is prohibited except the recreational hook and line take of species other than kelp from shore only.

(C) Boating, swimming, wading, and diving are prohibited within the park.

(D) No person, except state and local law enforcement officers, fire suppression agencies and employees of the department in the performance of their official duties or persons possessing written permission from the department, shall enter this park during the period February 15 through May 20.

(E) Waterfowl may be taken in accordance with the general waterfowl regulations (Sections 502, 550, 551, and 552).

(64) Egg (Devil's Slide) Rock to Devil's Slide Special Closure. Special restrictions on boating and access apply as follows.

(A) A special closure is designated from the mean high tide line to a distance of 300 feet seaward of the mean lower low tide line of any shoreline of any of the three rocks comprising Egg (Devil's Slide) Rock, located in the vicinity of 37° 34.64' N. lat. 122° 31.29' W. long.; 37° 34.66' N. lat. 122° 31.32' W. long.; and 37° 34.63' N. lat. 122° 31.29' W. long.; and the area bounded by the mean high tide line and straight lines connecting the following points in the order listed:

37° 34.74' N. lat. 122° 31.08' W. long.;
37° 34.72' N. lat. 122° 31.31' W. long.;
37° 34.60' N. lat. 122° 31.33' W. long.; and
37° 34.52' N. lat. 122° 31.21' W. long.

(B) Transit in between the rock and the mainland between these points is prohibited at any time.

(C) No person except department employees or employees of the United States Fish and Wildlife Service, U.S. Bureau of Land Management, National Oceanic and Atmospheric Administration, or United States Coast Guard, in performing their official duties, or unless permission is granted by the department, shall enter this area.

(65) Montara State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

37° 32.70' N. lat. 122° 31.00' W. long.;
37° 32.70' N. lat. 122° 34.91' W. long.; thence southward along the three nautical mile offshore boundary to
37° 30.00' N. lat. 122° 34.61' W. long.; and
37° 30.00' N. lat. 122° 29.93' W. long.

(B) Take of all living marine resources is prohibited.

(66) Pillar Point State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:
(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

- 37° 10.00' N. lat. 122° 21.80' W. long;
- 37° 08.70' N. lat. 122° 21.00' W. long.

The area then continues southward bounded by the mean high tide line and straight lines connecting the following points in the order listed:

- 37° 08.70' N. lat. 122° 21.00' W. long;
- 37° 04.70' N. lat. 122° 21.00' W. long;
- 37° 04.70' N. lat. 122° 16.20' W. long.

(B) Take of all living marine resources is prohibited except the commercial take of giant kelp (Macrocystis pyrifera) by hand harvest only.

(68) Greyhound Rock State Marine Conservation Area.

(A) This area is bounded by the mean high tide line, the three nautical mile offshore boundary and straight lines connecting the following points in the order listed except where noted:

- 37° 04.70' N. lat. 122° 16.20' W. long;
- 37° 04.70' N. lat. 122° 21.00' W. long;
- 37° 03.55' N. lat. 122° 21.00' W. long;
- 37° 02.57' N. lat. 122° 19.10' W. long;
- 37° 02.57' N. lat. 122° 14.00' W. long.

(B) Take of all living marine resources is prohibited except:

1. Only the following species may be taken recreationally: giant kelp (Macrocystis pyrifera) by hand harvest only, market squid, salmon, and, by hook-and-line from shore only, other finfish.

2. Only the following species may be taken commercially: giant kelp (Macrocystis pyrifera) by hand harvest only, salmon, and market squid. Not more than five percent by weight of any commercial market squid catch landed or possessed shall be other incidentally taken species.

(69) Natural Bridges State Marine Reserve.
(A) This area is bounded by the mean high tide line and a distance of 200 feet seaward of mean lower low water between the following two points:

36° 57.90' N. lat. 122° 07.65' W. long.; and

36° 57.00' N. lat. 122° 03.50' W. long.

(B) Take of all living marine resources is prohibited.

(70) Elkhorn Slough State Marine Reserve.

(A) This area includes the waters below mean high tide within Elkhorn Slough lying east of longitude 121° 46.40' W. and south of latitude 36° 50.50' N.

(B) Take of all living marine resources is prohibited.

(71) Elkhorn Slough State Marine Conservation Area.

(A) This area includes the waters below mean high tide within Elkhorn Slough east of the Highway 1 Bridge and west of longitude 121° 46.40' W.

(B) Take of all living marine resources is prohibited except:

1. Only the following species may be taken recreationally: finfish by hook-and-line only and clams. Clams may only be taken on the north shore of the slough in the area adjacent to the Moss Landing State Wildlife Area [subsection 550(a)].

(72) Moro Cojo Slough State Marine Reserve.

(A) This area includes the waters within Moro Cojo Slough below mean high tide and east of the Highway 1 Bridge and west of the crossing of the Southern Pacific Railroad tracks.

(B) Take of all living marine resources is prohibited.

(73) Soquel Canyon State Marine Conservation Area.

(A) This area is bounded by straight lines connecting the following points in the order listed:

36° 51.00' N. lat. 121° 56.00' W. long.;
36° 51.00' N. lat. 122° 03.80' W. long.;
36° 48.00' N. lat. 122° 02.88' W. long.;
36° 48.00' N. lat. 121° 56.00' W. long.; and
36° 51.00' N. lat. 121° 56.00' W. long.

(B) Take of all living marine resources is prohibited except the commercial and recreational take of pelagic finfish [subsection 632(a)(3)] is allowed. Not more than five percent by weight of any commercial pelagic finfish catch landed or possessed shall be other incidentally taken species.

(74) Portuguese Ledge State Marine Conservation Area.

(A) This area is bounded by straight lines connecting the following points in the order listed:

36° 43.00' N. lat. 121° 56.00' W. long.;
36° 43.00' N. lat. 122° 01.30' W. long.;
36° 41.00' N. lat. 122° 00.80' W. long.;
36° 41.00' N. lat. 121° 56.00' W. long.; and
36° 43.00' N. lat. 121° 56.00' W. long.

(B) Take of all living marine resources is prohibited except the commercial and recreational take of pelagic finfish [subsection 632(a)(3)] is allowed. Not more than five percent by weight of any commercial pelagic finfish catch
landed or possessed shall be other incidentally taken species.

(75) Edward F. Ricketts State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

36° 36.50' N. lat. 121° 53.37' W. long.;
36° 37.25' N. lat. 121° 53.78' W. long.; and
36° 37.10' N. lat. 121° 54.09' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of finfish by hook-and-line is allowed.

2. The commercial take of giant kelp (Macrocystis pyriforma) and bull kelp (Nereocystis spp.) is allowed by hand in the area defined by subsection 165(c)(4)(D) under the following conditions:

   a. A kelp harvester with a valid license issued pursuant to Section 165 may take no more than 12 tons of kelp from the portion of Administrative Kelp Bed 220 within the Edward F. Ricketts State Marine Conservation Area in any calendar month.

   b. Duplicate landing records must be kept on board the harvest vessel in accordance with the requirements of Section 165.

(76) Lovers Point-Julia Platt State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

36° 37.10' N. lat. 121° 54.09' W. long.;
36° 37.25' N. lat. 121° 53.78' W. long.;
36° 37.38' N. lat. 121° 53.85' W. long.;
36° 37.60' N. lat. 121° 54.75' W. long.; and
36° 37.60' N. lat. 121° 54.91' W. long.

(B) Take of all living marine resources is prohibited.

(77) Pacific Grove Marine Gardens State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

36° 37.60' N. lat. 121° 54.91' W. long.;
36° 37.60' N. lat. 121° 54.75' W. long.;
36° 38.70' N. lat. 121° 55.40' W. long.;
36° 38.90' N. lat. 121° 56.60' W. long.; and
36° 38.22' N. lat. 121° 56.15' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of finfish is allowed.

2. The commercial take of giant kelp (Macrocystis pyriforma) and bull kelp (Nereocystis spp.) by hand is allowed under the following conditions:

   a. A kelp harvester with a valid license issued pursuant to Section 165 may take no more than 44 tons of kelp from the portion of Administrative Kelp Bed 220 within the Pacific Grove Marine Gardens State Marine Conservation Area.
b. Duplicate landing records must be kept on board the harvest vessel in accordance with the requirements of Section 165.

(78) Asilomar State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

36° 38.22’ N. lat. 121° 56.15’ W. long.;
36° 38.90’ N. lat. 121° 56.60’ W. long.; and
36° 36.60’ N. lat. 121° 57.50’ W. long.

(B) Take of all living marine resources is prohibited.

(79) Carmel Pinnacles State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

36° 33.65’ N. lat. 121° 57.60’ W. long.;
36° 33.65’ N. lat. 121° 58.50’ W. long.;
36° 33.10’ N. lat. 121° 58.50’ W. long.; and
36° 33.10’ N. lat. 121° 57.60’ W. long.

(B) Take of all living marine resources is prohibited.

(80) Carmel Bay State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

36° 33.65’ N. lat. 121° 57.10’ W. long.;
36° 31.70’ N. lat. 121° 56.30’ W. long.; and
36° 31.70’ N. lat. 121° 55.55’ W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of finfish is allowed.

2. The commercial take of giant kelp (Macrocystis pyrifera) and bull kelp (Nereocystis spp.) by hand is allowed under the following conditions:

   a. A kelp harvester with a valid license issued pursuant to Section 165 may take no more than 44 tons of kelp from the portion of Administrative Kelp Bed 219 within the Carmel Bay State Marine Conservation Area in any calendar month.

   b. Duplicate landing records must be kept on board the harvest vessel in accordance with the requirements of Section 165.

(81) Point Lobos State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

36° 31.70’ N. lat. 121° 55.55’ W. long.;
36° 31.70’ N. lat. 121° 58.25’ W. long.;
36° 28.88' N. lat. 121° 58.25' W. long.; and
36° 28.88' N. lat. 121° 56.30' W. long.

(B) Take of all living marine resources is prohibited.

(C) Within the portion of the Point Lobos State Marine Reserve which also falls within the boundary of the Point Lobos State Reserve (State Park Unit), restrictions on boating and diving activities exist. Contact the California Department of Parks and Recreation for current restrictions.

(82) Point Lobos State Marine Conservation Area.

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:
36° 31.70' N. lat. 121° 58.25' W. long.;
36° 31.70' N. lat. 122° 01.30' W. long.; thence southward along the three nautical mile offshore boundary to
36° 28.88' N. lat. 122° 00.55' W. long.;
36° 28.88' N. lat. 121° 58.25' W. long.; and
36° 31.70' N. lat. 121° 58.25' W. long.

(B) Take of all living marine resources is prohibited except the recreational and commercial take of salmon, albacore, and the commercial take of spot prawn.

(83) Point Sur State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
36° 18.40' N. lat. 121° 54.10' W. long.;
36° 18.40' N. lat. 121° 56.00' W. long.;
36° 15.00' N. lat. 121° 52.50' W. long.; and
36° 15.00' N. lat. 121° 50.25' W. long.

(B) Take of all living marine resources is prohibited.

(84) Point Sur State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:
36° 18.40' N. lat. 121° 56.00' W. long.;
36° 18.40' N. lat. 121° 58.33' W. long.; thence southward along the three nautical mile offshore boundary to
36° 15.00' N. lat. 121° 55.10' W. long.;
36° 15.00' N. lat. 121° 52.50' W. long.; and
36° 18.40' N. lat. 121° 56.00' W. long.

(B) Take of all living marine resources is prohibited except the commercial and recreational take of salmon and albacore.

(85) Big Creek State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:
36° 07.20' N. lat. 121° 38.00' W. long.;
36° 07.20' N. lat. 121° 39.00' W. long.;
36° 05.20' N. lat. 121° 38.00' W. long.; 
36° 05.20' N. lat. 121° 41.25' W. long.; thence southward along the three nautical mile offshore boundary to 
36° 02.65' N. lat. 121° 39.70' W. long.; and 
36° 02.65' N. lat. 121° 35.13' W. long.

(B) Take of all living marine resources is prohibited.

(C) Anchoring. Except as pursuant to Federal law or emergency caused by hazardous weather, it is unlawful to anchor or moor a vessel in waters shallower than 10 fathoms in the Big Creek State Marine Reserve.

(86) Big Creek State Marine Conservation Area.

(A) This area is bounded by the three nautical mile offshore boundary and straight lines connecting the following points in the order listed except where noted:
36° 07.20' N. lat. 121° 39.00' W. long.;
36° 07.20' N. lat. 121° 42.90' W. long.; thence southward along the three nautical mile offshore boundary to
36° 05.20' N. lat. 121° 41.25' W. long.;
36° 05.20' N. lat. 121° 38.00' W. long.; and
36° 07.20' N. lat. 121° 39.00' W. long.

(B) Take of all living marine resources is prohibited except the commercial and recreational take of salmon, albacore, and the commercial take of spot prawn.

(87) Piedras Blancas State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
35° 42.85' N. lat. 121° 18.95' W. long.;
35° 42.85' N. lat. 121° 21.00' W. long.;
35° 39.15' N. lat. 121° 18.50' W. long.; and
35° 39.15' N. lat. 121° 14.45' W. long.

(B) Take of all living marine resources is prohibited.

(88) Piedras Blancas State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:
35° 42.85' N. lat. 121° 21.00' W. long.;
35° 42.85' N. lat. 121° 22.85' W. long.; thence southward along the three nautical mile offshore boundary to
35° 39.15' N. lat. 121° 20.90' W. long.;
35° 39.15' N. lat. 121° 18.50' W. long.; and
35° 42.85' N. lat. 121° 21.00' W. long.

(B) Take of all living marine resources is prohibited except the commercial and recreational take of salmon and albacore.

(89) Cambria State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
35° 37.10’ N. lat. 121° 09.20’ W. long.;
35° 37.10’ N. lat. 121° 10.70’ W. long.;
35° 32.85’ N. lat. 121° 06.70’ W. long.; and
35° 32.85’ N. lat. 121° 05.85’ W. long.

(B) The commercial take of all living marine resources is prohibited. Recreational take is allowed.

(90) White Rock (Cambria) State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

35° 32.85’ N. lat. 121° 05.85’ W. long.;
35° 32.85’ N. lat. 121° 06.70’ W. long.;
35° 30.50’ N. lat. 121° 05.00’ W. long.; and
35° 30.50’ N. lat. 121° 03.40’ W. long.

(B) Take of all living marine resources is prohibited except the commercial take of giant kelp (Macrocystis pyrifera) and bull kelp (Nereocystis spp.) under the following conditions:

1. A kelp harvester with a valid license issued pursuant to Section 165 and holding a valid lease to Administrative Kelp Bed 208 may take no more than 125 tons of kelp from the portion of Administrative Kelp Bed 208 within the White Rock (Cambria) State Marine Conservation Area in any calendar month.

2. Duplicate landing records must be kept on board the harvest vessel in accordance with the requirements of Section 165.

(91) Morro Bay State Marine Recreational Management Area.

(A) This area includes the area below mean high tide within Morro Bay east of the Morro Bay entrance breakwater and west of longitude 120° 50.34’ W.

(B) Recreational hunting of waterfowl is allowed unless otherwise restricted by hunting regulations (sections 502, 550, 551, and 552).

(C) Take of all living marine resources is prohibited except the following activities are allowed north of latitude 35° 19.70’ N:

1. The recreational take of finfish.
2. Aquaculture of oysters, pursuant to a valid State water bottom lease and permit.
3. Storing finfish taken outside the Morro Bay State Marine Recreational Management Area in a receiver for bait purposes.
4. Dredging for the purpose of harbor and channel operations and pursuant to required and valid permits and approvals.
5. Harbor operations and maintenance and cleaning of vessel hulls and other man-made structures, including removal of living marine resources for these purposes.

(92) Morro Bay State Marine Reserve.

(A) This area includes the area below mean high tide line within Morro Bay east of longitude 120° 50.34’ W.

(B) Take of all living marine resources is prohibited.

(93) Point Buchon State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
35° 15.25' N. lat. 120° 54.00' W. long.;
35° 15.25' N. lat. 120° 56.00' W. long.;
35° 11.00' N. lat. 120° 52.40' W. long.; and
35° 13.30' N. lat. 120° 52.40' W. long.
(B) Take of all living marine resources is prohibited.

(94) Point Buchon State Marine Conservation Area.

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:
35° 15.25' N. lat. 120° 56.00' W. long.;
35° 15.25' N. lat. 120° 57.80' W. long.; thence southward along the three nautical mile offshore boundary to
35° 11.00' N. lat. 120° 55.20' W. long.;
35° 11.00' N. lat. 120° 52.40' W. long.; and
35° 15.25' N. lat. 120° 56.00' W. long.

(B) Take of all living marine resources is prohibited except the commercial and recreational take of salmon and albacore.

(95) Vandenberg State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
34° 44.65' N. lat. 120° 37.75' W. long.;
34° 44.65' N. lat. 120° 40.00' W. long.;
34° 33.25' N. lat. 120° 40.00' W. long.; and
34° 33.25' N. lat. 120° 37.25' W. long.

(B) Take of all living marine resources is prohibited except take incidental to base operations and commercial space launch operations identified by the Vandenberg Air Force Base Commander as mission critical.

(C) Public Entry. Public entry into the Vandenberg State Marine Reserve may be restricted at the discretion of the department to protect wildlife, aquatic life, or habitat, or by the Commander of Vandenberg Air Force Base to protect and provide safety for base operations.

(D) The Department shall enter into a Memorandum of Understanding (MOU) with the Commander of Vandenberg Air Force Base for the mutually beneficial management and administration of the Vandenberg State Marine Reserve. The MOU shall include, but not be limited to, the identification of Vandenberg Air Force Base’s national defense mission activities that are unrestricted by the subject regulations and details on management and administrative roles and responsibilities.

(96) Point Conception State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:
34° 27.00' N. lat. 120° 28.28' W. long.;
34° 27.00' N. lat. 120° 32.15' W. long.; thence southeastward along the three nautical mile offshore boundary to
34° 23.96' N. lat. 120° 25.00' W. long.; and
34° 27.19' N. lat. 120° 25.00' W. long.

(B) Take of all living marine resources is prohibited.
(97) Kashtayit State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

34° 28.13’ N. lat. 120° 14.46’ W. long.;
34° 27.30’ N. lat. 120° 14.46’ W. long.;
34° 27.30’ N. lat. 120° 12.47’ W. long.; and
34° 28.23’ N. lat. 120° 12.47’ W. long.

(B) Take of all living marine resources is prohibited except:

1. Only the following species may be taken recreationally: finfish [subsection 632(a)(2)], invertebrates except rock scallops and mussels, and giant kelp (Macrocystis pyrifera) by hand harvest.
2. Take pursuant to activities authorized under subsection 632(b)(97)(C) is allowed.

(C) Maintenance of artificial structures and operation and maintenance of existing facilities is allowed inside the conservation area pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(98) Naples State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

34° 26.51’ N. lat. 119° 58.00’ W. long.;
34° 25.00’ N. lat. 119° 58.00’ W. long.;
34° 25.00’ N. lat. 119° 56.00’ W. long.; and
34° 26.13’ N. lat. 119° 56.00’ W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take by spearfishing [Section 1.76] of white seabass and pelagic finfish [subsection 632(a)(3)] is allowed.
2. The commercial take of giant kelp (Macrocystis pyrifera) by hand harvest or by mechanical harvest is allowed.
3. Take pursuant to activities authorized under subsection 632(b)(98)(C) is allowed.

(C) Operation and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(99) Campus Point State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

34° 25.20’ N. lat. 119° 53.60’ W. long.;
34° 21.48’ N. lat. 119° 53.60’ W. long.; thence eastward along the three nautical mile offshore boundary to
34° 21.21’ N. lat. 119° 50.65’ W. long.; and
34° 24.30’ N. lat. 119° 50.65’ W. long.

(B) Take of all living marine resources is prohibited except for take pursuant to activities authorized under subsection 632(b)(99)(C).

(C) Operation and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.
(100) **Goleta Slough State Marine Conservation Area.**

(A) This area includes the waters below the mean high tide line within Goleta Slough northward of latitude 34° 25.02' N.

(B) Take of all living marine resources is prohibited except for take pursuant to activities authorized under subsection 632(b)(100)(D).

(C) In waters below the mean high tide line inside the Goleta Slough Ecological Reserve as defined within Section 630, the following restrictions apply:

1. Boating, swimming, wading, and diving are prohibited.

2. No person shall enter this area and remain therein except on established trails, paths or other designated areas except department employees or designated employees of Santa Barbara Airport, City of Santa Barbara, Goleta Sanitary District and Goleta Valley Vector Control District for the purposes of carrying out official duties.

(D) Routine maintenance, dredging, habitat restoration, research and education, maintenance of artificial structures, and operation and maintenance of existing facilities in the conservation area is allowed pursuant to any required federal, state and local permits, or activities pursuant to Section 630, or as otherwise authorized by the department.

(101) **Richardson Rock (San Miguel Island) State Marine Reserve.**

(A) This area is bounded by the mean high tide line of Richardson Rock and straight lines connecting the following points in the order listed except where noted:

34° 07.905’ N. lat. 120° 28.200’ W. long.;

34° 02.211’ N. lat. 120° 28.200’ W. long.;

34° 02.211’ N. lat. 120° 31.467’ W. long.; thence northward along the three nautical mile offshore boundary to

34° 07.905’ N. lat. 120° 28.200’ W. long.

(B) Take of all living marine resources is prohibited.

(102) **San Miguel Island Special Closure. Special restrictions on boating and access apply to San Miguel Island as follows.**

(A) Boating is allowed at San Miguel Island except west of a line drawn between Judith Rock (34° 01.50’ N. lat. 120° 25.30’ W. long.) and Castle Rock (34° 03.30’ N. lat. 120° 26.30’ W. long.) where boats are prohibited closer than 300 yards from shore.

1. Notwithstanding the 300-yard boating closure between Judith Rock and Castle Rock, the following shall apply:

   a. Boats may approach San Miguel Island no nearer than 100 yards from shore during the period(s) from March 15 through April 30, and October 1 through December 15; and

   b. Boats operated by commercial sea urchin divers may enter waters of the 300-yard area between the western boundary of the Judith Rock State Marine Reserve at 120° 26.60’ W. long. and Castle Rock for the purpose of fishing sea urchins during the period(s) from March 15 through April 30, and October 1 through December 15.

