

Appendix 4. Species of Interest in the Channel Islands

FOR CONSIDERATION BY
THE MARINE ECOLOGICAL RESERVES WORKING GROUP

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Background

The Marine Reserves Working Group adopted by consensus the following ecosystem objective for establishing marine reserves in the Channel Islands: To protect representative marine habitats, ecological processes, and species of interest. The MRWG developed a set of criteria to define species of interest in the Channel Islands. The list includes (1) species of economic and recreational importance, (2) keystone or dominant species, (3) candidate, proposed, or species listed under the Endangered Species Act, (4) species which have exhibited long-term or rapid declines in harvest and/or size frequencies, (5) habitat-forming species, (6) indicator or sensitive species, and (7) important prey species. The list excludes species that are (1) incidental, (2) at the edge of their range, or (3) highly migratory.

Criteria

1. species of economic and/or recreational importance
2. keystone or dominant species
3. candidate, proposed, or species listed under the Endangered Species Act
4. species which have exhibited long-term or rapid declines in harvest and/or size frequencies
5. habitat-forming species
6. indicator or sensitive species
7. important prey species

Species of Economic and Recreational Importance

Commercial and recreational fishing the Channel Islands is an important part of the local economy. The Department of Fish and Game indicates that 10,000 to 20,000 commercial fishers have been employed in California during the 1980s and 1990s. Per capita income in commercial fishing has been historically high in California, but it has exhibited wide fluctuations from a yearly low of \$24,000 in 1984 to a high in \$40,000 in 1988. Fluctuations in commercial and recreational fisheries affect a wide range of community members, including fishermen, people who operate sport fishing boats, and people who buy and process fish for local and export markets. The list of species of interest includes the top 10 commercial and recreational fisheries.

Keystone species

Keystone species (Paine 1966, 1969) are those species having a large, disproportionate effect, with respect to their biomass or abundance, on their community (Power and Mills 1995, Power et al. 1996). The loss of a keystone species can have various effects on the remaining species in an ecosystem--what kind and how many depends upon the characteristics of the ecosystem and upon the species' role in its structure. Cascade effects occur when the local extinction of one species significantly changes the population sizes of other species, potentially leading to other extirpations. Such cascade effects are particularly strong when the species removed from the system is a "keystone predator", a "keystone mutualist", or the prey of a "specialist predator."

Depleted Species

A species is designated as "depleted" when it falls below its optimum sustainable population. National Marine Fisheries Service (NMFS) has defined optimum sustainable population as "a population size which falls within a range from [the carrying capacity of the] ecosystem to the population level that results in maximum net productivity." Optimal sustainable populations are recognized under the Marine Mammals Protection Act as "the number of animals which will result in the maximum productivity of the population or the species, keeping in mind the optimum carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element." When a species falls below its optimal sustainable population, the species is classified as "depleted" and a conservation plan is developed to guide research and management actions to restore the health of the species.

Vulnerable Species

A vulnerable species is not endangered or threatened severely, but at possible risk of falling into one of these categories in the near future.

Candidate Species

A "candidate" species is, as its name implies, a candidate for listing under the Endangered Species Act (ESA). More specifically, it is a species or vertebrate population for which reliable information is available that a listing under the ESA may be warranted. The Department of Fish and Game and NMFS rely on information from status surveys conducted for candidate assessment and on additional information from State Natural Heritage Programs, other State and Federal agencies (such as the Forest Service and the Bureau of Land Management), scientists, public and private natural resource interests, and comments received in response to previous notices of review. Candidate species receive no mandatory Federal protection. NMFS encourages Federal agencies and others to protect these species. The candidate species list highlights those species/vertebrate populations for which NMFS has concerns regarding

their status, thereby encouraging voluntary conservation efforts by others.

The list of candidate species is used to provide advance notification to the public that specific marine, estuarine and anadromous species (and vertebrate populations) may warrant listing in the future. This can help the species and the public in two ways: Environmental planners and developers can locate and design long-term projects to minimize impacts to candidate species, reducing the likelihood that these projects will require modification later in the event of a species' listing. The candidate species could be benefited if voluntary conservation measures are undertaken to alleviate threats.

Proposed Species

Proposed species are candidate species for which the Department of Fish and Game has sufficient information on biological vulnerability and threats to support proposals to list them as endangered or threatened.

Threatened Species

A threatened species is any species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Endangered Species

An endangered species is any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man.

Recovered Species

A recovered species is any species that was listed as an endangered or threatened species at some time in the past and whose population has, since it was listed, stabilized or grown such that it no longer qualifies for classification as endangered or threatened.