2. The department may rescind permission for boats to enter waters within 300 yards between Judith Rock and Castle Rock upon finding that impairment to the island marine mammal resource is imminent. Immediately following such closure, the department will request the commission to hear, at its regularly scheduled meeting, presentation of documentation supporting the need for such closure.

(B) Other Requirements:

1. Boats traveling within 300 yards of the shoreline or anchorages shall operate with a minimum amount of noise and shall not exceed speeds of five miles per hour.

2. Except as permitted by federal law or emergency caused by hazardous weather, boats may be anchored overnight only at Tyler Bight and Cuyler Harbor.

3. Landing is allowed on San Miguel Island only at the designated landing beach in Cuyler Harbor.
4. No person shall have access to all other offshore rocks and islands at San Miguel Island.

(103) Harris Point (San Miguel Island) State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

34° 03.160’ N. lat. 120° 23.300’ W. long.;
34° 09.285’ N. lat. 120° 23.300’ W. long.; thence southeastward along the three nautical mile offshore boundary to
34° 06.322’ N. lat. 120° 18.400’ W. long.; and
34° 01.755’ N. lat. 120° 18.400’ W. long.

(B) Take of all living marine resources is prohibited.

(C) An exemption to the reserve, where commercial and recreational take of living marine resources is allowed, exists between the mean high tide line in Cuyler Harbor and a straight line between the following points:

34° 03.554’ N. lat. 120° 21.311’ W. long.; and
34° 02.908’ N. lat. 120° 20.161’ W. long.

(104) Judith Rock (San Miguel Island) State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

34° 01.802’ N. lat. 120° 26.600’ W. long.;
33° 58.508’ N. lat. 120° 26.600’ W. long.; thence eastward along the three nautical mile offshore boundary to
33° 58.510’ N. lat. 120° 25.300’ W. long.; and
34° 01.618’ N. lat. 120° 25.300’ W. long.

(B) Take of all living marine resources is prohibited.

(105) Carrington Point (Santa Rosa Island) State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

34° 01.296’ N. lat. 120° 05.200’ W. long.;
34° 04.000’ N. lat. 120° 05.200’ W. long.;
34° 04.000’ N. lat. 120° 01.000’ W. long.;
34° 00.500’ N. lat. 120° 01.000’ W. long.; and
34° 00.500’ N. lat. 120° 02.930’ W. long.

(B) Take of all living marine resources is prohibited.

(106) Skunk Point (Santa Rosa Island) State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

33° 59.000’ N. lat. 119° 58.808’ W. long.;
33° 59.000’ N. lat. 119° 58.000’ W. long.;
33° 57.100’ N. lat. 119° 58.000’ W. long.; and
33° 57.100’ N. lat. 119° 58.257’ W. long.
(B) Take of all living marine resources is prohibited.

(107) South Point (Santa Rosa Island) State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

33° 55.014' N. lat. 120° 10.000' W. long.
33° 51.506' N. lat. 120° 10.000' W. long.; thence eastward along the three nautical mile offshore boundary to
33° 50.657' N. lat. 120° 06.500' W. long.;
33° 53.800' N. lat. 120° 06.500' W. long.; and
33° 53.800' N. lat. 120° 06.544' W. long.

(B) Take of all living marine resources is prohibited.

(108) Painted Cave (Santa Cruz Island) State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

34° 04.492' N. lat. 119° 53.000' W. long.;
34° 05.200' N. lat. 119° 53.000' W. long.; thence eastward along a line one nautical mile offshore to
34° 05.000' N. lat. 119° 51.000' W. long.; and
34° 04.034' N. lat. 119° 51.000' W. long.

(B) Take of all living marine resources is prohibited except for the recreational take of spiny lobster and pelagic finfish [subsection 632(a)(3)].

(109) Gull Island (Santa Cruz Island) State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

33° 58.065' N. lat. 119° 50.967' W. long.;
33° 58.000' N. lat. 119° 51.000' W. long.;
33° 58.000' N. lat. 119° 53.000' W. long.;
33° 55.449' N. lat. 119° 53.000' W. long.; thence eastward along the three nautical mile offshore boundary to
33° 54.257' N. lat. 119° 48.000' W. long.; and
33° 57.756' N. lat. 119° 48.000' W. long.

(B) Take of all living marine resources is prohibited.

(110) Scorpion (Santa Cruz Island) State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

34° 02.958' N. lat. 119° 35.500' W. long.;
34° 06.202' N. lat. 119° 35.500' W. long.; thence eastward along the three nautical mile offshore boundary to
34° 06.245' N. lat. 119° 32.800' W. long.; and
34° 02.700' N. lat. 119° 32.800' W. long.

(B) Take of all living marine resources is prohibited.
(111) Anacapa Island Special Closure.

(A) No net or trap may be used in waters less than 20 feet deep off the Anacapa Islands commonly referred to as Anacapa Island.

(B) A brown pelican fledgling area is designated from the mean high tide mark seaward to a water depth of 20 fathoms (120 feet) on the north side of West Anacapa Island between a line extending 000° True off Portuguese Rock (34° 00.91' N. lat. 119° 25.26' W. long.) to a line extending 000° True off the western edge of Frenchy's Cove (34° 00.417' N. lat. 119° 24.600' W. long.), a distance of approximately 4,000 feet. No person except department employees or employees of the National Park Service in the performance of their official duties shall enter this area during the period January 1 to October 31.

(112) Anacapa Island State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

- 34° 00.828' N. lat. 119° 26.623' W. long.;
- 34° 00.800' N. lat. 119° 26.700' W. long.;
- 34° 03.940' N. lat. 119° 26.700' W. long.; thence eastward along the three nautical mile offshore boundary to
- 34° 04.002' N. lat. 119° 24.600' W. long.; and
- 34° 00.417' N. lat. 119° 24.600' W. long.

(B) Take of all living marine resources is prohibited except for the recreational take of spiny lobster and pelagic finfish [subsection 632(a)(3)] and the commercial take of spiny lobster.

(113) Anacapa Island State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

- 34° 00.417' N. lat. 119° 24.600' W. long.;
- 34° 04.002' N. lat. 119° 24.600' W. long.; thence eastward along the three nautical mile offshore boundary to
- 34° 04.033' N. lat. 119° 21.400' W. long.;
- 34° 01.000' N. lat. 119° 21.400' W. long.; and
- 34° 00.960' N. lat. 119° 21.449' W. long.

(B) Take of all living marine resources is prohibited.

(114) Footprint (Anacapa Channel) State Marine Reserve.

(A) This area is bounded by the straight lines connecting the following points in the order listed except where noted:

- 33° 59.300' N. lat. 119° 30.965' W. long.;
- 33° 57.510' N. lat. 119° 30.965' W. long.; thence eastward along the three nautical mile offshore boundary to
- 33° 57.264' N. lat. 119° 25.987' W. long.;
- 33° 59.300' N. lat. 119° 25.987' W. long.; and
- 33° 59.300' N. lat. 119° 30.965' W. long.

(B) Take of all living marine resources is prohibited.

(115) Begg Rock (San Nicolas Island Quad) State Marine Reserve.

(A) This area includes all state waters below the mean high tide line surrounding Begg Rock, located in the vicinity of 33° 21.71’ N. lat. 119° 41.76’ W. long.
(56) Take of all living marine resources is prohibited.

(116) Santa Barbara Island State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

- \(33\degree 28.500\) N. lat. 119\degree 01.847' W. long.;
- \(33\degree 28.500\) N. lat. 118\degree 58.051' W. long.; thence along the three nautical mile offshore boundary to
- \(33\degree 24.842\) N. lat. 119\degree 02.200' W. long.; and
- \(33\degree 27.973\) N. lat. 119\degree 02.200' W. long.

(B) Take of all living marine resources is prohibited.

(117) Point Dume State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

- \(34\degree 02.28\) N. lat. 118\degree 53.00' W. long.;
- \(33\degree 59.14\) N. lat. 118\degree 53.00' W. long.; thence southeastward along the three nautical mile offshore boundary to
- \(33\degree 56.96\) N. lat. 118\degree 49.20' W. long.; and
- \(34\degree 00.76\) N. lat. 118\degree 49.20' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take by spearfishing [Section 1.76] of white seabass and pelagic finfish [subsection 632(a)(3)] is allowed.
2. The commercial take of swordfish by harpoon [subsection 107(f)(1)]; and coastal pelagic species [Section 1.39] by round haulnet [Section 8750, Fish and Game Code], brail gear [Section 53.01(a)], and light boat [Section 53.01(k)] is allowed. Not more than five percent by weight of any commercial coastal pelagic species catch landed or possessed shall be other incidentally taken species.
3. Take pursuant to activities authorized under subsection 632(b)(117)(C) is allowed.

(C) Beach nourishment and other sediment management activities are allowed inside the conservation area pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(118) Point Dume State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

- \(34\degree 00.76\) N. lat. 118\degree 49.20' W. long.;
- \(33\degree 56.96\) N. lat. 118\degree 49.20' W. long.; thence eastward along the three nautical mile offshore boundary to
- \(34\degree 01.20\) N. lat. 118\degree 47.26' W. long.

(B) Take of all living marine resources is prohibited.

(119) Point Vicente State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

- \(33\degree 44.80\) N. lat. 118\degree 24.82' W. long.;
- \(33\degree 44.80\) N. lat. 118\degree 28.93' W. long.; thence southeastward along the three nautical mile offshore boundary to
33° 41.16’ N. lat. 118° 23.80’ W. long.; and
33° 44.19’ N. lat. 118° 23.80’ W. long.

(B) Take of all living marine resources is prohibited, except for take pursuant to activities authorized under subsection 632(b)(119)(C).

(C) Remediation activities associated with the Palos Verdes Shelf Operable Unit of the Montrose Chemical Superfund Site are allowed inside the conservation area pursuant to the Interim Record of Decision issued by the United States Environmental Protection Agency and any subsequent Records of Decision.

(120) Abalone Cove State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:
33° 44.19’ N. lat. 118° 23.80’ W. long.;
33° 41.16’ N. lat. 118° 23.80’ W. long.; thence southeastward along the three nautical mile offshore boundary to
33° 40.85’ N. lat. 118° 22.50’ W. long.; and
33° 44.24’ N. lat. 118° 22.50’ W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take by spearfishing [Section 1.76] of white seabass and pelagic finfish [subsection 632(a)(3)]; and market squid by hand-held dip net [Section 1.42] is allowed.

2. The commercial take of swordfish by harpoon [subsection 107(f)(1)]; and coastal pelagic species [Section 1.39] and Pacific bonito by round haul net [Section 8750, Fish and Game Code], brail gear [Section 53.01(a)], and light boat [Section 53.01(k)] is allowed. Not more than five percent by weight of any commercial coastal pelagic species or Pacific bonito catch landed or possessed shall be other incidentally taken species.

3. Take pursuant to activities authorized under subsection 632(b)(120)(C) is allowed.

(C) Remediation activities associated with the Palos Verdes Shelf Operable Unit of the Montrose Chemical Superfund Site are allowed inside the conservation area pursuant to the Interim Record of Decision issued by the United States Environmental Protection Agency and any subsequent Records of Decision.

(121) Bolsa Bay State Marine Conservation Area.

(A) This area includes the waters below the mean high tide line within Bolsa Bay estuary southward of a line that approximates the Warner Avenue bridge located between the following two points:
33° 42.70’ N. lat. 118° 03.63’ W. long.; and
33° 42.70’ N. lat. 118° 03.61’ W. long.;
and northward of a line that approximates the pedestrian bridge located between the following two points:
33° 42.22’ N. lat. 118° 03.17’ W. long.; and
33° 42.19’ N. lat. 118° 03.18’ W. long.

(B) Take of all living marine resources is prohibited except the recreational take of finfish [subsection 632(a)(2)] by hook and line from shore in designated areas only, or take pursuant to activities authorized under subsection 632(b)(121)(F) is allowed.

(C) Boating, swimming, wading, and diving are prohibited within the conservation area.

(D) No person, except state and local law enforcement officers, fire suppression agencies and employees of the department in the performance of their official duties or persons possessing written permission from the department or employees of Signal Corporation and its invitees for the purpose of carrying out oil and gas operations, shall enter this conservation area and remain therein except on established trails, paths, or other designated areas.

(E) No person shall enter this conservation area between the hours of 8:00 p.m. and 6:00 a.m.
Routine operation and maintenance, habitat restoration, maintenance dredging, research and education, and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or activities pursuant to Section 630, or as otherwise authorized by the department.

(122) Bolsa Chica Basin State Marine Conservation Area.

(A) This area includes the waters below the mean high tide line within the Bolsa Chica Basin estuary northeastward of the Pacific Coast Highway Bridge, approximated by a straight line between the following two points:

33° 41.02’ N. lat. 118° 02.15’ W. long.; and
33° 40.98’ N. lat. 118° 02.11’ W. long.;

and southeastward of a straight line between the following two points:

33° 42.22’ N. lat. 118° 03.17’ W. long.; and
33° 42.19’ N. lat. 118° 03.18’ W. long.

(B) Take of all living marine resources is prohibited, except for take pursuant to activities authorized under subsection 632(b)(122)(F).

(C) Boating, swimming, wading, and diving are prohibited within the conservation area.

(D) No person, except state and local law enforcement officers, fire suppression agencies and employees of the department in the performance of their official duties or persons possessing written permission from the department or employees of Signal Corporation and its invitees for the purpose of carrying out oil and gas operations, shall enter this conservation area and remain therein except on established trails, paths, or other designated areas.

(E) No person shall enter this conservation area between the hours of 8:00 p.m. and 6:00 a.m.

(F) Routine operation and maintenance, habitat restoration, maintenance dredging, research and education, and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or activities pursuant to Section 630, or as otherwise authorized by the department.

(123) Arrow Point to Lion Head Point (Catalina Island) State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

33° 28.660’ N. lat. 118° 32.310’ W. long.; and
33° 28.820’ N. lat. 118° 32.310’ W. long.

And northwestward of a line connecting the following two points:

33° 27.240’ N. lat. 118° 29.900’ W. long.; and
33° 27.170’ N. lat. 118° 30.100’ W. long.

(B) Recreational take of invertebrates is prohibited. Take of other living marine resources is allowed.

(124) Blue Cavern (Catalina Island) Onshore State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

33° 25.96’ N. lat. 118° 27.00’ W. long.; and
33° 27.50’ N. lat. 118° 27.00’ W. long;
33° 27.50’ N. lat. 118° 29.30’ W. long.; and
33° 26.64’ N. lat. 118° 29.30’ W. long.

(B) Take of all living marine resources is prohibited except for take pursuant to activities authorized under subsections 632(b)(124)(D) and 632(b)(124)(E).
(C) Except as pursuant to Federal law, emergency caused by hazardous weather, or as provided in subsection 632(b)(124)(D), it is unlawful to anchor or moor a vessel in the formerly designated Catalina Marine Science Center Marine Life Refuge (Section 10932, Fish and Game Code).

(D) The director of the Catalina Marine Science Center Marine Life Refuge, or any person that the director of the refuge has authorized may anchor or moor a vessel or take, for scientific purposes, any fish or specimen of marine plant life in the formerly designated Catalina Marine Science Center Marine Life Refuge under the conditions prescribed in a scientific collecting permit issued by the department (Section 10655, Fish and Game Code).

(E) Maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(125) Blue Cavern (Catalina Island) Offshore State Marine Conservation Area.

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:

33° 27.50’ N. lat. 118° 27.00’ W. long.; 33° 29.97’ N. lat. 118° 27.00’ W. long.; thence northwestward along the three nautical mile offshore boundary to 33° 30.81’ N. lat. 118° 29.30’ W. long.; 33° 27.50’ N. lat. 118° 29.30’ W. long.; and 33° 27.50’ N. lat. 118° 27.00’ W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of pelagic finfish [subsection 632(a)(3)], by hook and line or by spearfishing [Section 1.76], white seabass by spearfishing [Section 1.76] and market squid by hand-held dip net [Section 1.42] is allowed.

2. The commercial take of pelagic finfish [subsection 632(a)(3)] by hook and line and swordfish by harpoon [subsection 107(f)(1)] is allowed.

(126) Long Point (Catalina Island) State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

33° 24.38’ N. lat. 118° 21.98’ W. long.; 33° 25.50’ N. lat. 118° 21.98’ W. long.; 33° 25.50’ N. lat. 118° 24.00’ W. long.; and 33° 25.11’ N. lat. 118° 24.00’ W. long.

(B) Take of all living marine resources is prohibited.

(127) Casino Point (Catalina Island) State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

(B) Take of all living marine resources is prohibited, except for take pursuant to activities authorized under subsection 632(b)(127)(C).

(C) Maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(D) Feeding of fish for marine life viewing is allowed.

(128) Lover's Cove (Catalina Island) State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
33° 20.460' N. lat. 118° 18.900' W. long.;
33° 20.711' N. lat. 118° 18.900' W. long.; and
33° 20.711' N. lat. 118° 19.321' W. long.

(B) Take of all living marine resources is prohibited, except for recreational take by hook and line from the Cabrillo Mole or take pursuant to activities authorized under subsection 632(b)(128)(C).

(C) Maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(D) Feeding of fish for marine life viewing is allowed.

(129) Farnsworth (Catalina Island) Onshore State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:
33° 21.00’ N. lat. 118° 29.08’ W. long.;
33° 21.00’ N. lat. 118° 30.00’ W. long.;
33° 19.00’ N. lat. 118° 29.00’ W. long.;
33° 19.00’ N. lat. 118° 27.90’ W. long.; and
33° 19.56’ N. lat. 118° 27.90’ W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take by spearfishing [Section 1.76] of white seabass and pelagic finfish [subsection 632(a)(3)]; marlin, tunas, and dorado (dolphinfish) (Coryphaena hippurus) by trolling [subsection 27.80(a)(3)]; and market squid by hand-held dip net [Section 1.42] is allowed.

2. The commercial take of swordfish by harpoon [subsection 107(f)(1)]; and coastal pelagic species [Section 1.39] by round haulnet [Section 8750, Fish and Game Code], brail gear [Section 53.01(a)], and light boat [Section 53.01(k)] is allowed. Not more than five percent by weight of any commercial coastal pelagic species catch landed or possessed shall be other incidentally taken species.

(130) Farnsworth (Catalina Island) Offshore State Marine Conservation Area.

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:
33° 21.00’ N. lat. 118° 30.00’ W. long.;
33° 21.00’ N. lat. 118° 32.88’ W. long.; thence southward along the three nautical mile offshore boundary to
33° 19.00’ N. lat. 118° 31.98’ W. long.;
33° 19.00’ N. lat. 118° 29.00’ W. long.; and
33° 21.00’ N. lat. 118° 30.00’ W. long.

(B) Take of all living marine resources is prohibited except:
1. The recreational take of pelagic finfish [subsection 632(a)(3)] by hook and line or by spearfishing [Section 1.76]; white seabass by spearfishing [Section 1.76]; marlin, tunas and dorado (dolphinfish)(Coryphaena hippurus) by trolling [subsection 27.80(a)(3)]; and market squid by hand-held dip net [Section 1.42] is allowed.

2. The commercial take of swordfish by harpoon [subsection 107(f)(1)]; and coastal pelagic species [Section 1.39] by round haulnet [Section 8750, Fish and Game Code], brail gear [Section 53.01(a)], and light boat [Section 53.01(k)] is allowed. Not more than five percent by weight of any commercial coastal pelagic species catch landed or possessed shall be other incidentally taken species.

(131) Cat Harbor (Catalina Island) State Marine Conservation Area.

(A) This area includes the waters below the mean high tide line on the west side of Catalina Island northward of a straight line connecting Pin Rock (33° 25.50' N. lat. 118° 30.28' W. long.) and Cat Head Point (33° 25.32' N. lat. 118° 30.76' W. long.).

(B) Take of all living marine resources is prohibited except:

1. The recreational take of finfish [subsection 632(a)(2)] by hook and line or by spearfishing [Section 1.76], market squid by hook and line, and spiny lobster and sea urchin is allowed.

2. The commercial take of sea cucumbers by diving only, and spiny lobster and sea urchin is allowed.

3. Aquaculture of finfish [subsection 632(a)(2)] pursuant to any required state permits is allowed.

4. Take pursuant to activities authorized under subsection 632(b)(131)(C) is allowed.

(C) Maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(132) Upper Newport Bay State Marine Conservation Area.

(A) This area includes the waters below the mean high tide line within Upper Newport Bay northeastward of Pacific Coast Highway approximated by a line between the following two points:

33° 37.02’ N. lat. 117° 54.24’ W. long.;

33° 37.02’ N. lat. 117° 54.32’ W. long.; and southwestward of Jamboree Road approximated by a line between the following two points:

33° 39.07’ N. lat. 117° 52.02’ W. long.; and

33° 39.03’ N. lat. 117° 52.01’ W. long.

(B) Take of all living marine resources is prohibited except the recreational take of finfish [subsection 632(a)(2)] by hook and line from shore only, or take pursuant to activities authorized under subsection 632(b)(132)(D), is allowed.

(C) In waters below the mean high tide line inside the Upper Newport Bay Ecological Reserve, northeastward of a line connecting Shellmaker Island (33° 37.20’ N. lat. 117° 53.51’ W. long.) and North Star Beach (33° 37.38’ N. lat. 117° 53.60’ W. long.) the following restrictions apply:

1. Swimming is allowed only in the area between North Star Beach and mid-channel.

2. Boats are limited to speeds less than five miles per hour.

3. Shoreline access is limited to established trails, paths, or other designated areas.

(D) Maintenance dredging, habitat restoration, research and education programs, maintenance of artificial structures, and operation and maintenance of existing facilities inside the conservation area is allowed pursuant to any required federal, state and local permits, or activities pursuant to Section 630, or as otherwise authorized by the department.

(133) Crystal Cove State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

33° 35.373’ N. lat. 117° 52.648’ W. long.;
33° 35.065' N. lat. 117° 52.692' W. long.;
33° 32.400' N. lat. 117° 49.200' W. long.; and
33° 33.233' N. lat. 117° 49.200' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of finfish [subsection 632(a)(2)] by hook and line or by spearfishing [Section 1.76], and spiny lobster and sea urchin is allowed.
2. The commercial take of sea urchin; spiny lobster by trap; and costal pelagic species [Section 1.39] by round haul net [Section 8750, Fish and Game Code], brail gear [Section 53.01(a)], and light boat [Section 53.01(k)] is allowed. Not more than five percent by weight of any commercial coastal pelagic species catch landed or possessed shall be other incidentally taken species.
3. Take pursuant to activities authorized under subsection 632(b)(133)(C) is allowed.

(C) Beach nourishment and other sediment management activities, and operation and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(D) Take of all living marine resources from inside tidepools is prohibited. For purposes of this section, tidepools are defined as the area encompassing the rocky pools that are filled with seawater due to retracting tides between the mean higher high tide line and the mean lower low tide line.

(134) Laguna Beach State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

33° 33.233' N. lat. 117° 49.200' W. long.;
33° 30.800' N. lat. 117° 49.200' W. long.; and
33° 30.800' N. lat. 117° 45.631' W. long.

(B) Take of all living marine resources is prohibited.

(135) Laguna Beach State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

33° 30.800' N. lat. 117° 45.631' W. long.;
33° 30.800' N. lat. 117° 49.200' W. long.;
33° 30.050' N. lat. 117° 49.200' W. long.; and
33° 30.050' N. lat. 117° 44.771' W. long.

(B) Take of all living marine resources is prohibited except take pursuant to activities authorized under subsection 632(b)(135)(C).

(C) Operation and maintenance of artificial structures and facilities, beach grooming, maintenance dredging, and habitat restoration inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(136) Dana Point State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting and the following points in the order listed:

33° 30.050' N. lat. 117° 44.771' W. long.;
33° 30.050' N. lat. 117° 46.000' W. long.;
(B) Take of all living marine resources is prohibited except:

1. The recreational take of finfish [subsection 632(a)(2)] by hook and line or by spearfishing [Section 1.76], and spiny lobster and sea urchin is allowed.

2. The commercial take of sea urchin, spiny lobster by trap, and coastal pelagic species [Section 1.39] by round haul net [Section 8750, Fish and Game Code], brail gear [Section 53.01(a)], and light boat [Section 53.01(k)] is allowed. Not more than five percent by weight of any commercial coastal pelagic species catch landed or possessed shall be otherwise incidentally taken species.

3. Take pursuant to activities authorized under subsection 632(b)(136)(C) is allowed.

(C) Operation and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(D) Take of all living marine resources from inside tidepools is prohibited. For purposes of this section, tidepools are defined as the area encompassing the rocky pools that are filled with seawater due to retreating tides between the mean higher high tide line and the mean lower low tide line.

(137) Batiquitos Lagoon State Marine Conservation Area.

(A) This area includes the waters below the mean high tide line within Batiquitos Lagoon eastward of the Interstate Highway 5 Bridge, approximated by a line between the following two points:

33° 05.44' N. lat. 117° 18.12' W. long.; and

33° 05.46’ N. lat. 117° 18.13’ W. long.

(B) Take of all living marine resources is prohibited except for take pursuant to activities authorized under subsection 632(b)(137)(D).

(C) Boating, swimming, wading, and diving are prohibited within the conservation area.

(D) Operation and maintenance, habitat restoration, research and education, maintenance dredging and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or activities pursuant to Section 630, or as otherwise authorized by the department.

(138) Swami’s State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

33° 02.900’ N. lat. 117° 17.927’ W. long.;

33° 02.900’ N. lat. 117° 21.743’ W. long.; thence southward along the three nautical mile offshore boundary to

33° 00.000’ N. lat. 117° 20.398’ W. long.; and

33° 00.000’ N. lat. 117° 16.698’ W. long.; thence northward along the mean high tide line onshore boundary to

33° 00.962’ N. lat. 117° 16.850’ W. long.; and

33° 00.980’ N. lat. 117°16.857’ W. long.

(B) Take of all living marine resources is prohibited except:

1. Recreational take by hook and line from shore is allowed.

2. The recreational take by spearfishing [Section 1.76] of white seabass and pelagic finfish [subsection 632(a)(3)] is allowed.
3. Take pursuant to activities authorized under subsection 632(b)(138)(C) is allowed.

(C) Beach nourishment and other sediment management activities and operation and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(139) San Elijo Lagoon State Marine Conservation Area.

(A) This area includes the waters below the mean high tide line within San Elijo Lagoon southeastward of a straight line between the following two points:

33° 00.980’ N. lat. 117° 16.857’ W. long.; and

33° 00.962’ N. lat. 117° 16.850’ W. long.

(B) Take of all living marine resources is prohibited except for take pursuant to activities authorized under subsection 632(b)(139)(D).

(C) Boating, swimming, wading, and diving are prohibited within the conservation area.

(D) Operation and maintenance, maintenance dredging, habitat restoration including sediment deposition, research and education, and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or activities pursuant to Section 630, or as otherwise authorized by the department.

(140) San Dieguito Lagoon State Marine Conservation Area.

(A) This area consists of waters below the mean high tide line within the San Dieguito Lagoon Ecological Reserve southeastward of a straight line between the following two points:

32° 58.066’ N. lat. 117° 15.579’ W. long.; and

32° 58.072’ N. lat. 117° 15.548’ W. long.

(B) Take of all living marine resources is prohibited except the recreational take of finfish by hook and line from shore.

(C) Boating, swimming, wading, and diving are prohibited within the conservation area.

(D) No person, except state and local law enforcement officers, fire suppression agencies and employees of the department in the performance of their official duties or persons possessing written permission from the department, shall be permitted on the California least tern nesting island.

(E) No person, except state and local law enforcement officers, fire suppression agencies and employees of the department in the performance of their official duties or persons possessing written permission from the department, shall enter this conservation area between 8:00 p.m. and 5:00 a.m.

(F) The County of San Diego, after consultation with the department, may carry out management activities for fish and wildlife, flood control and vector control. Authorized operation and maintenance activities shall include, but shall not be limited to, use of chemicals, vegetation control, water control and use of associated equipment.

(G) Collections of fish, wildlife, water and soil may be made by the department for the purposes of fish and wildlife management or by San Diego County for the purposes of water quality testing and vector control.

(141) San Diego-Scripps Coastal State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

32° 53.000’ N. lat. 117° 15.166’ W. long.;

32° 53.000’ N. lat. 117° 16.400’ W. long.;

32° 51.964’ N. lat. 117° 16.400’ W. long.; and

32° 51.964’ N. lat. 117° 15.233’ W. long.
(B) Take of all living marine resources is prohibited except the recreational take of coastal pelagic species [Section 1.39], except market squid, by hook and line only and take pursuant to activities authorized under subsection 632(b)(141)(D) is allowed.

(C) Licensees of the Regents of the University of California and all officers, employees, and students of such university may take, for scientific purposes, invertebrates, fish, or specimens of marine plant or algae under the conditions prescribed in a scientific collecting permit issued by the department.

(D) Operation and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(142) Matlahuayl State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

32° 51.964' N. lat. 117° 15.233' W. long.;
32° 51.964' N. lat. 117° 16.400' W. long.; and
32° 51.067' N. lat. 117° 16.400' W. long.

(B) Take of all living marine resources is prohibited.

(C) Boats may be launched and retrieved only in designated areas and may be anchored within the reserve only during daylight hours.

(143) South La Jolla State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

32° 49.573' N. lat. 117° 16.781' W. long.;
32° 49.573' N. lat. 117° 19.000' W. long.; and
32° 47.945' N. lat. 117° 19.000' W. long.

(B) Take of all living marine resources is prohibited.

(144) South La Jolla State Marine Conservation Area.

(A) This area is bounded by straight lines connecting the following points in the order listed except where noted:

32° 49.573' N. lat. 117° 19.000' W. long.;
32° 49.573' N. lat. 117° 20.528' W. long.; thence southward along the three nautical mile offshore boundary to
32° 47.945' N. lat. 117° 20.068' W. long.;
32° 47.945' N. lat. 117° 19.000' W. long.; and
32° 49.573' N. lat. 117° 19.000' W. long.

(B) Take of all living marine resources is prohibited except the recreational take of pelagic finfish [subsection 632(a)(3)], by hook and line only is allowed.

(145) Famosa Slough State Marine Conservation Area.

(A) This area includes the waters below the mean high tide line within Famosa Slough estuary southward of the San Diego River channel, located at approximately 32° 45.43' N. lat. 117° 13.75' W. long.

(B) Take of all living marine resources is prohibited except for take pursuant to activities authorized under subsection 632(b)(145)(C).

(C) Habitat restoration, maintenance dredging and operation and maintenance of artificial structures is allowed inside
the conservation area pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

(146) Cabrillo State Marine Reserve.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed:

32° 40.60' N. lat. 117° 14.82' W. long.;
32° 40.60' N. lat. 117° 15.00' W. long.;
32° 39.70' N. lat. 117° 15.00' W. long.;
32° 39.70' N. lat. 117° 14.30' W. long.; and
32° 40.00' N. lat. 117° 14.30' W. long.

(B) Take of all living marine resources is prohibited.

(147) Tijuana River Mouth State Marine Conservation Area.

(A) This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed except where noted:

32° 34.00' N. lat. 117° 07.98' W. long.;
32° 34.00' N. lat. 117° 09.00' W. long.;
32° 31.97' N. lat. 117° 09.00' W. long.; thence eastward along the U.S./Mexico Border to
32° 32.06' N. lat. 117° 07.48' W. long.

(B) Take of all living marine resources is prohibited except:

1. The recreational take of coastal pelagic species [Section 1.39], except market squid, by hand-held dip net [Section 1.42] only is allowed.

2. The commercial take of coastal pelagic species [Section 1.39], except market squid, by round haul net [Section 8750, Fish and Game Code] is allowed. Not more than five percent by weight of any commercial coastal pelagic species catch landed or possessed shall be other incidentally taken species, including market squid.

3. Take pursuant to activities authorized under subsection 632(b)(147)(C) is allowed.

(C) Beach nourishment and other sediment management activities and operation and maintenance of artificial structures inside the conservation area is allowed pursuant to any required federal, state and local permits, or as otherwise authorized by the department.

Conditions of Use | Privacy Policy
Appendix F. Dike Rock User Questionnaire and On-site Observations

Note: Reserve user responses to the questionnaire are filed in the office of UCSD Reserve Manger, Isabelle Kay.

1) (a) Please mark below the following activities that are being conducted by your agency or organization at the Dike Rock area of the Scripps Coastal Reserve (SCR).
   ___ Research
   ___ Monitoring
   ___ Enforcement
   ___ Other: ____________________________________

   (b) In the past year, how often have your agency or organization conducted the above-indicated activity at Dike Rock?
      ___ None
      ___ 1-2 times per year
      ___ 3-5 times per year
      ___ Greater than 5 times year

   (c) For the above-indicated activity, please fill in how many days total your agency or organization conducted this activity at Dike Rock?
      _____ Day(s)

2) The Dike Rock area of the SCR is under the administration of the University of California (UC) San Diego. Proposed uses within the Dike Rock intertidal area require approval under the UC Natural Reserve System (NRS) Use Guidelines and SCR guidelines. In your opinion, please describe what you like about the current management system and what areas that could be improved.

3) What are the biggest challenges in your agency or organization’s utilization and/or enforcement of regulations the Dike Rock area of the SCR?

4) Based upon your observations and/or use of the site, what changes (biological, physical, recreational, etc.) are occurring within the Dike Rock intertidal area that may impact your future utilization, management, and/or enforcement of this area?
5) In your opinion, what would successful management of the Dike Rock intertidal area consist of? (This may include additional signage, contacts to relevant permitting offices, information provided online or by a docent, etc.)

6) Please provide any additional feedback or recommendations that would improve the current management of the Dike Rock intertidal area.
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<tr>
<th>Notes</th>
<th>Observations</th>
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**Visitor Activities**
- Dog walking - off leash
- Dog walking - on leash
- Walking/running through

**Access Point**
- North side (north of STP Pier)
- South side

**Scientific Observations**
- Temp: cold, cool, warm, hot
- Wave: none, small, medium, large
- Cloud cover: (0-9)
- Low tide height: _______
- Low tide time: _______
- Name(s): Meinardus

**Date:** 4/15/15  Time Start: 1:00 PM  End: 3:00 PM
<table>
<thead>
<tr>
<th>Visitor Activities</th>
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<tbody>
<tr>
<td>Dog Walking - on Leash</td>
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<tr>
<td>Dog Walking - off Leash</td>
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<tr>
<td>Walking/Running Through</td>
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<tr>
<th>Access Point</th>
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<tbody>
<tr>
<td>North Side</td>
<td></td>
</tr>
<tr>
<td>South Side (north of 3rd Pier)</td>
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<table>
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<tr>
<td>Comments:</td>
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<tr>
<td>Other:</td>
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<tr>
<td>Photography</td>
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<tr>
<td>Striking, Pitching, &quot;Beaching&quot;</td>
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<tr>
<td>Fishing</td>
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<tr>
<td>Collecting</td>
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<tr>
<td>Tumbling Over Rocks</td>
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<td>Observing</td>
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| Temp: cold / cool / warm / hot |  |
| Wavesis: none / small / medium / large |  |
| Low Tide Height: 1.8 m |  |
| Low Tide Time: 1:30 PM |  |
| Time Start: 3:15 PM |  |
| Time End: 3:30 PM |  |
| Cloud Cover (%): 50 |  |
| Fog: Yes / No |  |
| Name(s): |  |

Scirps Coastal Reserve Interidal Observation Sheet
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<td>Other:</td>
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<tr>
<td>Handling</td>
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<td>Tidepooling</td>
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<tr>
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<tr>
<td>Visitor Activities</td>
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<tr>
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<tr>
<td>Dog walking - on leash</td>
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<tr>
<td>Walking/running through</td>
</tr>
<tr>
<td>North side</td>
</tr>
<tr>
<td>South side (north of SIO Pier)</td>
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<td>Access Point</td>
</tr>
<tr>
<td>Observe TIDE at approximately the time of the lowest tide</td>
</tr>
<tr>
<td>Temp.: cold / cool / warm / hot</td>
</tr>
<tr>
<td>Fog: Y/N</td>
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<tr>
<td>Cloud cover (%):</td>
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<tr>
<td>Low tide height:</td>
</tr>
<tr>
<td>Low tide time:</td>
</tr>
<tr>
<td>Name(s):</td>
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</table>

**Scrub Island Reserve Interidal Observation Sheet**
### Visitor Activities
- Dog walking - off leash
- Dog walking - on leash
- Walking/running through North side
- South side (north of 510 Pier)

### Access Point
- Observe tir at approximately the time of the lowest tide

<table>
<thead>
<tr>
<th>Temp:</th>
<th>Cold</th>
<th>Cool</th>
<th>Warm</th>
<th>Hot</th>
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<tbody>
<tr>
<td>Fog:</td>
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<td>N</td>
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Scrapped Coastal Reserve Interior Observation Sheet
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<th>Turning over rocks:</th>
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<th>Observations:</th>
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<th>Visitor Activities:</th>
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<th>Dog walking - off leash:</th>
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<th>Dog walking - on leash:</th>
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<tr>
<th>Walking/Running through:</th>
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<table>
<thead>
<tr>
<th>Time Start:</th>
<th>1991/09/15</th>
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<tr>
<th>Temp.:</th>
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<table>
<thead>
<tr>
<th>Waves: none / small / medium / large:</th>
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<table>
<thead>
<tr>
<th>Fog:</th>
<th>Y / N</th>
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<table>
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<tr>
<th>Cloud cover (%):</th>
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<table>
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<th>Low tide height:</th>
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<th>Name(s):</th>
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SCREWS COASTAL RESERVE INTERFIDAL OBSERVATION SHEET
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“If we cannot act as responsible stewards in our own backyards, the long-term prospects for biological diversity in the rest of this planet are grim indeed.” Murphy, 1988

**Background**

**Introduction**

The purpose of this plan is to help maintain a high quality natural reserve. University of California Natural Reserves have been created for research and teaching in representative habitats. When established by the state legislature in 1929, the reserve was protected explicitly for research and teaching. It is primarily intended for the benefit of the University of California, but has been used by other universities, colleges, government agencies, and private and public schools since at least 1970.

The Scripps Coastal Reserve represents several habitats, most notably coastal sage scrub. As this habitat is fast disappearing in Southern California, it is important that this reserve be protected. The reserve is in need of restoration and this plan will prioritize actions to be taken. There is also a lack of sufficient community involvement, which will be addressed in this plan.

General management objectives for this type of reserve (Category IA under the IUCN Protected Area Categories System):

- Preservation of habitats, ecosystems and species
- Maintain genetic resources in dynamic and evolutionary state
- Maintain established ecological processes
- Secure examples of the natural environment for scientific studies, environmental monitoring and education
- Minimize disturbance by careful planning and execution of research and other approved activities

A good website for ideas and information on Management of ocean resources is [www.ceres.ca.gov/cra/ocean](http://www.ceres.ca.gov/cra/ocean). It could be useful for updates to this plan.

**Site Statistics**

- Location: Coastal San Diego County, CA; upland portion lies approximately 0.5 km (0.3 mi) west of the main UCSD campus and 1.0 km (0.6 mi) north of Scripps Institution of Oceanography (SIO); marine portion is adjacent to SIO.
- Latitude: 32°51’30” N
- Longitude: 117°16’ W
- USGS Maps: La Jolla 15’, Del Mar 7.5’, La Jolla 7.5’
- Reserve Type: Multipurpose, core reserve.
- Area by Land Tenure:
  a. 80 acres coastal parcel (60.6 acres submerged land, 19.4 acres intertidal land) owned by the UC Regents
  b. 44 acres comprising the upland portion, including the “Knoll” and south slope of Black Canyon owned by the UC Regents constitute the main upland parcel
c. 15.5 acres (Sumner Canyon)—use and management agreement/license with the Scripps Estate Associates (SEA) beginning in 1981 when upland portion was added to the reserve. The original agreement was for 20 years, and in 2001 SEA agreed to lengthen that time. Rent is $1 per year. See attachment A.

d. 800 acre submerged land lease from the City of San Diego in 1971, originally to house a new underwater research facility (never constructed). Leased for $50. See attachment B.

Date of Establishment: Marine portion, 1965; upland portion, 1980.
Elevation Range: Below mean sea level: 227 m (750 ft) Above mean sea level: 113 m (370 ft)

Topography: Steep coastal bluff topped by Plio-Pleistocene marine terrace and bounded by two coastal canyons; sandy beach with exposed cobble pockets; submerged coastal plain with intruded igneous dike and veneered by shifting sands; steep submarine canyon.

Site Significance

Natural Features

a. Degree of disturbance: the shoreline portion of the reserve appears relatively undisturbed because of its resilience to constant bombardment by humans. However, recent analysis suggests major impacts due to human disturbance including poaching and trampling. The upland portion is heavily used and as a result is somewhat trampled and littered upon. This portion was used for grazing of livestock prior to UCSD involvement, and so much of the habitat is now disturbed grassland.

b. Diversity: See attached lists of vegetation and habitat types, birds, invertebrates, and other animal species.

c. Rare/threatened/endangered habitats/species:
   SE= State listed endangered
   FE= Federally listed endangered
   SE=State threatened
   FE=Federally threatened

Knoll:
   Sea dahlia, rare (CNPS)
   Barrel cactus, rare (CNPS), FE
   Coast scrub oak, rare
   Coastal sage scrub habitat, rare
   Loggerhead Shrike, FE
   Peregrine Falcon, FE
   Savannah Sparrow, SE
   Brown Towhee, FT, SE
   California Gnatcatcher, ST

Shoreline:
   Brown Pelican, FE, SE
   Least Tern, FE, SE
   Snowy Plover, FT
There may be non-listed sensitive species which should be monitored. These species should be determined and the existing individuals mapped (plants) or counted (animals). A bi-yearly survey for these species would be important.

d. **Special natural processes:**
   - Erosion of cliff face
   - Sand migration and resulting seasonal sand height fluctuations
   - Migration of infauna up and down the beach
   - Succession after disturbance (Knoll)
   - Spawning of market squid (*Loligo opalescens*) and grunion (*Leuresthes tenuis*)
   - Heavy fog regime contributes to moisture deposition.

e. **Protectability:**
   Access to the upland portion could easily be restricted due to its small access area, although enforcement would be nearly impossible without changing the entrance gate. The shoreline portion is much harder to protect due to ease of access and laws regarding public access to shoreline areas. The rocky intertidal is under considerable pressure due to getting walked on and invertebrate poaching, but is practically impossible to protect. Also, due to the fact that fishing is allowed recreationally inside the reserve, the invertebrates are at greater risk of being poached and the fish have no protection at all.

f. **Other:**
   Important cultural site—the Knoll is an internationally renowned archaeological site. Excavations began in 1929 by the San Diego Museum of Man. Remnants of human burials have been found, evidence of La Jollan culture 1,300 to 8,000 years ago. Further investigations revealed that much of the knoll is covered with artifacts spanning 10,000 years and three cultures—San Dieguito, La Jollan, and Diegueño.

   Connectivity—the Torrey Pines State Reserve to the north and the La Jolla Ecological Reserve to the south provide some degree of connectivity between natural places. Corridors along the beach and submerged coastline connect them.

   Andesite dike reef habitat is unique to the area.

**Data Bases:**

a. Species lists (plants, birds, mammals, etc.)
b. Bibliography list of related papers and research.
c. Infauna and sand sampling 1994 to present. Infauna is only partly sorted and catalogued, some sand samples have been analyzed for grain size.
d. Meteorological and oceanographic data from the end of Scripps Pier, available on the Internet at: [http://scilib.ucsd.edu/sio/ocean/](http://scilib.ucsd.edu/sio/ocean/).
e. Information on the La Jolla and Scripps Canyons available at: [http://scilib.ucsd.edu/sio/canyon/index.html](http://scilib.ucsd.edu/sio/canyon/index.html), including abstracts of over 215 publications and a map of the La Jolla fan.
f. The SIO Weather Page includes radar and satellite images, Pacific Ocean wave information, and SIO pier data (temperature of air and water, salinity, etc.). The information spans from 1916 to the present and can be found at: [http://meteora.ucsd.edu.weather.html](http://meteora.ucsd.edu.weather.html).
g. SIO Oceanographic Collections, at: http://gdcmp1.ucsd.edu/sci_coll.html includes information on:
   - Fish Holdings: Over 2 million fish specimens, and over 4500 catalogued species. Searchable database.
   - Zooplankton: The Scripps Planktonic Invertebrates Collection includes over 102,000 whole zooplankton samples with 108 species.
   - Benthic Invertebrates: The collection includes approximately 40,000 lots of sorted specimens, of which about 30,000 have been catalogued and about 30% of these have been identified. Qualified individuals can loan out these specimens for the purposes of research, education, or exhibition.
   - Geological Cores and Dredged Rocks: Approximately 15,000 core samples and more than 2000 hauls of dredged rocks. These are part of the Micropaleontological Reference Data Center Collection, and the site includes links to searchable databases.

h. SIO Shore Station Data Set available at: http://www-mrlg.ucsd.edu/shoresta/index.html


j. The California Coastal Records Project has aerial photographs of the entire California Coastline, and these are updated periodically. The project’s site is: http://www1.californiacoastline.org

k. Seedbank Data from the Knoll. This includes data from 41 species, including annual/perennial, native/introduced, and habitat classifications.

l. Real-time temperature and salinity data is available from the end of the pier as part of the Network for Environmental Observations of the Coastal Ocean (NEOCO) effort sponsored by the UC Marine Council. 7-day plots are displayed at http://es.ucsc.edu/~neoco/index_files/lajolla_7plots.htm. Please note that the chlorophyll fluorescence and light transmission data is not reliable (but they are working on it)

m. Ron McConnaughey, Scientific Research Diver for SIO has species lists

n. Birch Aquarium collects regularly and should have collection lists.

Agencies with Power:

1. Primary Agency: UC Natural Reserve System Manager, UCSD

2. Secondary Agency: California Department of Fish and Game. They are the main agency with power since this is a Marine Life Refuge. They provide defense for the invertebrates, which are completely protected in Marine Life Refuges. They can issue tickets to poachers. See attachment C.

3. City of San Diego. (Stats. 1955, c. 41, p. 485: Article 3 §558 Entry upon described lands forbidden. Only UC officers, employees and students are technically allowed to use the marine portion of the reserve. This could be invoked if necessary). Law Enforcement Officers often respond faster to poaching calls than Fish and Game. The Lifeguards are also very helpful, and are the real first line of defense against poaching due to their proximity. The City of San Diego also sends us Environmental Impact Reports (EIRs) for prospective nearby projects so that we can comment on them. See attachment D.
4. **State Water Resources Control Board** established Refuge as an Area of Special Biological Significance, meaning that nothing shall be discharged into it. Authority is delegated to the San Diego Regional Water Quality Control Board (RWQCB), who supply the National Pollution Discharge Elimination System (NPDES) permits to Scripps to discharge the water from their aquaria that is brought in from the end of the pier.

5. **California Coastal Commission** may have some influence on the reserve for access issues (prescriptive rights) and building issues, such as new gates; certainly for any construction.

6. UC is a trustee under CEQA and is supposed to prepare an EIR and give the reserve management opportunity to comment on projects that may impact the reserve.

7. The statewide **Natural Community Conservation Planning** (NCCP) program, implemented by the Department of Fish and Game aims to conserve ecosystems while accommodating human land use. The program was instituted to protect coastal sage scrub habitat for the California gnatcatcher. The program is broken down into subregions and further into subareas. The San Diego Multiple Species Conservation Plan (MSCP) pertains to the area surrounding reserve land, although the reserve is not formally enrolled.

8. **Fish and Game Commission.** Under section 10502 of the Fish and Game Code, the Commission may:

   “Make additional regulations not in conflict with any law for the protection of birds, mammals, fish, amphibia and marine life within any refuge” (part d)

   This is significant to our reserve if we attempt to protect all life in the reserve from being taken, not just the plants and invertebrates. For instance, the new Monterey Bay and Channel Islands Sanctuaries provide for the protection of all life inside the reserve. Perhaps the Commission could be persuaded to consider the Scripps Coastal Reserve for this type of protection, under the 1999 Marine Life Protection Act.

   It has been shown in several studies (see bibliography on this issue) that protecting fish inside reserves can help improve fish stocks for the surrounding waters. This could be used to convince local fisherman that they are not losing out by being forbidden to fish in the reserve.

   **Contact:** Enrique Sala at SIO. His specialty is Marine Reserves.

**Legal History:**

**Shoreline Portion**

2/13/1912—The Regents correspond with representatives of the San Diego Marine Biological Laboratory concerning the possible transfer of the Laboratory and surrounding land to the Regents. It would be accepted in trust as part of the University of California, and become a department of the University. The title would be “The Scripps Institution for Biological Research of the University of California.”

3/13/1913—Date of the grant deed from the Marine Biological Association of San Diego to the Regents of the University of California as per the Regents action of Feb. 13, 1912. 163 acres of land, presumably stopping at high tide. This deed was lost.
3/31/1914—Date of replacement deed which was recorded April 6, 1914 in Book of Deeds no. 649, page 75, of the Records of San Diego County.

1925—The name “The Scripps Institution for Biological Research of the University of California changed to “The Scripps Institution of Oceanography.”

8/14/1929—The effective date of a legislative act (Stats. 1929, Ch. 514, Secs. 1-3) approved by the Governor May 27, 1929. Grants the Regents “…the sole and exclusive right of possession, occupation and use…” of the strip of land between the westerly edge of Pueblo Lot 1298 (mean high tide/SIO property boundary) Misc. Map No. 36 and “the lowest low tide line opposite to and west of said Pueblo Lot” and the “state waters” extending 1000 feet westerly of the lowest low tide line between the seaward extensions of the northerly and southerly boundaries of pueblo lot 1298.

This is not a deed of ownership, but the term “possession, occupation and use” has been defined as “a perpetual lease, easement and/or license.” Also, “state waters” refers to the water column only and not the underlying land. Further, the grant states that entry, trespass, or interference with the University’s rights by anyone other than an officer, employee, student, or licensee or the University is forbidden except for the rights of navigation and fishery reserved to the people by the state constitution. (Stats 1929, Ch. 514)

8/21/1933—The effective date of a legislative act (Stats. 1933, Ch. 688, Secs. 1a-d) approved by the Governor June 5, 1933, which grants the City of San Diego right to all the tidelands and submerged lands within its boundaries (excepting Mission Bay). Chapter 688 further reserves the right for the people of California to access and use these tidelands and the fish therein. This is subject to the prior grant of right and interest to the University offshore from Scripps.

The grant of land to the Regents does not specify whether it is an easement or a “perpetual” lease. An easement is not revocable, except by agreement of both parties, while a license is. Therefore, according to legal analysis by Connie Barton (State Lands Legal Unit, 11/3/77, file no. G 10-07), we should interpret the grant as an easement.

1957—The Fish and Game Commission designates the same land covered under the 1929 grant to the University as the “San Diego Marine Life Refuge,” protecting all invertebrates and marine plants. Only researchers who obtain permits from Fish and Game may take them. (Stats. 1957, Ch. 456. Fish and Game Code, Division 7, Chapter 2, Article 6, Section 10902). Section 10658 of the Code describes allowable uses for the San Diego Marine Life Refuge (see attached).

1/23/1965—Regents formally created the Natural Land and Water Reserves System, and incorporated seven existing University properties. One of these was the San Diego Marine Life Refuge. (Regents item dated 1/15/65 for meeting of 1/23/65).

11/2/68—The San Diego Campus NLWRS Committee endorsed name designation for NLWRS reserve as the “Scripps Shoreline-Underwater Reserve.” (Report from Carl Hubbs to Systemwide Advisory Committee dated 10/21/68. Status Report on the meeting of 11/1-2/68 states name change).

8/20/1969—Draft of 50 year lease from the City of San Diego to the State Department of Parks and Recreation to commence on January 1, 1970, for the purpose of creating the proposed Torrey Pines Underwater Park. It was to extend from Point
La Jolla on the south to the northernmost tip of the Torrey Pines State Reserve and averaging 1.5 miles in width. Apparently, local opposition blocked implementation of the park. The City then created its own underwater park off of La Jolla Cove. (Communication with Jim Talley, Captain of the Harbor Patrol, Aquatics Division, City Parks Department, 2581 Quivira Ct., San Diego, 92109).

2/19/1970—Regents officially endorsed naming the reserve the Scripps Shoreline-Underwater Park. The name San Diego Marine Life Refuge also still applies. (Regents item dated 2/19/1970, D, p.3).

11/12/1971—Regents item for meeting of 11/18/1971 calling for a 55 year lease from the City of San Diego of 800 acres of offshore submerged land for the construction of a “Nearshore Underwater Research Facility” at a cost of $18 million. The facility was never constructed, and therefore the lease presumably was terminated. Allegedly Irwin L. Jacobs, of the Property Management Division of the City wrote to William D. McElroy, the Chancellor of UCSD on 4/19/1977 terminating the lease. However, as of February 2003, the lease is considered still active by the Clerk’s Department of the City of San Diego. See attached.

1972—The Regents and the City of San Diego entered into a lease of 800 acres of submerged land offshore from SIO and Black’s Beach in order to construct a “Nearshore Underwater Research Facility” (or “Experimental Inshore Oceanographic Facility”). The lease was for 50 years. The University approached the City to ask if the lease could continue without building the Facility, and they said yes—that the lease terms did not require it, and that use as a reserve is consistent with the use as defined in the lease. Lease number, etc.

1974—The State Water Resources Control Board designated the San Diego Marine Life Refuge an “Area of Special Biological Significance,” which allows the board to prohibit any point discharge into the area. Seawater outfall from SIO is permitted by an NPDES permit issued by the Regional Water Quality Control Board (RWQCB). Permit number, etc.

Upland Portion

1967—The Regents acquired several parcels of land between the UCSD campus and the ocean. These include Black Canyon, the Knoll, and portions of Sumner Canyon.

1967-1978—Extensive discussions as to appropriate use of these parcels, especially the Knoll. Suggested uses of the Knoll lands included: preservation as an archaeological resource, low density housing, a botanical garden, inclusion into the NRS for teaching and research, a policy center combined with a wildlife area or botanical garden, a site for the new aquarium-museum, or high-density low-cost housing.

1980—Appraisal for the Knoll set its value at $3,750,000.

1981—The Knoll is included in the NRS.

1982—The Regents and the Scripps Estates Associates (SEA) entered into a license for use of SEA’s part of Sumner Canyon.

1987—The Shoreline and Upland portions are united under the new name “Scripps Coastal Reserve.”

2000 – The Knoll is approved for permanent reserve status by the Regents.
Prescriptive rights:

We could have a problem with prescriptive rights if we attempt to totally close the trail down the face of the cliff to Blacks Beach. Unfortunately, although we have always had a sign up saying No Beach Access, the laws say that for the public to obtain an easement by way of implied dedication, it must be shown that:

- The public has used the land for the prescriptive period of five years as if it were public land
- Without asking or receiving permission from the owner
- With the actual or presumed knowledge of the owner

*Without significant objection or bona fide attempts by the fee owner to prevent or halt such use*.5

The last point is the only one that is flexible really, since the first three obviously apply. We may have a problem with this because it seems hard to prove that we have made significant attempts to stop use. It is unclear whether simple verbal reprimands are considered sufficient.

However, one point is that “The use must be by the public at large as opposed to a number of persons who belong to some limited identifiable group.” It is obvious that surfers are the only ones who use this trail; normal people are more sensible and use the road. Therefore this point could work.

Conditions and Issues

The following is descriptive information compiled about the reserve. Some recommendations for management are included in each section.

Fire:

The Bates Bill states that if an area is deemed a high fire hazard, the chief of the local fire department should decide whether it is necessary to establish a firebreak. The Knoll is not considered a high hazard area according to the California Department of Forestry Fire Severity Mapping. It is also not in a state-controlled area, so it seems that the reserve management is the body to decide whether or not a fire break is necessary. Since there are no buildings on the knoll, we are also exempt from the mandatory firebreaks surrounding structures.6 We cannot stop the owners of the Scripps Estates Associates property from clearing on their property line in Sumner Canyon. Nothing in the license agreement addresses this issue. The reserve property is not enrolled in the MHCP or MSCP, so the agreements in those plans do not automatically apply.

*Firebreaks are the responsibility of the adjacent homeowners.*

*Fire retardant should not be used* due to its fertilizing effect that helps exotic vegetation to out-compete natives.

Non-native grasses tend to burn better, jeopardizing the adjacent scrub habitat. This is one reason that *exotic grasses need to be removed and replaced by natives.*

One management technique for removal of annual grasses could be to torch the ground, and immediately follow with a fire extinguisher. This would sear the seeds of the grasses to help prevent regrowth.

It is important to prevent fires at the Knoll so that the coastal sage scrub habitat is not jeopardized.7 Please see section on Gnatcatchers below.
Security and Emergency Services:

A heavy-duty metal gate marks the entrance to the Knoll. However, although this gate keeps out vehicles, bicycles still are brought onto the reserve and there is no way to completely close the reserve at night. A new gate has been proposed and was going to be paid for by the SEA that could be locked at night. This has not yet occurred, but it should. There is no police presence at the reserve, so locking and unlocking the gate could be an issue. Hopefully the security guards who patrol the La Jolla Farms area could be contracted to add this onto their duties by the La Jolla Farms Homeowners Association who pays them. The guards have expressed willingness on their end.

City police only respond to emergencies on SEA land. Campus police are responsible for the rest of the reserve, but they do not have a clear responsibility. Issues we need to work out with them:

- Should help us when people resist being told what the rules are
- Vagrancy on our property
- Need to contact us when there is an incident, such as a cliff rescue. They have not been good about this in the past.

The Lifeguards provide emergency services on the shoreline portion. They will also help apprehend poachers. The San Diego City Lifeguard, Fire Department, and Paramedic crews coordinate to help in emergencies at the Knoll. However, they do not communicate with the campus police or the NRS office during or after an emergency. This should be changed.

A large amount of damage is caused by emergency vehicles accessing the reserve often to rescue a person who has fallen on the cliff face. There are no signs or preventive measures to dissuade use of the dirt trail down to Blacks Beach or climbing and sitting on the bluff faces.

We need to install signs by the end of 2003, as well as ticket trespassers who ignore the signs and continue to do as they wish, endangering their lives. In Morro Bay there is a sign warning people not to walk out onto the breakwater—it has a list of all the people who have died or gotten injured from doing so, and has turned out to be an excellent deterrent. This could be an option for the Knoll. Also, it is important that the sign is deep in the ground and reinforced so it cannot be vandalized easily.

Recorded Injuries
2/5/98—Surfer broke leg using unauthorized trail to beach
2/20/00—Student at UCSD fell down cliff on same trail
3/24/02—39 year-old man fell to his death on this trail

Facilities:

Upland: garbage service, information kiosk, half-mile trail encircling the Knoll. A new entrance gate is needed (see below).

Shoreline: access to Scripps pier and labs for researchers.

Maintenance:

The following needs to be done:

a. Posting and replacement of NRS identification signs and Ecological Study Area signs.
b. Issue and control of collecting permits.
c. Docent patrols.
d. Fence and gate repairs, graffiti removal.
e. Fire abatement (see above).
f. Removal of non-natives.
g. Trash cleanups.
h. Trail maintenance. The inner loop was created to keep visitors away from the cliff edge and Sumner canyon, as the public is not allowed to use the canyon. The license agreement states that the canyon can be used only for research and teaching. The inner loop’s path was chosen to be on as level ground as possible to decrease erosion.
   Need to post a sign stating that entering the canyon is trespassing.
   Have begun to help rehabilitate vegetation on the sides of the trail by steering the flow using telephone poles. This needs to be maintained, and the logs can be moved inwards as the vegetation regrows, narrowing the trail.

h. A new gate should be installed at the entrance to the knoll. This has been discussed and planned. The reasons this is important are:
   Need to keep the Knoll closed at night, when most vandalism tends to occur
   Need to make it more difficult to bring bicycles onto the knoll.

**Natural Features/Significance:**

Dike Rock is a region where rocks occur from above the high tide line out to a depth of about ten feet below mean sea level. Here, stable hard substrates offer surfaces where algae (seaweeds) and seagrasses can attach and grow. Sand often is moved off and on many of the rocks, so the algal vegetation and the associated communities change with the seasons and differ from year to year as the physical conditions fluctuate. It is an interesting area to study changes in intertidal systems. This rocky intertidal habitat supports a rich invertebrate community that is in dire need of protection.

To protect the rocky intertidal—we need to cordon off an area of Dike Rock to keep people off it. This can be done by anchoring metal poles into the rock and attaching a cable between them, but care needs to be taken to not cause extra harm and to create a structure that is likely to stay put for a while.

About 250 yards offshore, north of Scripps is the head of the Scripps Submarine Canyon. Below about 50 feet, the algal species are very different from the intertidal forms, and near 100 feet, several very rare plants can be found.

The 800 acre submerged land lease from the City of San Diego could be used to protect the canyon head somewhat. Not sure what the laws say we are allowed to do. Any ideas on how to find out?

The reserve constitutes a significant area of Diegan Coastal Sage Scrub—cornerstone for the NCCP and local MSCP.

The bluffs at the Knoll are *** feet high, and erode at approximately ****rate. There is no seawall or other coastline-arming device below the Knoll, allowing natural bluff retreat. As the coastline of California is increasingly armored, adjacent areas are subject to increased erosion rates. However the Knoll’s position at the base of the Oceanside Littoral Cell and down-drift from the unprotected bluffs of Torrey Pines and Blacks Beach, this effect will most likely not occur.
Brown and MacLachlan recommend that no protective measures be installed to allow natural processes to continue, as fits with the goals of the NRS.

The submerged sandy beach is a spawning ground for market squid, *Loligo opalescens*, and the sandy beach is a spawning ground for grunion. The reserve should continue to protect these spawning grounds, especially by preventing commercial fishing in reserve boundaries, and hopefully in the 800 acre leased area.

**Earthquakes:**

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<th>Area</th>
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<td>San Diego Region</td>
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<tr>
<td>Oct. 23, 1894</td>
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<td>May 27, 1962</td>
<td>6.0</td>
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<tr>
<td>April 9, 1941</td>
<td>5.3</td>
<td>Gulf of California</td>
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<tr>
<td>Dec. 13, 1956</td>
<td>6.0</td>
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<tr>
<td>Aug. 7, 1966</td>
<td>6.3</td>
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</tr>
<tr>
<td>April 9, 1968</td>
<td>6.5</td>
<td>Borrego Mountain</td>
</tr>
<tr>
<td>July 13, 1986</td>
<td>5.4</td>
<td>Oceanside Offshore</td>
</tr>
</tbody>
</table>

While earthquakes do not seem to be a major problem from looking at the past records, there are many faults in San Diego and we can expect more earthquakes in the future. This is a natural process, but an earthquake would almost surely cause some bluff failure, endangering any people upon it. This is just one more reason to discourage visitors from sitting on the bluff edge.

**Geomorphology:**

The Pacific coastline has been in its current configuration only since the late Pleistocene. Previously, ocean transgression during the Middle Eocene resulted in a coastline approximately 20 kilometers inland, with the area of the Scripps Coastal Reserve submerged under 300 meters of water. Regression during the Pleistocene Glacial Period resulted in a coastline 8 kilometers west of its present location, and sea level was 100 meters lower than today.

The Shoreline portion of the Scripps Coastal Reserve extends from mean high water to approximately 300 meters west of lowest low water. The area is intertidal and subtidal with fine quartz sand overlaying a largely sedimentary substrate, as well as sandstone formations and an Oligocene igneous dike known as Dike Rock exposed above the sand at varying heights depending upon the seasonal sand movements. The submerged land lease of 800 acres is mainly sandy subtidal, but also includes the three branches of the head of the Scripps submarine canyon, and reaches depths of over 200 meters. The La Jolla submarine canyon, of which the Scripps canyon is a branch, lies at the southern end of the Oceanside littoral cell, and receives continuous, often massive flows of sand and other debris carried south by the longshore current.

**Geology:**

The reserve is located in the Peninsular Range Province. During the last 54 million years the area has been subject to a series of marine inundation and regression. This produced a thick sequence of alternating marine and non-marine sedimentary deposits on the rocks of the Southern California batholith. The sedimentary rocks consist of:
Quaternary Bay Point formation
Eocene Del Mar formation
Torrey sandstone Need Rindell Paper

Changes in sea level over time have created the marine terraces throughout San Diego, known as mesas. The bluffs are essentially the edge of the eroding terrace. The erosion of the marine terrace causes the bluff to slump or slide. The loose material is then washed into the ocean, maintaining the steep bluff profile. The upper portion of the bluff is comprised of much younger and weaker deposits. The slope of the upper portion is less steep due to the material’s properties and non-marine erosional forces.

The bluffs consist of several sedimentary geologic layers. The bottom layer consists of grayish Eocene rock, the Del Mar formation. This layer is full of fossilized oyster beds and marine organisms. Above this is yellow Torrey Sandstone. This layer is rich in quartz and was formed during the latest marine transgression.

Overlying this layer is a fossil-rich layer of green-gray Ardath Shale. Atop this layer is the Scripps Formation, a layer of pale yellow-brown sandstone with cobble conglomerate indicative of ocean regression during the late middle Eocene. Some of these cobbles are a red color, and these are from the mountains of Sonora, Mexico. Their presence, and the fact that these rocks can be found as far north as Santa Barbara, are excellent evidence that the California coastline is moving northward due to tectonic action.

The uppermost layer consists of reddish Pleistocene marine terrace deposits, the Linda Vista Sandstone. It is relatively resistant to erosion, and its color is due to a high iron oxide content. Clusters of iron accretions can be found in this layer.

The same Quaternary terrace deposits extend from the Mexican border into Orange County. In the Oceanside littoral cell the bottom section of the cliff is comprised of either Tertiary or Cretaceous sediment. The Rose Canyon fault offset the San Diego coast resulting in the older Cretaceous sediments south of the fault extending to the end of Point Loma. The younger and weaker Tertiary deposits north of the fault extend into Orange County. The contact between the lower and upper bluff section formed due to marine erosion, leaving an abrasion platform 125,000 years ago when the sea level was 25’ higher than today. At 120,000 years ago sea level dropped leaving behind the upper bluff terrace deposits on the old shore platform.

We should include information about the geology of the cliffs in a future brochure or an informational sign. The current biodiversity trail brochure needs to be updated soon (summer 2003), so this information will be added.

Soils:
The Knoll consists of the Cheserton series, which is a group of moderately well drained fine sandy loams that have a sandy clay sub-soil. These soils formed from material weathered in place from soft ferruginous sandstone. They are on ridges and swales and have slopes 2 to 15 percent. The elevation ranges from 50 to 400 feet. The profile has a surface layer (A horizon) of brown, dark brown, and reddish-yellow, medium acid fine sandy loam between 12 to 24 inches thick and is 10-30 percent iron concretions. The subsoil (B horizon) is brown, medium acid the strongly acid sandy clay mottled with red and gray. This layer is between 16 and 21 inches thick. A hardpan begins at a depth of between 28 to 34 inches.
The soil is moderately fertile. The water holding capacity is 2.5 to 5 inches; some moisture is slowly available from the sandy clay subsoil. Permeability is very slow, and runoff is also slow. Erosion hazard is slight to moderate. 

**Sand:**

**Sand Cycle:**

Beaches have a natural protective response system to erosion and water level. When storm waves attack a beach, the eroded sand is deposited in an offshore sandbar. The first storm of the season has the most profound effects on the beach profile when the summertime sand berm can be partially or fully removed. The sandbar that forms dissipates wave energy by breaking the waves offshore before they reach the beach. This is the beach’s natural first line of defense against erosion. The offshore sandbar is slowly pushed back to reform the sand berm on the beach by relatively gentle summer swell. The original profile is regained until the cycle occurs again. With depleting sand supply this cycle cannot be maintained properly and erosion occurs. In Southern California the cycle is seasonal. The breakdown of the summer profile occurs much more rapidly than the movement of the offshore bar back to the beach.

Sand comes from three sources:

1. Rivers
2. Cliff erosion
3. Human placement

The area between the sand inputs to the system, the area it covers as it drifts down the coastline, and the place in which it eventually falls into a submarine canyon is called a littoral cell. The Oceanside littoral cell begins in Oceanside and ends in the La Jolla Canyon.

As rivers are dammed and cliffs are protected from eroding by coastal armoring, the only net source of sand to the beach is by human placement. Without this, many beaches will disappear. On Scripps beach there is a long seawall beginning just north of the pier and continuing all the way south past La Jolla shores to the beginning of La Jolla cove. Although beach and cliff erosion is not as severe an issue as in North San Diego County, it is a feature that may have impacts on the reserve in the future. Dike rock acts as a natural sand-stabilizing feature helping to hold some of the sand on the beach.

Scripps beach is not losing sand as much as other beaches such as those in North County, due to its position between the Scripps underwater canyon and the La Jolla headland. These features seem to act as a sort of sediment trap. This section of beach probably has its own sub-littoral cell. Because natural bluff erosion is allowed to continue along most of the SCR shoreline, sand loss is not a significant problem. However, the seawalls in front of SIO mean that at some point it could turn into one.

We need to discourage the building of further seawalls, and if sand loss becomes a problem, we should turn to sand replenishment or possibly offshore sand retention reefs. The process of cliff erosion should be allowed to continue, as it is a natural process that is an important feature of this habitat.

**Erosion:**

The causes of erosion are both natural and human-induced. The primary factor affecting cliff erosion rates is the bluff’s natural geological properties including the soil
characteristics and localized faulting. Wave attack is instrumental in causing failure but has been found to be secondary to geological properties. The amount of wave energy attacking the cliff depends upon beach width, beach slope, tide level, shallow water bathymetry, and deep wave characteristics. Sea level is also a factor affecting erosion rates. Tidal fluctuations and storm surge can affect the sea level, increasing wave energy on the base of the bluff. Mechanical erosion can occur when large waves are strong enough to pick up coarse sediments or stones from the beach and hurl them into the bluff.

Animals burrowing in the bluff can also cause increased bluff instability, as can loosening of the soil by root invasion, especially by non-native plants such as iceplant. The weight of the vegetation can also pull down on the bluff edge and increase erosion.

A major influence of humans on the bluffs is the increased levels of groundwater and surface runoff. The increase is a direct result of coastal urbanization and improper landscaping techniques. Over-watering, especially for thirsty non-native vegetation planted on the bluffs, contributes to erosion. Due to the Knoll’s isolated hydrology, this influence is not a high-priority problem.

Human erosional impact is a problem at the northwest corner of the Knoll where surfers and others use an unofficial trail to access Blacks Beach. This trail is dangerous and erodes quickly with use. The following are suggestions to reduce this impact:

- Signs must be replaced warning people to not use the trail. These signs can be endorsed by and carry the logos of local environmental organizations such as Surfrider.
- If the trail is still used, tickets should be issued to the perpetrators. This will serve as a deterrent to others who hear about it.

Wave Climate:

The San Diego Region receives waves from several sources including:

- Northern Pacific extratropical Aleutian Storms—storms form at high latitudes in the North Pacific from October to May. The storms generally track from west to east. Point Conception blocks much of the wave energy before it hits southern California.
- Subtropical Pacific storms north of Hawaii— not as common as the extratropical Aleutian storms.
- Eastern North Pacific Tropical Hurricanes— form from July to October off the west coast of mainland Mexico. They generally track west then switch to a northwesterly direction until they dissipate over cold water. On average, there are about nine Hurricanes each year (Army Corps, 96, coastal). Although the event is rare, these storms have impacted the southern California coastline. The last impact occurred in September 1939 and caused severe damage.
- Extratropical cyclones in southern hemisphere— occur from May to October tracking eastward from Australia to Chile. The swell created by these storms travels huge distances (about 5000 miles) and have large wave periods of 16-22 seconds (Army Corps 96, coastal). These swells dominate the Southern California wave pattern during the summer and cause a short-term reversal of the littoral drift.
- Offshore prevailing winds— create the prevailing north and northwest winds offshore of California, resulting in a moderately sized wind swell. This weather system is particularly strong during the summer and spring.
Local seas—created by temperature induced sea breezes, gradient winds, and local storms. Sea breezes may develop any time of year but are stronger in late spring and summer. Gradients generally occur during the winter months and develop after a front passes through or when a cold low pressure develops over the southwest U.S. Prefrontal seas impact the coast prior to the landfall of a local storm. The storm-associated winds can create wave periods of 6-8 sec and height from 4-8'.

Tides and Sea Level:
The San Diego coast experiences mixed semidiurnal tides. Generally there are two tide cycles each day with different amounts of fluctuation from each high to low tide varying from about 4-6’. The “mixed” tide type indicates that the diurnal part and the semidiurnal part are on the same order of magnitude. The interaction of these two tides gives San Diego its extreme tide ranges.

Tide data for San Diego begins in 1906. The MLLW (mean lower low water) was computed for the 1960-1978 epoch. Local tide data indicates a 0.7 foot/century increase in sea level rise. These tide data also show episodic increase (reaching up to 0.3’) in sea level corresponding with El Nino events. San Diego also experiences a seasonal variation in tides due to varying seasonal water temperatures of about 0.5 feet. The cooler spring water temperatures lead to a lower sea level and the warmer fall temperatures create a higher sea level. Local surge due to low-pressure systems is on the order of 0.5 feet.

The highest absolute sea level (amount above MLLW) recorded in San Diego occurred on Jan 27, 1983 at a level of 8.35 feet. This event corresponds with high astronomical tides, El Nino effects, storm surge, and secular rise in global sea level rise. Deviations from the astronomical predicted tides have been recorded as high as about 1 foot and often reach 0.5 feet.

Most experts agree that sea level will rise over the next century due to the effects of global warming induced by humans. The IPCC has estimated sea level rise of 6-37 inches by the year 2100. The “best estimate” is a rise of 20 inches by 2100. The sea level rise will either result in a landward shift of the shoreline or the water could move up the cliff face depending on the rock strength characteristics. Global warming may also cause a change in wind patterns and therefore wave climate.

Jesus Piñeda published a paper describing shoreward transport of planktonic larvae by internal tidal bores. Perhaps this phenomenon will be affected by changes in sea level or unusual tides.

Climate:
Mean annual precipitation: 10”-12”
Frost-free season: 330-350 days per year
Mean annual air temperature: 15.6-16.7°C (60-62°F)
Temperature ranges:
Air: September maximum: 25°C (78°F) January minimum: 8°C (47°F)
Water: August maximum: 21°C (69°F) February minimum: 14°C (57°F)
See attachment E.
Hydrology and Runoff:

The knoll itself is isolated from urban hydrology. Only the canyons and the shoreline portion of the reserve are affected by urban runoff. The shoreline portion is protected from polluted runoff by its designation as an area of special biological significance. This designation is through the State Water Resources Control Board (SWRCB). The prohibited discharges are:

a. Elevated temperature wastes
b. Discrete, point-source sewage or industrial process wastes
c. Non-point source waste, including but not limited to storm water runoff, silt and urban runoff, which will be controlled to the extent possible
d. Not applicable to vessel wastes, the control of dredging, or the disposal of dredging soil
e. Limited to considerations related to protection of marine life from waste discharges24.

Sumner Canyon has developed a deep gully and a small stream as a direct result of urban runoff, most likely from garden water percolation from the adjacent residences. This stream supports algae blooms.

A portion of UCSD drains toward the reserve. The campus’ total area is approximately 1,133 acres. Of this, 406 acres and developed and 498 acres are not. See watershed map attached (F).

To reduce runoff, the campus has used some semi-permeable paving material (decomposed granite). This can be found at the Coast Apartments and the Natural Sciences plaza. Grease traps were installed in the new East Campus Parking Lot project and will be installed with the development of the Science Research Park25. However, there is some concern over whether they do any good during periods of high flow26.

A study performed by the SWRCB showed that there are, however, multiple illegal outflows into supposed protected areas such as this one. We have a copy of the preliminary report on hand, including a map of all the discharges. Reference

Campus Planning measures to protect water quality27:

Campus has prepared a Storm Water Management Plan (SWMP) pursuant to federal law. The SWMP is required under the Federal Environmental Protection Agency Phase II storm water regulations, promulgated under the Clean Water Act. The regulations require UCSD to obtain a National Pollution Discharge Elimination System (NPDES) permit by March 2003 and to develop the SWMP. SWMP addresses standards and best management practices specific to construction site storm water runoff among other things. The law states that runoff must be reduced significantly in 5 years and progress must be reported annually to the Regional Water Quality Control Board. See Appendix A for a list of tips for adjacent homeowners.

Cultural Resources:
Protected by the Archaeological Resources Protection Act of 1979 (16 U.S.C. §§ 470aa et seq.) For a bibliography on UCSD and SIO archaeological site papers, see attachment G.

The Scripps Coastal Reserve is an archaeological gem. It contains obsidian flakes imported from inland, gorges (primitive fish hooks), metates which date back 9000 years (small seed grinding), mortars which date back to the mid Holocene 5000 years ago (largely from underwater sites), house floors 3-4 meters in diameter with whale ribs as structural members, and pottery which is 1200-1400 years old and coincides with cremation evidence. The United States Army used the knoll during World War II for target practice and as a gun emplacement that remains usable as a linear mound, and spent shells can still be found.

The knoll also contains a nearly continuous record of cultural and faunal responses to environmental changes and resources from the early to middle Holocene. Malcolm Rogers made the first archaeological dig at the Knoll in 1929. Three human burials were collected, and 2 major loci of middens were discovered. These were subsequently scattered by farming. Between 1929 and 1945, fourteen human burials were uncovered. In 1976, a porthole-sampling program conducted by the San Diego County Archaeological Society showed that almost the entire Knoll contains middens. Also in 1976, a dig by the Field School from the California State University at Northridge found artifacts, shell, and bone fragments spanning several overlapping cultures. The record of human occupation spans at least 7500 years. The knoll represents the only undeveloped portion of the La Jolla Complex, the site occupied by several overlapping cultures of Native Americans.

Cultural landscapes can receive special protection and land management status by being incorporated into the National Registry of Historic Places. If desired, the Knoll could be nominated for inclusion in this registry.

One tribe that used the land was the Kumeyaay. This tribe still has a strong presence in the San Diego region, with many reserves inland. They could be a wonderful source of historical and cultural information about the site. Also, they may be interested in involvement with archaeological digs or restoration efforts. Contacts include:

Native American Environmental Protection Coalition: (760) 751-8686
Kumeyaay Cultural Repatriation Committee (through the Barona tribal offices): (619) 443-6612

For archaeological and historical information, contact: Dr. Brian Byrd, ASM Affiliates, Inc. Encinitas (760) 632-1094  bbyrd@ucsd.edu

Habitats:

Shoreline Portion:

Submerged sandy plain: supports many invertebrates, resident and transient fish, as well as plankton including the larvae of coastal animals.
Sandy beach: supports a rich invertebrate fauna of mollusks, crustaceans, and worms.
Rocky intertidal: supports sea grass, algae, mollusks, echinoderms, sponges, and arthropods as well as a diverse invertebrate population that is significantly different than nearby rocky intertidal sites.
Submarine canyon head and associated ledges: varied habitat, including hard substrate that supports sessile invertebrates and red and brown algae, as well as areas of detritus accumulation that support mats of cyanobacteria. Pier pilings: also provide hard substrate, as well as shelter for school of small fish such as anchovy and grunion.

**Upland Portion:**
- Diegan Coastal Sage Scrub
- Sea Bluff Succulent Scrub
- Maritime Succulent Scrub
- Disturbed (non-native) Grassland
- Active Coastal Dune
- Coastal Strand. (See attached list)

We need a map of the vegetation on the Knoll (see priorities below).

**Programs and Use:**

1. **Instruction:**
   - Many classes use the Scripps Coastal Reserve for field trips, especially those classes offered through the Stephen Birch Aquarium-Museum. Many of the classes that use the reserve are unrecorded due to a lack of either will to apply through the NRS office, or a lack of knowledge that they must do so. See below under constituencies for a sample of users. New academic programs developed at UCSD may also find the knoll useful for teaching. These include:
     - The Anthropology Department
     - The Environmental Studies program at Muir College
     - The Earth Sciences program
     - The Environmental Systems program, especially for the earth science track.

   **Recommendations:**
   - Develop an Academic Plan
   - Send out letters and announcements to departments at UCSD and local schools to encourage use (at least yearly).

2. **Research:**
   - Several groups use the reserve each year for research. Graduate students at Scripps Institution of Oceanography and UCSD are the main research users, but scientists come from all over to perform studies at the reserve. See below under constituencies for a sample of users.
     - The research capacity at SCR is underutilized, especially at the Knoll
     - Mapped information could boost this
     - Some research goes on that we aren’t informed of—we need to look for signs of this and contact the person in charge of the experiment
     - Sending out letters to departments and other schools can also help draw more researchers to the reserve (at least yearly).

3. **Monitoring:**
   - Each month, sampling is done at the shoreline portion of the reserve. This involves taking 4 core samples on 8 transects extending perpendicular to the pier, spaced apart by
lining up with the pilings. 32 samples are taken, which are then sieved and the infauna are then preserved in jars for future processing. The goal of the monitoring is to develop a baseline record of the type and relative abundances of infauna, so that if perturbations occur in the future, they will be recognized as unusual. Aside from the infauna samples, the sand from all four cores on each transect is amalgamated and one jar is retained from this sand. Currently some of this sand is being sieved to determine the grain size distribution along different heights of the beach and at the same height at different times of the year.

Other indicators of environmental degradation that could be monitored are:

- Dissolved oxygen and nutrients in the water for assessing eutrophication
- Contaminant loads for specific dissolved toxic chemical pollutants
- Salinity and turbidity for land-based runoff
- Chlorophyll for primary productivity

Monitoring public perception and use of the reserve can help respond to community concerns and adapt regulations to improve their effectiveness.

4. Resource Management:

a. Restoration ecology projects began in 1989 and have included: seed bank studies; survival of seed vs. seedling introduction of native perennials; and the effects of water, exotic weed suppression, and herbivore exclusion on intra- and inter-taxon competition among transplanted perennials. The results of these studies will be helpful to guide future restoration projects.

b. Mowing to control exotic grasses—twice in spring to remove seed heads of *Avena spp.*, *Bromus spp.*, *Lolium spp.*, etc.

c. Planting of native species in traffic-impacted areas

d. Trail re-routing to avoid high-erosion areas; trail demarcation with telephone pole sections (March 2003).

5. Public Outreach:

Many types of people use the Scripps Coastal Reserve. These include tourists, locals who enjoy the natural scenery, fishermen, surfers, beachgoers, etc. Local residents and other community representatives should be involved in managing the reserve because they have some rights of involvement, have useful knowledge, will help support and enforce the reserve’s rules, or will destroy or undermine the reserve’s integrity if they are not involved.

Currently the only type of outreach at the Scripps Coastal Reserve is the kiosk at the knoll that contains pamphlets for the public to use that guides them on a walking tour of the reserve. Unfortunately, far fewer people read these informative booklets than visit. The Scripps Coastal Reserve has much potential for outreach activities. Some ideas to improve outreach:

Beginning a docent program at both the shoreline and upland portions of the reserve. Docents would be trained to answer questions, patrol the reserve to make sure the rules are being adhered to, and inform the public about the restrictions of the reserve as well as its attributes, especially those that are not readily apparent to the lay person (i.e. the presence of infauna). Docents would be given an
identifying vest to identify them to the public. Another task could be to make a rough count of users at various times of the day/month/year.

Hiring an outreach assistant whose primary job would be to devise and perform outreach activities. These could include speeches to classes, local interest groups such as fisherman and hikers, and most importantly to the students of UCSD. It would also be good for this person to write a short article for the Guardian or other local papers periodically on the status of the reserve, and distribute this to the La Jolla Farms homeowners. The goal of the outreach personnel would be to help the community develop a sense of place in regards to the reserve. This way, less effort will need to be spent enforcing rules and fixing vandalism.

The development of periodic clean-ups and replanting sessions in which locals could get involved to help the reserve directly. A source of constant volunteer help could be from those students at UCSD who are put on probation for breaking rules or laws. A weekly workday seems to work well.

**Staff and Administration:**
Academic Coordinator (Isabelle Kay), Academic Assistant (Jessica Carilli), Steward (Larry Cozzens), Faculty Advisor (Kaustuv Roy), Watershed Coordinator (to be hired).

**Annual Reports:**
Procedure for determining number of users and user-days: count users and days each was at the reserve from use record forms from researchers and classes. From the sign-in sheets at the knoll, count up users who have signed in and assign to categories. Multiply by ten (probably too low a multiplier, since far fewer than 1 person in 10 signs in, and there is no sign in mechanism at the shoreline). Multiply the number of total users in each category by the number of days each of those persons used the reserve. These will add up to the total user-days in each category.

Hopefully, after the volunteer docents gather data on use, we can make better extrapolations and come up with a more accurate multiplier for users.

**Management Priorities**

**Impacts and Mitigation:**
1. Prevent anthropogenic degradation of the Knoll and Dike Rock.

**Problems:**
- Shellfish Poaching
- Digging invertebrates out of sand for fishing bait
- Fishing (though legal, hopefully the Fish and Game Commission’s new review of Marine Protected Areas in California will determine that the reserve is eligible for protection of all marine life)
- Vegetation Trampling (many people do not realize that the plants are alive during the dry season, and do not know how slow growing the plants are, and therefore don’t understand the magnitude of their impacts)
- Soil Compaction
- Removal of plants and animals for aquaria
Plant Collecting (cacti)
Artifact Collecting
Vandalism
Camping/Vagrants
Hiking
Picnicking/ Litter
Bicycle use (increases erosion of the trail)
Fires/Fire Pits
Pesticide, herbicide and fertilizer runoff into canyons from adjacent homes
Dogs or other pets on the reserve (feces and predation)
Illumination of the area at night
Off-Road Vehicles (rescue vehicles)
Instruction (especially large numbers of school children on Dike Rock)
Research (however, the reserve is meant to be manipulative)

Strategies:
♦ Cordon off part of Dike Rock from all use [using #316 stainless steel bolts and posts, and #316 cable (or #304 if not available). Use 2-ton hilty lead inserts to hold bolts in the rock. These things should be ordered through the marine shop (Travis or Ken) to get good deals].
♦ Direct Researchers and Classes to pier pilings instead of Dike Rock, or to the northern side where we have no jurisdiction
♦ Install gate to keep people out of the Knoll after nightfall
♦ Reinstate docent program to help with patrolling
♦ Install signs at top and bottom of bluff trails stating illegality of using them. Ticket those who do
♦ More signs on the shoreline portion, especially a noticeable one explicitly stating that taking shellfish is illegal, and including contact information for the Lifeguards and Fish and Game as well as our office
♦ Install an emergency phone near the pier which can be used for reporting poaching
♦ Attempt to turn the shoreline portion into a no-take reserve through the Fish and Game Commission
♦ Educate adjacent homeowners about urban runoff. Encourage no car washing, oil leaks, pesticide/herbicides, over watering, and fertilizers (See Appendix A).

2. Expand public outreach activities to develop a “Sense of Place” between the community and the reserve.

Problems:
Same as above.

Strategies:
♦ Docent program (not only will the participants learn about the reserve, but they can then help disseminate knowledge)—this could include monitoring of specific species such as the snowy plover, brown pelican, and gnatcatchers, as in the program at Coal Oil Point (see attachment H)
♦ Periodic articles in the Guardian and/or other local newspapers
Newsletter to neighbors on the status of the reserve, any restoration efforts, volunteer opportunities, or resources needed (i.e. plants)

Involve the local community in monitoring and feedback, and also use them as a source of information—what types of animals/activities/problems do they see at the reserve and what would they like to occur

Hiring or getting a volunteer to act as the Outreach Coordinator, involving the development and deployment of class programs/walks/etc. for all ages

Attend meetings of interest groups and set up booths on library walk to spread information

Put photographs, species lists, bibliographies and other searchable databases on the NRS website.

3. Restoration of the Knoll

Problems:

Invasive Species
Vegetation Trampling (many people do not realize that the plants are alive during the dry season, and do not know how slow growing the plants are, and therefore don’t understand the magnitude of their impacts)
Soil Compaction
Removal of plants and animals for aquaria
Plant Collecting (cacti)

Strategies:

Set up a native plant garden at the Knoll similar to the one at Torrey Pines State Reserve
Request donations of plants from nurseries and/or neighbors
Gather volunteers to help replant. Docents could also participate in this
After planting, step up patrolling by docents and if necessary install fences (approx. 3-4 feet high) to protect and let the plants establish

4. Establish a set of good baseline data for the reserve

Problems:

Erosion of the trails and bluffs
Vegetation Trampling (many people do not realize that the plants are alive during the dry season, and do not know how slow growing the plants are, and therefore don’t understand the magnitude of their impacts)
Removal of plants and animals for aquaria
Plant Collecting (cacti)
No complete picture of the intact reserve for comparison to see changes
No good maps!

Strategies:

A set of GIS maps that can be rectified and georeferenced needs to be made or obtained. We need a base map, a vegetation map, and a topographic map.
Fine-scale mapping of the vegetation on the reserve using GIS
- Map should be updated annually to track changes in vegetation, degradation
- “Imagine” software coupled with data from GPS and aerial photos can track changes over time using color analysis.
- Adam Young has indicated an interest in being hired for this task. He can be reached at: (760) 815-9149, or adyoung@ucsd.edu.

Continue infauna sampling, and process more of the samples already in the lab for cataloguing
- Survey for birds and other wildlife at the reserve, including fish and other underwater animals
- Better signs are needed to prevent use of the trail to the beach, and the trail into Sumner Canyon.

5. Expand the reserve to include more land

Problems:
- Fishing (though legal, hopefully the Fish and Game Commission’s new review of Marine Protected Areas in California will determine that the reserve is eligible for protection of all marine life)
- Vegetation Trampling (many people do not realize that the plants are alive during the dry season, and do not know how slow growing the plants are, and therefore don’t understand the magnitude of their impacts)
- Soil Compaction
- Removal of plants and animals for aquaria
- Plant Collecting (cacti)
- Instruction (especially large numbers of school children on Dike Rock)
- Research (however, the reserve is meant to be manipulative)

- Skeleton Canyon. This area is unique in that the canyon runs north-south as opposed to east-west like most other canyons. It supports a surprisingly different suite of species and habitats (chaparral). The state-listed endangered Dudleya brevifolia is found here and has the most genetically diverse population of all remaining populations. One major habitat included in the canyon is Southern maritime chaparral, which is a target for conservation under the MSCP with only 1700 acres remaining in south coastal San Diego. The indicator species for this habitat, the coast white lilac, along with the short-leaved dudleya are not found in the SCR.
- Unused portions of Blacks Canyon (“the beach parcel”)—it is currently designated at part of the UCSD park, but needs to have definite plans associated with it
- The steep slopes of private properties on La Jolla Farms Road might benefit both the homeowners and the reserve if they are included into the SCR
- The shoreline immediately seaward of the southernmost SIO parking lot
- Enforce rules regarding use of the 800 leased acres of submerged land outside of the reserve that includes part of the Scripps canyon head.
Adjacent development mitigation guidelines:

Map and track all vegetation and elevation changes

If mitigation involves buying a different parcel of coastal sage scrub for protection, the worth of both parcels should be equal (i.e., a one acre parcel inland is not worth the same amount, ecologically, as a one acre parcel near the coast, such as on Mount Soledad).

Use innovative techniques, i.e.

- Install web-linked cameras to monitor specific vegetation instead of hiring a person to do so
- Install cameras to monitor gnatcatcher presence instead of hiring someone
- Raise the building off the ground to minimize impacts on archaeological sites
- Use runoff-catching mechanisms

Landscape with native vegetation to decrease total amount of habitat loss.

Gnatcatchers:


The coastal California gnatcatcher has been listed as a Species of Special Concern in California and a federal Threatened Species.

Fire and exotic vegetation:

Fire frequency and the invasion of exotic vegetation, especially grasses and annual forbs, interact to pose potentially serious threats to suitable gnatcatcher habitat. In much of coastal southern California, where these exotic plants are well-established and where the irreversible conversion of shrublands to grasslands is likely, fire frequency and burn size should be kept low.

- Where possible, flammable exotics should be removed or reduced in shrubland habitats. Please see above Fire Management section
- We should also focus on removal of exotics every spring to enhance the coastal sage scrub habitat.

Habitat fragmentation:

California gnatcatchers do not appear to be especially sensitive to fragmentation and development at the landscape scale. Primary concern is the chronic reduction in habitat carrying capacity due to development and need to develop a network of habitat reserves linked by habitat linkages. California Gnatcatchers require variable amounts of semi-open sage scrub co-dominated by California sagebrush on shallow slope gradients. The Scripps Coastal Reserve is an excellent habitat for the California gnatcatcher. Care should be taken to prevent the loss of, or increase the area of coastal sage scrub to provide habitat for these birds.

- Existing linkages should be protected, including those to SIO, campus, Mt. Soledad, Rose Canyon, and Torrey Pines State Reserve.

Predator Control:

Gnatcatchers are preyed upon by pets such as cats, which must be prevented. Informing the neighbors about this danger could stimulate them to control their pets better. Keeping dogs off the reserve is also important for this reason.

Monitoring Methods and Research Needs:
As is true of many coastal shrubland bird species, California Gnatcatchers are not well monitored by Breeding Bird Survey counts. Given their sensitivity to habitat degradation, monitoring to determine population trends and demographics should be a high priority.

Trend monitoring: The BBS method does not monitor California Gnatcatchers well in the areas of California where they are most likely to be declining due to habitat loss and degradation. Monitoring plans for NCCP efforts in southern California includes the monitoring plots of conserved California Gnatcatcher populations.

The docent program or involvement of the neighbors can help monitor the gnatcatchers that use the reserve.

Demographic monitoring and research: Nest success and the factors that influence it should be monitored directly (through nest monitoring) in replicate sites to evaluate management options. Additional data on survivorship, productivity, and dispersal capability could be obtained from color-band re-sightings. Confirmation of assumed metapopulation and source-sink dynamics, and sensitivity to local weather conditions would be valuable (Mock 1993, Akçakaya and Atwood 1997, Mock 1998).

Interested researchers could be referred to this research need and these papers.

California Least Tern:

Federally listed Endangered, the smallest of the Terns. They are affected by loss of habitat (sandy beaches), pollution, and predation. The sandy beach of the SCR is not under threat of development, so this habitat is not threatened to be reduced in the near future. The SCR is an Area of Special Biological Significance, and therefore is protected from urban runoff, so that source of pollution is minimized. The presence of SIO means that we should be informed if there is any major pollution off the coast.

The Least Tern is predated upon by crows, which should be scared away whenever they are seen at the reserve.

Least Tern should be monitored yearly—CA Fish and Game have about a $60,000 per year budget for censusing them. We should see if they will include the SCR in the census. The docents can also focus on identifying and counting these birds.

As with the gnatcatcher, we can encourage use of the Least Tern as a research focus.

Zoning of Reserve for Use:

The Upland is zoned by default—no research is to be done in Sumner Canyon because it is private, not University, property. It may be used for education only. The area inside the trail is mostly disturbed non-native grassland, and therefore most research takes place here. This should continue. Manipulative experiments should not be allowed in the more pristine habitat in the canyons and on the edges of the reserve.

The Shoreline portion needs to be zoned. This can be accomplished by roping off part of the rocky intertidal to prevent use by the public and school groups. Researchers should also be encouraged to use other areas of dike rock, or preferably the pier pilings.
This way, part of the rocky intertidal can be protected from most human abuse and the natural habitat and faunal composition will be allowed to flourish.

**Management of Applications—guidelines**

1. **Research applications allowable:**
   a. extent of manipulation o.k.
   b. area that can be used
   c. ??

2. **Class use allowable:**
   a. max number for upland and shoreline
   b. smaller groups into sensitive areas like dike rock?
   c. Perhaps a briefing letter to teacher to tell what guidelines to follow to keep kids from wrecking things?
   d. ??

3. **Other use allowable:**
Appendix A

**Tips for homeowners/developers/etc. to reduce harmful runoff**

**Reduce pesticide use:**
- Begin with physical controls such as caulking cracks and holes, window screens for flying insects, and copper strips for slugs and snails. Use traps, handpick the pests out or vacuum them up. A strong spray of water can be the best control in the garden.
- Encourage biological controls by attracting beneficial insects. Supply them with food, water and shelter, and avoid broad-spectrum pesticides. Some can be bought, i.e. ladybugs to eat aphids.
- If these do not work, begin chemical controls with least toxic method first. Try to get specific pesticides, such as Bacillus thuringiensis for caterpillars.
- Insecticidal soaps, soap solutions and horticultural oils are less harmful than pesticides.
- Baits or boric acid dust put into cracks can contain pesticides to prevent runoff, but can harm children.
- Only apply as much as necessary—read the label

**Reduce fertilizer use:**
- Use compost or organic mulch instead.
- Consider organic fertilizers, which release nutrients slowly.
- Leave grass clippings on lawn as natural fertilizer.
- Avoid over watering! Do not let water run out into the street.
- Use drip systems, soaker hoses or other water-efficient irrigation.
- For spray head sprinklers, break up spray time into 5-minute intervals, and allow the water to soak in before the next watering.
- Sweep up yard clippings, and either compost them or use the city’s yard waste collection program.

**Best management practices for construction:**
- Obtain a National Pollutant Discharge Elimination System (NPDES) permit from the Regional Water Quality Control Board (RWQCB).
  - Contact information: [www.swrcb.ca.gov](http://www.swrcb.ca.gov) (619) 467-2952 San Diego Region.
- Use a specific area for vehicle parking, fueling, and equipment maintenance. This should be away from storm drains and use berms to control any potential runoff. Inspect vehicles and fix leaks.
- Keep materials out of the rain—bring them inside or cover with tarps. Before rain, sweep to remove material from paved surfaces that drain to storm drains.
- Keep work area clean.
- Never wash down dirty pavement or spilled materials—use dry cleanup methods (absorbent rags, cat litter, etc.).
- Place dumpsters under roofs or tarps when it rains. Never wash them out.
- Keep portable toilets in good condition.
- Use gravel approaches to limit tracking of sediment onto the street.
 Prevent erosion by planting fast-growing (native!) grasses, or other cover crop (eg. *Plantago erecta*). Do not remove plants.

- Control surface runoff to prevent erosion, using drainage ditches and dikes to direct water into the sewer, where it will not runoff into the ocean.
- Reduce waste by ordering only the materials needed. Dispose of waste properly, and recycle where possible.\(^36\).

Other methods of prevention:

- Wash vehicles at car washes that recycle water. Don’t wash in your driveway or on the street!
- Maintain vehicles to avoid leaks.
- Keep property free of trash, oil, grease, and other pollutants.\(^37\).

Appendix B

Species Lists

**Types of Vegetation at Scripps Coastal Reserve**

Updated 11/9/02

<table>
<thead>
<tr>
<th>Vegetation Types</th>
<th>Characterized by</th>
<th>Typical Species</th>
<th>Reference</th>
</tr>
</thead>
</table>
| Coastal Sclerophyll Scrub         | Dense shrubs 3-4 meters high creating an impenetrable thicket on north-facing slopes. | *Rhus integrifolia*  
*Heteromeles arbutifolia*  
*Elymus condensatus*  
*Artemisia*  
*Malacothamnus* | 22 |
| Maritime Sage Scrub               | Low shrubs less than .5 meters high forming patchy shrub cover.                  | *Eriogonum fasciculatum*  
*Artemisia californica*  
*Dudleya lanceolata*  
*Opuntia prolifera* | 22 |
| Desertic Maritime Scrub           | Low shrubs and cacti forming an open vegetation with less than 50% shrub cover. In between are a variety of herbaceous plants. | ***Dudleya edulis***  
*Suaeda californica*  
*Amblyopappus* | 22 |
| Sea Bluff Succulent Scrub         | Low stem succulents and low shrubs less than .5 meters high. Ground cover is less than 50%. | ***Dudleya edulis***  
*Suaeda californica*  
*Amblyopappus* | 22 |
| Disclimax Diegan Sage Scrub       | Knoll plowed and cultivated in past, destroying original Diegan Sage Scrub. In 1979 succession | ***Avena barbata (weed)***  
*Artemisia californica*  
*Eriogonum fasciculatum* | 22 |
was occurring, dominated by herbaceous plants, but some natives were beginning to expand.

**Coastal Strand**
Narrow strip at base of bluffs. Low sprawling plants with thick leaves.

- *Abronia maritima*
- *Tetragonia expansa*

**Southern Coastal Bluff Scrub**
The Sea Dahlia, which is only otherwise protected in Torrey Pines State Park. On the CNPS list of rare plants.

- *Corepsis maritima*

**South Coastal Mixed Chaparral**
Unusual on coast north of Baja CA.

- *Cneoridium dumosum*
- *Bushrue*
- *Yucca schidigera*
- *Mojave Yucca*

**Maritime Cactus Scrub**
At least 5 species of cacti. The barrel cactus is on both the CNPS and the Federal lists of rare and endangered species.

- *Opuntia oricola* prickly pear
- *Opuntia prolifera* cholla
- *Ferocactus viridescens* barrel cactus
- *Mammillaria dioica* fishhook
- *Bergerocactus emoryi* sprawling cactus

**Shoreline Habitats**
Exposed Sandy Beach
Cobble
Rocky Intertidal
Rocky Subtidal
Tidepools
Head of Scripps submarine canyon

**TERRESTRIAL FLORA OF THE SCRIPPS COASTAL RESERVE**
Apr-03

* sensitive species or habitat (CNPS R-E-D code)
- non-native taxa (place of origin)

**VEGETATION TYPES (from Holland):**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Non-Native Grassland</th>
<th>Southern Coastal Bluff Scrub</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td></td>
<td>Diegan Coastal Sage Scrub</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>Maritime Succulent Scrub</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>Non-Native Grassland</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>Southern Maritime Chaparral</td>
</tr>
</tbody>
</table>

30
Active Coastal Dune
* Southern Foredunes (?)  
* Southern Dune Scrub (?)

NON-FLOWERING PLANTS

Bryophyta - Hornworts
* Anthoceros laevis  

Cupressaceae - Cypress Family
* Cupressus macrocarpa - Monterey cypress (N. Calif.)

Pinaceae - Pine Family
* Pinus torreyana ssp. t. - Torrey pine (323)

Polypodiaceae - Fern Family
* Adiantam jordani - California maidenhair
* Pellaea andromedifolia - coffee fern
* Petyogramma triangularis var. viscosa - silverback fern
* Polypodium californicum - California polypody

Selaginellaceae - Spike-Moss Family
* Selaginella cinerascens - ashy-footed clubmoss

FLOWERING PLANTS

Monocotyledons

Agavaceae - Agave Family
* Yucca schidigera - Mohave yucca

Amaryllidaceae - Amaryllis Family
* Dichostemma pulchellum - blue dicks

Cyperaceae - Sedge Family
* Cyperus alternifolius - African umbrella plant (Africa)

Liliaceae - Lily Family
* Aloe sp. - Aloe vera (unknown)
* Calochortus catalinae - Catalina mariposa lily (123)
**Poaceae - Grass Family**

- *Agrostis exarta var. minor* - spike redtop  21, 22, 25  
- *Agrostis semiverticillatus* - water bent (Europe)  21, 25  
- *Avena barbata* - slender wild oat (Old World)  21, 22, 25  
- *Avena fatua* - wild oat (Europe)  21, 22, 25  
- *Brachypodium distachyon* - purple false brome (Eurasia)  21, 22, 25  
- *Briza minor* - little quaking-grass (Europe)  21, 22, 25  
- *Bromus diandrus* - ripgut grass (Europe)  21, 22, 25  
- *Bromus mollis* - soft chess (Europe)  21, 22, 25  
- *Bromus rubens* - foxtail chess (Europe)  21, 22, 25  
- *Bromus willdenovii* - prairie brome (S. America)  21, 22, 25  
- *Cortaderia sp.* - pampas grass (Argentina & Chile)  21, 22, 25  
- *Cynodon dactylon* - bermuda grass (Old World)  21, 22, 25  
- *Gastridium ventricosum* - nitgrass (Europe)  21, 22, 25  
- *Hordeum californicum* - California barley  21, 22, 25  
- *Lamarckia aurea* - golden top (Mediterranean region)  21, 22, 25  
- *Leymus condensatus* - giant wild rye  21, 25  
- *Lolium perenne* - English ryegrass (Europe)  21, 22, 25  
- *Melica imperfecta* - coast range melic  21, 22, 25  
- *Muhlenbergia microsperma* - littleseed muhly  21, 22, 25  
- *Nassella lepida* - foothill stipa  21, 25  
- *Oryzopsis miliacea* - millet ricegrass (Medit. region)  21, 22, 25  
- *Polypogon maritimus* - coastal barbgrass (Medit. region)  21, 22, 25  
- *Polypogon monspeliensis* - rabbitfoot beardgrass (Europe)  21, 25  
- *Setaria geniculata* - knotroot bristlegrass (Tropics)  21, 22, 25  
- *Stipa cernua* - nodding stipa  21, 22, 25  
- *Vulpia myurus var. m.* - rattail fescue (Europe)  21, 25  
- *Vulpia octoflora var. o.* - slender fescue  21, 25

**Dicotyledons**

**Aizoaceae - Carpet-Weed Family**

- *Carpobrotus aequilaterus* - sea-fig  21, 22, 25  
- *Lampranthus coccineus* - (S. Africa)  21, 22, 25  
- *Mesembryanthemum crystallinum* - crystal ice-plant (S. Africa)  21, 22, 25  
- *Mesembryanthemum nodiflorum* - little ice-plant (S. Africa)  21, 22, 25  
- *Tetragonia tetragoniodes* - New Zealand spinach (Australia)  21, 22, 25
Anacardiaceae - Sumac Family
   Malosma laurina - laurel sumac 21, 22, 25
   Rhus integrifolia - lemonadeberry 21, 22, 25

Apiaceae - Carrot Family
   Apiastrum angustifolium - wild celery 21, 22, 25
   Daucus pusillus - rattlesnake weed 21, 22, 25
   - Sanicula bipinnatifida - purple sanicle 21, 22, 25

Asclepiadaceae - Milkweed Family
   Asclepias fascicularis - narrow-leaf milkweed 21, 22, 25

Asteraceae - Sunflower Family
   Amblyopappus pusillus - pineapple weed 21, 22, 25
   Ambrosia bipinnatifida - beach ragweed 21, 22, 25
   - Artemisia californica - California sagebrush 21, 22, 25
   - Artemisia dracunculus - dragon sagewort (tarragon) 21, 22, 25
   * Artemisia palmeri - San Diego sagewort (121) 21, 22, 25
   Baccharis pilularis ssp. consanguinea - coyote brush 21, 22, 25
   Baccharis sarothroides - broom baccharis 21, 22, 25
   - Centaurea melitensis - tocalote (Europe) 21, 22, 25
   - Chaenactis glabrifolius var. orcuttiana - Orcutt's pincushion 21, 22, 25
   - Cirsium californicum - California thistle 21, 22, 25
   - Cirsium vulgare - bull thistle (Europe) 21, 22, 25
   - Cnicus benedictus - blessed thistle (Europe) 21, 22, 25
   - Conyza bonariensis - flax-leaf fleabane (S. America) 21, 22, 25
   - Conyza canadensis - common horseweed (Eastern U.S.A.) 21, 22, 25
   * Coreopsis maritima - San Diego sea-dahlia (221) 21, 22, 25
   * Corethrogyne filaginifolia var. unknown - sand-aster (332 or 333) 21, 22, 25
   - Cotula australis - brass buttons (Australia) 21, 22, 25
   - Cotula coronopifolia - brass buttons (S. Africa) 21, 22, 25
   Encelia californica - California encelia (Coast sunflower) 21, 22, 25
   Eriophyllum confertiflorum var. c. - golden yarrow 21, 22, 25
   Filago californica - California filago 21, 22, 25
   Gnaphalium beneolens - fragrant everlasting 21, 22, 25
Gnaphalium bicolor - bicolor cudweed 21, 25
Gnaphalium californicum - California everlasting 21, 22, 25
Haplopappus sp. - golden bush 21, 22, 25
Hedypnois cretica - Crete hedypnois (Eurasia) 21, 22, 25
Hemizonia fasciculata - tarweed 21, 22, 25
Heterotheca grandiflora - telegraph weed 21, 22, 25
- Hypochoeris glabra - cat's ear (Europe) 21, 22, 25
Jaumea carnosa - fleshy jaumea 21, 22, 25
Lactuca sp. 25
Malacothrix saxatilis var. tenuifoila - cliff malacothrix 21, 22, 25
Matricaria matricarioides - pineapple-weed 21, 22, 25
Microseris heterocarpa - derived microseris 21, 22, 25
- Osteospermum fruticosum - trailing African daisy (Africa) 21, 22, 25
- Picris echioioides - ox tongue (Europe) 21, 22, 25
- Senecio vulgaris - common groundsel (Europe) 21, 22, 25
- Sonchus oleraceus - common sow-thistle (Europe) 21, 22, 25
Stephanomeria virgata ssp. v. - virgate wreath-plant 21, 22, 25
Stylocline gnaphalioides - everlasting nest-straw 21, 22, 25
- Taraxacum officinale - common dandelion (Europe) 21, 22, 25
- Xanthium strumarium var. canadense - eastern cocklebur (Eastern U.S.) 21, 22, 25

Boraginaceae - Borage Family
Amsinckia tesselata 25
Cryptantha sp. (prob. clevelandii) - Cleveland's cryptantha 21, 22, 25
Cryptantha intermedia - popcorn flower 21, 22, 25
Heliotropium curassavicum ssp. oculatum - salt heliotrope 21, 22, 25

Brassicaceae - Mustard Family
- Brassica geniculata - shortpod mustard (Europe) 21, 22, 25
- Brassica kaber - field charlock (Europe) 21, 22, 25
- Brassica rapa - field mustard (Europe) 21, 22, 25
- Cakile maritima - sea rocket (Europe) 21, 22, 25
- Raphanus sativus - wild radish (Europe) 21, 22, 25
- Sisymbrium irio - london rocket (Europe) 21, 22, 25

Cactaceae - Cactus Family
Ferocactus acanthodes - California barrel cactus 22
* Ferocactus viridescens - coast barrel cactus (131) 21, 22, 25
Mammilaria dioica - fish-hook cactus 21, 22, 25
Opuntia littoralis var. littoralis - coast prickly-pear 21, 22, 25
Opuntia prolifera - coast cholla 21, 22, 25

Campanulaceae - Bellflower Family
Heterocodon rariflorum - heterocodon 21, 22, 25

Capparaceae - Caper Family
Cleome isomeris - bladderpod 21, 22, 25

Caprifoliaceae - Honeysuckle Family
Sambucus mexicana - elderberry 21, 22, 25

Caryophyllaceae - Carnation Family
Cardionema ramosissima - beach sand-mat 21, 22, 25
- Cerastium glomeratum var. apetalum - mouse-ear chickweed (Europe) 21, 22, 25
Polycarpion depressum - California polycarp 21, 22, 25
Silene antirrhina - snapdragon catchfly 21, 22, 25
- Silene gallica - common catchfly (Europe) 21, 22, 25
- Spergularia bocconii - Buccone's sand-spurry (Europe) 21, 22, 25
- Spergularia marina - salt marsh sand-spurry (Eurasia) 21, 22, 25
- Stellaria media - common chickweed (Eurasia) 21, 22, 25

Chenopodiaceae - Goosefoot Family
Atriplex canescens - hoary saltbush 21, 22, 25
Atriplex leucophylla - beach saltbush 21, 22, 25
- Atriplex patula ssp. hasata - halberd-leaf saltbush (Eurasia) 21, 22, 25
- Atriplex semibaccata - Australian saltbush (Australia) 21, 22, 25
- Bassia hyssopifolia - five-hook bassia (Eurasia) 21, 22, 25
- Chenopodium album - lamb's quarters (Europe) 21, 22, 25
- Chenopodium ambrosiodes - mexican-tea (Neotropics) 21, 22, 25
- Chenopodium murale - nettle-leaf goosefoot (Europe) 21, 22, 25
Salicornia virginica - pickleweed 21, 22, 25
- Salsola iberica - Russian thistle (Asia) 21, 22, 25
* Suaeda californica - sea-blite (333) FE 21, 22, 25

Convolvulaceae - Morning-Glory Family
Calystegia macrostegia (ssp. ?) - morning-glory 21, 22, 25
Cuscuta californica var. c. - witch's hair 21, 22, 25
Crassulaceae - Stonecrop Family

Crasula connata var. c. - pigmy weed 21, 22, 25

* Dudleya brevifolia - short-leaved Dudleya (333) SE 21, 25
Dudleya edulis - lady fingers 21, 22, 25
Dudleya lanceolata - coastal dudleya 21, 22, 25
Dudleya pulverulenta - chalk live-forever 21, 22, 25

Cucurbitaceae - Gourd Family

Marah macrocarpus - wild cucumber; manroot 21, 22, 25

Fabaceae - Pea Family

Astragalus trichopodus ssp. leucopsis - ocean locoweed 21, 22, 25
- Lotus corniculatus var. c. - bird's foot trefoil (Europe) 21, 22, 25
Lotus hamatus - grab lotus 21, 22, 25
Lotus scoparius ssp. s. - coastal deer weed 21, 22, 25
Lotus sp. (prob. heermannii ssp. orbicularis) - woolly lotus 21, 22, 25
Lupinus bicolor ssp. microphyllus - lupine 21, 22, 25
- Medicago polymorpha - bur-clover (Europe) 21, 22, 25
- Melilotus albus - white sweet clover (Eurasia) 21, 22, 25
- Melilotus indicus - Indian sweet clover (Eurasia) 21, 22, 25
Trifolium sp. - clover 21, 22, 25
Vicia ludoviciana or V. hassei 25

Fagaceae - Oak Family

* Quercus dumosa - scrub oak (232) 21, 22, 25

Frankeniaceae - Frankenia Family

Frankenia salina - alkali-heath 21, 22, 25

Geraniaceae - Geranium Family

- Erodium botrys - storksbill (Europe) 21, 22, 25
- Erodium cicutarium - red-stemmed filaree (Europe) 21, 22, 25
- Erodium moschatum - white-stemmed filaree (Europe) 21, 22, 25

Hydrophyllaceae - Waterleaf Family

Pholistoma recemosum - fiesta flower 21, 22, 25

Lamiaceae - Mint Family

- Marrubium vulgare - horehound (Europe) 21, 22, 25
- *Mentha spicata* - spearmint (Europe) 21, 22, 25
  *Salvia mellifera* - black sage 21, 22, 25
  *Stachys rigida ssp. quercetorum* - hedge-nettle 21, 22, 25

**Malvaceae - Mallow Family**
- *Malacothamnus densiflorus var. viscidus* - San Diego bushmallow 21, 22, 25
- *Malva parviflora* - cheeseweed (Europe) 21, 22, 25

**Myoporaceae - Myoporum Family**
- *Myoporum laetum* - ngaio (New Zealand) 21, 22, 25

**Nyctaginaceae - Four-O-Clock Family**
- *Abronia maritima* - red sand-verbena 21, 22, 25
- *Mirabilis californica* - coastal wishbone plant 21, 22, 25

**Onagraceae - Evening-Primrose Family**
- *Camissonia bistorta* - southern sun cup 21, 22, 25

**Papaveraceae - Poppy Family**
- *Papaver californicum* - wind poppy 21, 22, 25

**Plantaginaceae - Plantain Family**
- *Plantago erecta ssp. e.* - dot-seed plantain 21, 22, 25

**Polygonaceae - Buckwheat Family**
- *Chorizanthe coriacea* - lastarriaea 21, 22, 25
- *Eriogonum fasciculatum ssp. f.* - flat-top buckwheat 21, 22, 25
- *Erigonum gracile* - slender buckwheat 21, 22, 25
- *Polygonum arenastrum* - yard knotweed (Europe) 21, 22, 25
- *Pterostegia drymarioides* - granny's hairnet 21, 22, 25
- *Rumex conglomeratus* - whorled dock (Europe) 21, 22, 25
- *Rumex crispus* - curly dock (Eurasia) 21, 22, 25

**Portulacaceae - Purslane Family**
- *Claytonia perfoliata* - miner's lettuce 21, 22, 25

**Primulaceae - Primrose Family**
- *Anagills arvensis var. unknown* - pimpernel (Europe) 21, 22, 25

**Resedaceae - Mignonette Family**
**Oligomeris linifolia** - narrowleaf oligomeris  

**Rhamnaceae - Buckthorn Family**
- *Ceanothus megacarpus ssp. m.* - big-fruit lilac  
- *Ceanothus verrucosus* - warty-stemmed ceanothus  
- *Rhamnus ilicifolia* - hollyleaf redberry

**Rosaceae - Rose Family**
- *Adenostoma fasciculatum* - chamise  
- *Heteromeles arbutifolia* - toyon

**Rubiaceae - Madder Family**
- *Galium aparine* - common bedstraw (Europe)  
- *Galium nuttallii ssp. n.* - Nuttall's bedstraw

**Rutaceae - Citrus Family**
- *Cneoridium dumosum* - coastal spicebush

**Salicaceae - Willow Family**
- *Salix lasiolepis* - arroyo willow

**Sapindaceae - Soapberry Family**
- *Dodonea viscosa*

**Saxifragaceae - Saxifrage Family**
- *Ribes speciosum* - fuscia-flowered gooseberry

**Scrophulariaceae - Figwort Family**
- *Antirrhinum nuttallianum* - Nuttall's snapdragon  
- *Castilleja affinis ssp. a.* - coast paint-brush  
- *Castilleja foliolosa* - felt paint-brush  
- *Diplacus puniceus* - coast monkey flower  
- *Linaria canadensis* - blue toadflax  
- *Mimulus guttatus ssp. g.* - seep monkey flower  
- *Orthocarpus pupurascens var. p.* - owl's clover

**Solanaceae - Nightshade Family**
- *Datura wrightii* - jimsonweed  
- *Lycium (prob. californicum)* - desert box-thorn  
- *Nicotiana glauca* - tree tobacco (South America)
Solanum douglasii - Douglas' nightshade 21, 22, 25
Solanum parishii - Parish's nightshade 21, 22, 25

Verbenaceae - Vervain Family
Verbena sp. - vervain 21, 25

Teloschistaceae Family (Lichen)
Xanthoria polycarpa (on Lycium californica) - pincushion orange 23, 25

STATISTICS
Plant families 54
Total plant species 205
Native taxa 81
Non-native taxa 124
% Native 39.5

REFERENCES
Vasek, F. C. and O. F. Clarke 1979. Vegetation of the proposed addition to the Scripps Shoreline Reserve, La Jolla, California. unpub. report submitted to the University of California Natural Reserve System.

Benthic Seaweeds and Seagrasses Updated 11/6/02

Division Anthophyta
Class Monocotyledoneae
Order Helobiae
Family Potamogetonaceae
Phyllospadix torreyi surfgrass 6, 7
Zostera marina var. latifolia 7

Division Chlorophyta
Class Ulvophyceae
Order Cladophorales

**Family Cladophoraceae**

*Chaetomorpha spiralis* Subtidal, single cells in row 7

Order Codiales

**Family Bryopsidaceae**

*Bryopsis pennata* 7

**Family Codiaceae**

*Codium fragile* 7
*C. cuneatum* 7

Division Phaeophyta (Heterokontophyta)

Class Phaeophyceae

Order Cutleriales

? *Cutleria cylindrica* 7

Order Desmarestiales

**Family Desmarestiaceae**

*Desmarestia ligulata var. ligulata* 7
*D. ligulata* 7
*D. munda* 7

Order Dicyotales

? **Family Dictyotales** *Sandy pools*

*Dictyota binghamiae* Mid intertidal, dichotomous branching, rounded ends 7
*D. flabellata* brown alga 6, 7, 17
*D. undulata* brown alga 7
*Taonia lennebackeriae* Shredded looking ends 7
*Zonaria farlowii* Mid intertidal, light edges 7

Order Ectocarpales

*Endarchne binghamiae* Med-sized, dessicated blades 7

Order Fucales

**Family Cystoseiraceae**

*Cystoseira ?setchelli* Rockweeds 7

**Family Fucaceae** *(Rockweeds)*

*Silvetia compressa* Formerly *Pelvetia limitata*-mid. Intertidal 7
*Pelvetia fastigiata* rockweed 17

**Family Sargassaceae**

*Sargassum agardhianum* Pointy floats 7
*S. muticum* Invasive, mid intertidal, brown, sargassum weed 6, 7, 17
*S. palmeri* Big floats, round (nematocysts) 7

Order Laminariales

Family Alariaceae

*Laminaria farlowii* subtidal (drift)
**Egregia menziesii**
boa kelp, Low intertidal 7

**Egregia laeviagata**
feather boa kelp 6, 7, 17

**Eisenia arborea**
S. sea palm 7

Family Lessoniaceae

**Macrocystis pyrifera**
7

**Pelagophycus porra**
7

Division Rhodophyta

Class Rhodophyceae

Subclass Florideophycidae

Order Ceramiales

**Pogonophorella californica**
7

Family Dasyaceae

**Dasya sinicola var. californica**
7

Family Rhodomelaceae

**Laurencia subopposita**
7

? L. peifica 7

L. sp. 7

**Pterochondria woodii var. pygmaea**
7

**Pterosiphonia baileyi**
7

?? Murrayellopsis dawsonii
7

Order Corallinales
coralline encrusting algae

Family Corallinaceae

**Amphiroa zonata**
7

**Jania crassa**
7

Order Gelidiales

Family Gelidiaceae

**Gelidiaceae sp.**
Drift 7

**Pterocladia caloglossoides**
red alga 17

Order Gigartinaceae

Family Gigartinaceae

**Chonracanthus ? Corymbifera**
7

**Mazzaella leptohynchos**
Mid-low intertidal 7

Family Kallymeniaceae

**Callophyllis flabellulata**
Looks like a shredded Rhodymenia, red alga 7

Family Solieraceae

? **Sarcodiotheca gaudichaudii**
7

Order Plocamiales

Family Plocamiaecae

**Ploramium pacificum (cartilagineum)**
Subtidal, feathery, red alga 6, 7, 17
Order Rhodymeniales
Family Champiaceae
\textit{Gastroclonium parvum} \hfill 7

Family Rhodymeniaceae
\textit{Botryocladia neushulii} \hfill 7
\textit{Rhodymenia sp.} \hfill Low intertidal, dichot, branching, undersides, slimy \hfill 6, 7

Data from CN Janousek, SIO and SCR species list
Notes from I Kay, J Carilli, NRS

ROCKY INTERTIDAL SPECIES LIST--SCRIPPS COASTAL RESERVE
UPDATED 11/5/02 (some overlap with above list)

<table>
<thead>
<tr>
<th>GENUS And SPECIES</th>
<th>COMMON NAME</th>
<th>PLANTS</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrosorium</td>
<td>summit sorus</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Callophyllis</td>
<td>red alga, beautiful leaf</td>
<td>6, 7</td>
<td></td>
</tr>
<tr>
<td>Corallina spp.</td>
<td>red algal turf</td>
<td>6, 20</td>
<td></td>
</tr>
<tr>
<td>Dictyopteris</td>
<td>brown alga, net wing</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Dictyota flabellata</td>
<td>brown alga</td>
<td>6, 7</td>
<td></td>
</tr>
<tr>
<td>Egregia laeviagata</td>
<td>feather boa kelp</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Egregia menziesii</td>
<td>boa kelp</td>
<td>6, 20</td>
<td></td>
</tr>
<tr>
<td>Gigartina exasperata</td>
<td>red alga</td>
<td>6</td>
<td></td>
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<tr>
<td>Halmenia</td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Maripelta</td>
<td>pink, vivid blue sheen</td>
<td>1, 6</td>
<td></td>
</tr>
<tr>
<td>Ozophora</td>
<td>dull red</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Pelvetia fastigiata</td>
<td>rockweed--coralline spp.</td>
<td>6, 20</td>
<td></td>
</tr>
<tr>
<td>Phyllospadix spp.</td>
<td>surfgrass</td>
<td>6, 7, 20</td>
<td></td>
</tr>
<tr>
<td>Plocamium pacificum</td>
<td>red alga</td>
<td>6, 7</td>
<td></td>
</tr>
<tr>
<td>Polynera</td>
<td>red alga, criss-cross network</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Pterocladia caloglossoides</td>
<td>red alga</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Rhodymenia</td>
<td>red alga, slimy leaf</td>
<td>6, 7</td>
<td></td>
</tr>
<tr>
<td>Sargassum muticum</td>
<td>brown alga, sargassum weed</td>
<td>6, 7, 20</td>
<td></td>
</tr>
<tr>
<td>Schizymenia dawsonii</td>
<td>sand turf</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

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Fauna of Scripps Coastal Reserve
4-Nov-02

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batrachoseps attenuatus</td>
<td>slender salamander</td>
<td>18</td>
</tr>
<tr>
<td>Aneides lugubris</td>
<td>arboreal salamander</td>
<td>18</td>
</tr>
<tr>
<td>Hyla regilla</td>
<td>Pacific treefrog</td>
<td>18</td>
</tr>
</tbody>
</table>

**Reptiles**

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sceloporus occidentalis</td>
<td>Western fence lizard</td>
<td>18</td>
</tr>
<tr>
<td>Uta stansburiana</td>
<td>side-blotched lizard</td>
<td>18</td>
</tr>
<tr>
<td>Phrynosoma coronatum</td>
<td>coast horned lizard</td>
<td>18</td>
</tr>
<tr>
<td>Eumeces skiltonianus</td>
<td>Western skink</td>
<td>18</td>
</tr>
<tr>
<td>Gerrhonotus multicarinatus</td>
<td>Southern alligator lizard</td>
<td>18</td>
</tr>
<tr>
<td>Anniella pulchra</td>
<td>California legless lizard</td>
<td>18</td>
</tr>
<tr>
<td>Cnemidophorus tigris</td>
<td>Western whiptail</td>
<td>18</td>
</tr>
<tr>
<td>Pituophis melanoleucus</td>
<td>gopher snake</td>
<td>18</td>
</tr>
<tr>
<td>Lampropeltis getulus</td>
<td>common kingsnake</td>
<td>18</td>
</tr>
<tr>
<td>Crotalus ruber</td>
<td>red rattlesnake</td>
<td>18</td>
</tr>
<tr>
<td>Diadophis punctatus</td>
<td>ringneck snake</td>
<td>18</td>
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</tbody>
</table>

**Mammals**

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Reference</th>
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</thead>
<tbody>
<tr>
<td>Zalophus californicus</td>
<td>California sea lion</td>
<td>15</td>
</tr>
<tr>
<td>Phoca vitulina</td>
<td>harbor seal</td>
<td>15</td>
</tr>
<tr>
<td>Tursiops gilli</td>
<td>bottlenose dolphin</td>
<td>15</td>
</tr>
<tr>
<td>Eschrichtius robustus</td>
<td>California gray whale</td>
<td>15</td>
</tr>
<tr>
<td>Mephitis mephitis holzneri</td>
<td>skunk</td>
<td>18</td>
</tr>
<tr>
<td>Procyon lotor psora</td>
<td>raccoon</td>
<td>18</td>
</tr>
<tr>
<td>Urocyon cinereoargenteus</td>
<td>gray fox</td>
<td>18</td>
</tr>
<tr>
<td>Canis latrans clepticus</td>
<td>coyote</td>
<td>18</td>
</tr>
<tr>
<td>Didelphis virginiana</td>
<td>opossum (introduced)</td>
<td>18</td>
</tr>
<tr>
<td>Mustela frenata latirostra</td>
<td>weasel</td>
<td>18</td>
</tr>
<tr>
<td>Spermophilus beecheyi nudipes</td>
<td>ground squirrel</td>
<td>18</td>
</tr>
<tr>
<td>Thomomys bottae</td>
<td>gopher</td>
<td>18</td>
</tr>
<tr>
<td>Sylvilagus bachmani cinerascens</td>
<td>(brush) rabbit</td>
<td>18</td>
</tr>
<tr>
<td>Rattus rattus</td>
<td>roof rat/ fruit rat</td>
<td>18</td>
</tr>
<tr>
<td>Muridae spp.</td>
<td>mice</td>
<td>18</td>
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</tbody>
</table>

ROCKY INTERTIDAL SPECIES LIST--SCRIPPS COASTAL RESERVE
UPDATED 11/5/02
<table>
<thead>
<tr>
<th>INVERTEBRATES</th>
<th>Reference</th>
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<tbody>
<tr>
<td>Anthopleura elegantissima aggregating anemone</td>
<td>6, 20</td>
</tr>
<tr>
<td>Cancer anthonyi yellow crab</td>
<td>2</td>
</tr>
<tr>
<td>Chaecia ovoidea wart-necked piddock</td>
<td>2</td>
</tr>
<tr>
<td>Chthamalus spp. acorn barnacle</td>
<td>6, 20</td>
</tr>
<tr>
<td>Conus californicus California cone snail</td>
<td>2</td>
</tr>
<tr>
<td>Diopatra ornata ornate tube worm</td>
<td>2</td>
</tr>
<tr>
<td>Heterocrypta occidentalis elbow crab</td>
<td>2</td>
</tr>
<tr>
<td>Lovenia cordiformis heart urchin</td>
<td>2</td>
</tr>
<tr>
<td>Loxorhynchus grandis sheep crab</td>
<td>2</td>
</tr>
<tr>
<td>Mytilus californianus California mussel</td>
<td>6, 20</td>
</tr>
<tr>
<td>Navanax inermis navanax</td>
<td>2</td>
</tr>
<tr>
<td>Olivella biplicata purple olive</td>
<td>2</td>
</tr>
<tr>
<td>Pachycerianthus fimbriatus tube dwelling anemone</td>
<td>2</td>
</tr>
<tr>
<td>Panope generosa geoduck clam</td>
<td>2</td>
</tr>
<tr>
<td>Parapholas californica scaleside piddock</td>
<td>2</td>
</tr>
<tr>
<td>Phragmatopoma californica sand castle worm</td>
<td>6, 20</td>
</tr>
<tr>
<td>Phyllactis spp. sand anemone</td>
<td>2</td>
</tr>
<tr>
<td>Pisaster brevispinus short-spined sea star</td>
<td>2</td>
</tr>
<tr>
<td>Pisaster ochraceus ochre sea star</td>
<td>2</td>
</tr>
<tr>
<td>Polinices lewissi Lewis' moon snail</td>
<td>2</td>
</tr>
<tr>
<td>Pollecepis polymerus goose barnacle</td>
<td>20</td>
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<tr>
<td>Potunus xantusii swimming crab</td>
<td>2</td>
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<tr>
<td>Randallia ornata globe crab</td>
<td>2</td>
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<tr>
<td>Stylatula elongata sea pen</td>
<td>2</td>
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<tr>
<td>Tetraclita rubescens pink thatched barnacle</td>
<td>6, 20</td>
</tr>
<tr>
<td>Armina californica nudibranch</td>
<td>8</td>
</tr>
<tr>
<td>Astropecten armatus armored sea star</td>
<td>2, 8</td>
</tr>
<tr>
<td>Cirolana harfordi isopod</td>
<td>17</td>
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<tr>
<td>Dendraster excentricus sand dollar</td>
<td>2, 8</td>
</tr>
<tr>
<td>Donax gouldii bean clam</td>
<td>8</td>
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<tr>
<td>Macoma secta sand clam</td>
<td>8</td>
</tr>
<tr>
<td>Mactra californica</td>
<td>8</td>
</tr>
<tr>
<td>Molpadia arenicola sea cucumber</td>
<td>8</td>
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<tr>
<td>Nassarius perpenguins cone snail</td>
<td>8</td>
</tr>
<tr>
<td>Nassarius fossatus cone snail</td>
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<tr>
<td>Olivella baetica snail</td>
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</tr>
<tr>
<td>Olivella biplicata snail</td>
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</tbody>
</table>
Ophiodermelo ophioderma  
cone snail  
8
Ophiruoidae  
brittle stars  
6, 17
Panulirus interruptus  
lobster  
6, 17
Polinicies altus  
snail  
8
Polinices reclusianus  
snail  
8
Renilla kollikeri  
sea pansy  
2, 8
Tivela stultorum  
pismo clam  
8
(pelagic)
Janthina globosa  
8
Loligops opalescens  
squid  
8
Velella velella  
by-the-wind-sailor  
8
(low intertidal)
Adula falcata  
rough pea-pod borer  
8
Anthopleura xanthogrammica  
giant green anemone  
8
Aplysia californica  
sea hare  
8
Astraea undosa  
wavy turban  
8
Ceratostoma nuttali  
Nuttal's whelk  
8
Chromodoris californiensis  
nudibranch  
8
Conus californicus  
California cone snail  
8
Cuminga californica  
8
Diplodonta orbellus  
bivalve  
8
Epitonium tinctum  
snail  
8
Haliotis fulgens  
green abalone  
8
Leptochiton rugatus  
minute white chiton  
8
Macron lidivus  
8
Maxwellia gemma  
gem murex  
8
Megathura crenulata  
giant keyhole limpet  
8
Mitrella carinata  
carnated dove snail  
8
Octopus bimaculatus  
two-spot octopus  
6, 8, 17
Opalia funiculata  
wentletrap  
8
Pteropurpura trialata  
three winged murex  
8
Pseudomelatoma penicilata  
8
Pteropurpura festiva  
muricid snail  
8
Stenoplax conspicua  
chiton  
8
Tylodina fungina  
shelled opistobranch  
8
Volvarina taeniolata  
8
(middle intertidal zone)
Acanthina spirata  
whelk  
8
Anthopleura xanthogrammica  
anemone  
6, 17
Aplysia californica  
California sea hare  
2, 6
| **Colisella stringatella** | limpet | 8 |
| **Colisella digitalis** | limpet | 8 |
| **Crepidatella lingulata** | slipper shell | 8 |
| **Crepidula onyx** | slipper shell | 8 |
| **Fissurella volcano** | volcano keyhole limpet | 8 |
| **Hipponix antiquatus** | white hoof shell | 8 |
| **Notoacmae fenestrata** | 8 |
| **Pachygrapsus crassipes** | shore crab | 6, 17 |
| **Pragmatopa californica** | polychaete | 6, 17 |
| **Tegula aureotincta** | gilded tegula | 8 |
| **Tegula eiseni** | conical snail | 8 |
| **(high intertidal and splash zone)** |  |
| **Acanthina paucilirata** | checkered thorn drupe | 8 |
| **Acmaea spp.** | limpets | 6, 8, 17 |
| **Balanus spp.** | barnacles | 6, 17 |
| **Colisella asmi** | limpet | 8 |
| **Colisella digitalis** | limpet | 8 |
| **Cripidula perforans** | western white slipper snail | 8 |
| **Littorina spp.** | periwinkle | 6, 17 |
| **Lottia gigantea** | owl limpet | 6, 8, 20 |
| **Nuttallina fluxa** | chiton | 6, 8, 17 |
| **Pagurus samuelis** | hermit crab | 6, 17 |
| **Tegula funebralis** | turban snail | 6, 8, 17 |

**FISH**

<p>| <strong>Atherinops affinis</strong> | topsmelt | 1, 6, 19 |
| <strong>Clinocottus analis</strong> | wooly sculpin | 1, 6, 17, 19 |
| <strong>Fundulus parvipinnis</strong> | killifish | 6, 19 |
| <strong>Gibbonsia elegans</strong> | spotted kelpfish | 6, 17, 19 |
| <strong>Gibbonsia metzi</strong> | striped kelpfish | 6, 19 |
| <strong>Girella nigricans</strong> | opaleye | 1, 6, 17, 19 |
| <strong>Gobiesox rhessodon</strong> | California clingfish | 6, 17, 19 |
| <strong>Hermosilla azurea</strong> | zebraperch | 6, 17, 19 |
| <strong>Hypsooblennius gentilis</strong> | bay blenny | 6, 19 |
| <strong>Hypsooblennius gilberti</strong> | notchbrow (rockpool) blenny | 6, 17, 19 |
| <strong>Hypsooblennius jenkinsi</strong> | mussel blenny | 1, 6, 19 |
| <strong>Hypsypops rubicundus</strong> | Garibaldi | 6, 19 |
| <strong>Paralabrax clathratus</strong> | kelp bass | 6, 19 |
| <strong>Scorpaenichthys marmoratus</strong> | cabezon | 6, 19 |
| <strong>Sebastes rastrelliger</strong> | grass rockfish | 1, 6, 19 |</p>
<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Urolophus halleri</td>
<td>round stingray</td>
<td>1, 2</td>
</tr>
<tr>
<td>Myliobatis californica</td>
<td>batray</td>
<td>1, 2</td>
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<tr>
<td>Menticirrhus undulatus</td>
<td>corbina</td>
<td>1</td>
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<tr>
<td>Umbrina Roncador</td>
<td>yellowfin craker</td>
<td>1</td>
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<tr>
<td>Roncador stearns</td>
<td>spotfin croaker</td>
<td>1</td>
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<tr>
<td>Leuresthes tenius</td>
<td>grunion</td>
<td>1</td>
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<tr>
<td>Seriphus politus</td>
<td>queenfish</td>
<td>1</td>
</tr>
<tr>
<td>Atherinopsis californiensis</td>
<td>jacksmelt</td>
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<tr>
<td>Atractoscion nobilis</td>
<td>white seabass</td>
<td>1</td>
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<tr>
<td>Engraulis mordax</td>
<td>anchovy</td>
<td>1</td>
</tr>
<tr>
<td>Scomber japonicus</td>
<td>mackerel</td>
<td>1</td>
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<tr>
<td>Sphyraena argentea</td>
<td>barracuda</td>
<td>1</td>
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<tr>
<td>Gymnura marmorata</td>
<td>butterfly ray</td>
<td>2</td>
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<tr>
<td>Mustelus henlei</td>
<td>gray smoothhound</td>
<td>2</td>
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<tr>
<td>Mustelus californicus</td>
<td>brown smoothhound</td>
<td>2</td>
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<tr>
<td>Platyrhinoidis triseriata</td>
<td>thornback</td>
<td>2</td>
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<tr>
<td>Triakis semifasciata</td>
<td>leopard shark</td>
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<tr>
<td>Citharichthys stigmaeus</td>
<td>speckled sanddab</td>
<td>2</td>
</tr>
<tr>
<td>Citharichthys sordidus</td>
<td>pacific sanddab</td>
<td>2</td>
</tr>
<tr>
<td>Pleuronichthys coenosus</td>
<td>CO turbot</td>
<td>2</td>
</tr>
<tr>
<td>Symphurus atricauda</td>
<td>tonguefish</td>
<td>2</td>
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<tr>
<td>Paralichthys californicus</td>
<td>California halibut</td>
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</tr>
</tbody>
</table>

**Scripps Coastal Reserve Bird List**

Updated 4/03

**Family Accipitridae**

Cooper's Hawk                   
Red-shouldered Hawk             
Red-tailed Hawk                 
White-tailed Kite               
Sharp-shinned Hawk              
Northern Harrier                
Sparrow Hawk                    
Golden Eagle                     

**Family Aegithalidae**

Bushtit                         

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accipiter cooperii</td>
<td>(K)*</td>
<td>9, 10, 11, 13, 16</td>
</tr>
<tr>
<td>Buteo lineatus</td>
<td>(K)*</td>
<td>9, 10, 11, 13, 16</td>
</tr>
<tr>
<td>Buteo jamaicensis</td>
<td>(K)*</td>
<td>9, 10, 11, 12, 13, 14, 16</td>
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<tr>
<td>Haliaeetus albicilla</td>
<td>(K)</td>
<td>9, 10, 11</td>
</tr>
<tr>
<td>Accipiter striatus</td>
<td>(K)</td>
<td>9, 10, 11</td>
</tr>
<tr>
<td>Circus cyaneus</td>
<td>(K)</td>
<td>9, 10, 11, 13</td>
</tr>
<tr>
<td>Falco Sparverius</td>
<td>(K)</td>
<td>4</td>
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<tr>
<td>Aquila chrysaetos</td>
<td>(K)</td>
<td>4</td>
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<tr>
<td>Psaltriparus minimus</td>
<td>(K)</td>
<td>9, 10, 11, 13, 14, 16</td>
</tr>
<tr>
<td>Family</td>
<td>Species Name</td>
<td>Scientific Name</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------------</td>
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<tr>
<td><strong>Family Alaudidae</strong></td>
<td>Horned Lark</td>
<td><em>Eremophila alpestris</em> (K)</td>
</tr>
<tr>
<td><strong>Family Alcenidae</strong></td>
<td>Belted Kingfisher</td>
<td><em>Ceryle alcyon</em> (Sh)</td>
</tr>
<tr>
<td><strong>Family Alcidae</strong></td>
<td>Common Murre</td>
<td><em>Uria aalge</em> (Sh)</td>
</tr>
<tr>
<td></td>
<td>Cassin's Auklet</td>
<td><em>Ptychoramphus aleuticus</em> (Sh)</td>
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<tr>
<td><strong>Family Anatidae</strong></td>
<td>Brant</td>
<td><em>Branta bernicla</em> (Sh)</td>
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<tr>
<td></td>
<td>Black Scoter</td>
<td><em>Melanitta nigra</em> (Sh)</td>
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<tr>
<td></td>
<td>Surf Scoter</td>
<td><em>Melanitta perspicillata</em> (Sh)</td>
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<tr>
<td></td>
<td>White-winged Scoter</td>
<td><em>Melanitta fusca</em> (Sh)</td>
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<tr>
<td></td>
<td>Ruddy Duck</td>
<td><em>Oxyura jamaicensis</em> (Sh)</td>
</tr>
<tr>
<td></td>
<td>Red-breasted Merganser</td>
<td><em>Mergus serrator</em> (Sh)</td>
</tr>
<tr>
<td><strong>Family Apodidae</strong></td>
<td>Vaux's Swift</td>
<td><em>Chaetura vauxi</em> (K)</td>
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<tr>
<td></td>
<td>White-throated Swift</td>
<td><em>Aeronautes saxatalis</em> (K)</td>
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<tr>
<td><strong>Family Ardeidae</strong></td>
<td>Black-crowned Night Heron</td>
<td><em>Nycticorax nycticorax</em> (Sh)</td>
</tr>
<tr>
<td></td>
<td>Yellow-crowned Night Heron</td>
<td><em>Nycticorax violaceus</em> (Sh)*</td>
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<tr>
<td></td>
<td>Great Egret</td>
<td><em>Ardea alba</em> (Sh)</td>
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<tr>
<td></td>
<td>Great Blue Heron</td>
<td><em>Ardea herodias</em> (Sh)</td>
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<tr>
<td><strong>Family Buteos</strong></td>
<td>Osprey</td>
<td><em>Pandion haliaetus</em></td>
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<tr>
<td><strong>Family Bonbycillidae</strong></td>
<td>Cedar Waxwing</td>
<td><em>Bombycilla cedrorum</em> (K)</td>
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<td></td>
<td>Bohemian Waxwing</td>
<td><em>Bombycilla garrulus</em> (K)</td>
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<tr>
<td><strong>Family Caprimulgidae</strong></td>
<td>Common Poorwill</td>
<td><em>Phalaenoptilus nuttallii</em> (K)</td>
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<tr>
<td><strong>Family Cathartidae</strong></td>
<td>Turkey Vulture</td>
<td><em>Cathartes aura</em> (K)</td>
</tr>
</tbody>
</table>
**Family Charadriidae**

Lesser Golden Plover  
*Pluvialis dominica* (Sh)  
13, 16

Black-bellied Plover  
*Pluvialis squatarola* (Sh)  
11, 13, 14, 16

Semi-palomed Plover  
*Charadrius semipalmatus* (Sh)  
13, 14, 16

Snowy Plover  
*Charadrius alexandrinus* (Sh)  
13, 16

Killdeer  
*Charadrius vociferous* (K)  
4

**Family Columbidae**

Mourning Dove  
*Zenaida macroura* (K)*  
9, 10, 11, 12, 13, 14, 16

Rock Dove  
*Columba livia* (K)*  
9, 10, 11, 14, 16

**Family Corvidae**

Scrub Jay  
*Aphelocoma coerulescens* (K)*  
9, 10, 11, 13, 14, 16

Common Raven  
*Corvus corax* (K)*  
9, 10, 11, 12, 13, 14, 16

American Crow  
*Corvus brachyrhynchos* (K)  
9, 10, 11, 12

**Family Cuculidae**

Roadrunner  
*Geococcyx californianus* (K)  
4

**Family Emberizidiae**

**Subfamily Parulinae**

Black-throated gray Warbler  
*Dendroica nigrescens* (K)  
11

Chestnut-sided Warbler  
*Dendroica pensylvanica* (K)  
11

Hermit Warbler  
*Dendroica occidentalis* (K)  
10, 11

Macgillivray’s Warbler  
*Oporornis tolmiei* (K)  
11

Orange-crowned Warbler  
*Vermivora celata* (K)*  
9, 10, 11, 14

Prairie Warbler  
*Dendroica discolor* (K- uncommon)  
10, 11

Townsend’s Warbler  
*Dendroica townsendi* (K)  
10, 11

Yellow Warbler  
*Dendroica petechia* (K)  
10, 11

Yellow-rumped Warbler  
*Dendroica coronata* (K)  
9, 10, 11, 13, 14, 16

Wilson's Warbler  
*Wilsonia pusilla* (K)  
9, 10, 11

Common Yellowthroat  
*Geothlypis scirpicola* (K)  
10, 11

**Subfamily Emberizinae**

Brown Towhee  
*Pipilo fuscus* (K)* FT SE  
9, 10, 11, 12, 13, 14, 16

Rufous-sided Towhee  
*Pipilo erythrophthalmus* (K)*  
14

Spotted Towhee  
*Pipilo maculates* (K)*  
9, 10, 11

Fox Sparrow  
*Passerella iliaca* (K-uncommon)  
11

Golden-crowned Sparrow  
*Zonotrichia atricapilla* (K)  
9, 10, 11, 14

Lincoln’s Sparrow  
*Melospiza lincolnii* (K)  
11
<table>
<thead>
<tr>
<th>Species</th>
<th>Scientific Name</th>
<th>Abundance</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rufous-crowned Sparrow</td>
<td><em>Aimophila ruficeps</em> (K-uncommon)</td>
<td>14</td>
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<tr>
<td>Savannah Sparrow</td>
<td><em>Ammodramus sandwichensis</em> (K)</td>
<td>10, 11, 13, 16</td>
<td></td>
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<tr>
<td>Song Sparrow</td>
<td><em>Zonotrichia melodia</em> (K)*</td>
<td>9, 10, 11, 13, 14, 16</td>
<td></td>
</tr>
<tr>
<td>White-crowned Sparrow</td>
<td><em>Zonotrichia leucophrys</em> (K)</td>
<td>9, 10, 11, 13, 14, 16</td>
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</tr>
<tr>
<td>White-throated Sparrow</td>
<td><em>Zonotrichia albicollis</em> (K-uncommon)</td>
<td>10, 11</td>
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</tr>
<tr>
<td><strong>Subfamily Icterinae</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Western Meadowlark</td>
<td><em>Sturnella neglecta</em> (K)</td>
<td>10, 11, 13, 16</td>
<td></td>
</tr>
<tr>
<td>Brewer's Blackbird</td>
<td><em>Euphagus cyanocephalus</em> (K)</td>
<td>13, 14, 16</td>
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</tr>
<tr>
<td>Hooded Oriole</td>
<td><em>Icterus cucullatus</em> (K)*</td>
<td>9, 10, 11, 13, 16</td>
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<tr>
<td>Northern Oriole</td>
<td><em>Icterus galbula</em> (K)</td>
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<tr>
<td><strong>Family Falconidae</strong></td>
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<tr>
<td>American Kestrel</td>
<td><em>Falco sparverius</em> (K)</td>
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<tr>
<td>Merlin</td>
<td><em>Falco columbarius</em> (K)</td>
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<tr>
<td>Peregrine Falcon</td>
<td><em>Falco peregrinus</em> (K) <strong>FE</strong></td>
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<tr>
<td>Prairie Falcon</td>
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<td><strong>Family Fregatidae</strong></td>
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<td>Northern Cardinal</td>
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<td>House Finch</td>
<td><em>Carpodacus mexicanus</em> (K)*</td>
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Northern Rough-winged Swallow \( Stelgidopteryx serripennis \) (K) 9, 11
Tree Swallow \( Trachycineta bicolor \) (K) 9, 10, 11
Violet-green Swallow \( Tachycineta thalassina \) (K) 9, 10, 11

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**Family Laridae**
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Heermann's Gull \( Larus heermanni \) (Sh) 9, 10, 11, 12, 13, 14, 16
Ring-billed Gull \( Larus delawarensis \) (Sh) 9, 10, 11, 12, 13, 14, 16
California Gull \( Larus californicus \) (Sh) 9, 10, 11, 12, 13, 16
Herring Gull \( Larus argentatus \) (Sh) 9, 10, 11, 13, 16
Glaucoous-winged Gull \( Larus glaucescens \) (Sh) 13, 16
Western Gull \( Larus occidentalis \) (Sh) 9, 10, 11, 12, 13, 14, 16
Glaucoous Gull \( Larus hyperboreus \) (Sh) 13, 16
Black-legged Kittiwake \( Rissa tridactyla \) (Sh) 11, 13, 16
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Royal Tern \( Sterna maxima \) (Sh) 11, 13, 14, 16
Elegant Tern \( Sterna elegans \) (Sh) 11, 13, 14, 16
Common Tern \( Sterna hirundo \) (Sh) 13, 16
Forster's Tern \( Sterna forsteri \) (Sh) 11, 13, 14, 16
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**Family Mimidae**
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**Family Muscicapidae**
California Gnatcatcher \( Polioptila californica \) (K)* 9, 10, 11
Ruby-crowned Kinglet \( Regulus calendula \) (K) 10, 11
Golden-crowned Kinglet \( Regulus satrapa \) (K- uncommon) 10, 11
American Robin \( Turdus migratorius \) (K) 10, 11
Hermit Thrush \( Catharus guttatus \) (K) 9, 10, 11
Swainson's Thrush \( Catharus ustulatus \) (K) 9, 11

**Sub-Family Timaliidae**
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<td>Yellow-bellied Sapsucker</td>
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<td>Horned Grebe</td>
<td><em>Podiceps auritus</em> (Sh)</td>
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<td>Western Grebe</td>
<td><em>Aechmophorus occidentalis</em> (Sh)</td>
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<td>Ptilogonatidae</td>
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<td>Black Turnstone</td>
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<td>Least Sandpiper</td>
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<td>Sanderling</td>
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</table>
Spotted Sandpiper \( Actitus macularia \) (Sh) 13, 14, 15, 16
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Marbled Godwit \( Limosa fedoa \) (Sh) 11, 12, 13, 14, 15, 16

**Family Sittidae**
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**Family Strigidae** (Typical Owls)

**Family Trochilidae**
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Allen's Hummingbird \( Selasphorus sasin \) (K) 9, 10, 11
Rufous Hummingbird \( Selasphorus rufus \) (K) 9, 10, 11
Costa’s Hummingbird \( Calypte costae \) (K) 4

**Family Troglodytidae**
Bewick's Wren \( Thryomanes bewickii \) (K)* 9, 10, 11, 13, 14, 16
House Wren \( Troglodytes aedon \) (K)* 9, 10, 11
Rock Wren \( Salpinctes obsoletus \) (K) 11

**Family Turdidae**
Western Bluebird \( Sialia mexicana \) (K) 11

**Family Tyrannidae**
Black Phoebe \( Sayornis nigricans \) (K) 9, 10, 11, 13, 14, 16
Say's Phoebe \( Sayornis saya \) (K) 9, 10, 11, 13, 14, 16
Ash-throated Flycatcher \( Myiarchus cinerascens \) (K) 10, 11, 13, 16
Gray Flycatcher \( Empidonax wrightii \) (K-uncommon) 11
Olive-sided Flycatcher \( Contopus cooperi \) (K) 11
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Short-eared Owl \( Asio flammeus \) (K) 10, 11
### Family Vireonidae

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### Introduced Species

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<td><em>Passer domesticus</em> (K)*</td>
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<td>Oregon Junco</td>
<td><em>Junco hyemalis var. oregonus</em> (K)*</td>
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</tbody>
</table>

**Key:**

(Sh) = Species found on the shoreline  
(K) = Species found on the Knoll  
*= confirmed or probable nesting  
F/S= Federally or State listed  
E/T= Endangered or Threatened  

Nomenclature follows that of *A Field Guide to the Birds of North America*, National Geographic Society, 1983  
Some sightings from Betty N. Shor, correspondence to the NRS 10/11/98  

**Species lists references**

1. Office notes (species lists file)—description of the underwater habitats and fishes  
2. Species ID Club (11/22/02) list  
3. Terrestrial Flora of the Scripps Coastal Reserve  
5. Scripps Coastal Reserve Bird List updated 10/12/99  
6. Rocky Intertidal Species List—Scripps Coastal Reserve updated 10/7/99  
7. Scripps Coastal Reserve Benthic Seaweeds and Seagrasses, C.N. Janousek (in prog.)  
8. Devil’s Slide Survey notes—taken February 1967 through October 1970


11. Birds Seen in the La Jolla Shores Drive Area, Southwest Fisheries Science Center, Scripps Estates Area, and over the Bluffs at Scripps Coastal Reserve 1994-1999, with some dates of sightings

12. Scripps Shoreline, Knoll and Underwater Reserve notes (no date)

13. Scripps Coastal Reserve list with notes

14. Correspondence from David Seay to “Isobel” Kay, 11/13/93, with three bird count lists from 1993

15. Two paragraphs, one on bird species and one on marine mammals (no date)

16. Birds lists, 1987 from both the beach area and the Knoll, unknown author

17. Intertidal Zonation, illustrations with information on some fish, algae and invertebrates

18. Correspondence from Betty n. Shor to Isabelle Kay, 10/11/98, with lists of amphibians, reptiles, birds, and mammals seen in SEA

19. Correspondence from Jana Davis to Isabelle Kay, 10/5/99, with a list of fifteen fishes you might find at low tide near dike rock and the likely hoods of finding them

20. Correspondence from Jack Engle to Amy Garvin, 10/5/99, with a summary of the key species assemblages monitored by him and others at four San Diego County sites, including Scripps Reef

21. Flora of Scripps Coastal Reserve—species grouped into families and marked as either sensitive or non-native. November, 1989


23. Correspondence from Scott Eliason to Isabelle Kay, 3/25/96

24. Memorandum to the file, July 6, 1976, by Bob Haller.


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2. Kaustav Roy


6. frap.cdf.ca.gov


8. These are from a letter from Melinda Pruett-Jones to Danny Gonzales 1986

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Young, A.P. 2002, Unpublished manuscript.


SWRQB and CA Regional Water Quality Control Boards Administrative Procedures, September 24, 1970, Section XI. Miscellaneous

Catherine J. Presmyk correspondence to Jessica Carilli February 26, 2003.

Larry Oberti, meeting with NRS staff on February 24, 2003.

Catherine J. Presmyk correspondence to Jessica Carilli February 26, 2003.

Notes, Isabelle Kay

Marine Protected Areas (see 1)


Marine Protected Areas (see 1)

Marine Protected Areas (see 1)

http://www.prbo.org/calpit/htmldocs/species/scrub/cagnatct.html#ms

City of Encinitas Fact Sheet, www.ci.encinitas.ca.us.

City of Encinitas Fact Sheet, www.ci.encinitas.ca.us.

Riverside County Storm Water/Clean Water Protection Program brochure. (909) 955-1111.


Attachments

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