Annotated List of Species of Interest

For each species of interest, the following information was summarized:

1. COMMON NAME
2. SCIENTIFIC NAME
3. PHYLUM
4. CLASS
5. ORDER
6. FAMILY
7. STATE STATUS
8. FEDERAL STATUS
9. OTHER DESIGNATED STATUS
10. DATE LISTED
11. DISTRIBUTION
12. HABITAT
13. DIET
14. OTHER REMARKS
15. COMMERCIAL REGULATIONS
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COMMON NAME	Giant Kelp
SCIENTIFIC NAME	<i>Macrocystis pyrifera</i>
PHYLUM	Phaeophyta
CLASS	Phaeophyceae
ORDER	Laminariales
FAMILY	Lessoniaceae
STATE STATUS	Medium Concern
DISTRIBUTION	Found along the Pacific coast of N America from central California to Baja California.
HABITAT	Prefers depths less than 40 m (120 ft), temperature less than 20°C (72°F), hard substrate such as rocky bottoms and bottom light intensities above 1% that of the surface.
REMARKS	Usually does not occur shallower than about 5 m or deeper than about 20 m.
COMMERCIAL REGULATIONS	Title 14. Chapter 6. Section 165c. Kelp species taken must be harvested by cutting, except drift and loose kelp may be picked up by the harvester. All kelp which is cut or removed from a bed must be taken from the water and removed to a plant for processing. No giant kelp shall be harvested at a depth of more than 4 ft below the surface of the water at the time of cutting. No kelp received aboard a vessel shall be allowed to escape from the vessel or be deposited in the waters of this site.
SPORT REGULATIONS	Section 30.00. Except as provided in this section and in Section 30.10 there is no closed season, closed hours or minimum size limit for any species of marine aquatic plant. The daily bag limit on all marine aquatic plants for which the take is authorized, except as provided in Section 28.60, is 10 pounds wet weight in the aggregate.
REFERENCES	http://www.catalinaconservancy.org/marine/algae
CRITERIA FOR LISTING	Commercial importance. Habitat-forming species. Important prey species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Feather Boa Kelp
SCIENTIFIC NAME	<i>Egregia menziesii</i> and <i>Egregia laevigata</i> (Setchell 1925)
PHYLUM	Phaeophyta
CLASS	Phaeophyceae
ORDER	Laminariales
FAMILY	Alariaceae
DISTRIBUTION	Alaska to Punta Eugenio, Baja California. Northern populations from Alaska to Cape Mendocino have tuberculate stipes and smooth sporophylls; populations from Los Angeles to Baja California have smooth stipes and wrinkled sporophylls; populations in the middle coast from the Channel Islands to Cape Mendocino possess every possible combination of features observed in the geographical extremes.
HABITAT	Common in protected to moderately exposed areas, midtidal to subtidal (20 m), frequently forming continuous belts in intertidal, often mixed with <i>Macrocystis</i> in deeper water.
REMARKS	Fertile any time of the year, but most abundantly so between April and November.
REFERENCES	Abbott and Hollenberg 1976.
CRITERIA FOR LISTING	Habitat-forming species.

COMMON NAME	Elk Kelp
SCIENTIFIC NAME	<i>Pelagophycus porra</i>
PHYLUM	Phaeophyta
CLASS	Phaeophyceae
ORDER	Laminariales
FAMILY	Lessoniaceae
DISTRIBUTION	Point Conception, California, to Isla San Benito, Baja California.
HABITAT	Subtidal on rock in gravel.
REMARKS	Sporophytes in 30-90 m depth usually of uniform size.
REFERENCES	Abbott and Hollenberg 1976.
CRITERIA FOR LISTING	Habitat-forming species.

COMMON NAME	Oar Weed
SCIENTIFIC NAME	<i>Laminaria farlowii</i>
PHYLUM	Phaeophyta
CLASS	Phaeophyceae
ORDER	Laminariales
FAMILY	Laminariaceae
DISTRIBUTION	British Columbia to Bahia del Rosario, Baja California.
HABITAT	Isolated populations, szxicolous, low intertidal in northern California, subtidal (to 50 m) in the Channel Islands.
REFERENCES	Abbott and Hollenberg 1976.
CRITERIA FOR LISTING	Provides habitat for other species.

SCIENTIFIC NAME	<i>Agarum fimbriatum</i>
PHYLUM	Phaeophyta
CLASS	Phaeophyceae
ORDER	Laminariales
FAMILY	Laminariaceae
DISTRIBUTION	Midtidal or subtidal from Alaska through Puget Sound; subtidal (to at least 115 m) in California; only south of Point Conception and around Channel Islands.
HABITAT	Frequent on rocks, wood, or other algae.
REFERENCES	Abbott and Hollenberg 1976.
CRITERIA FOR LISTING	Habitat-forming species.

SCIENTIFIC NAME	<i>Eisenia arborea</i>
PHYLUM	Phaeophyta
CLASS	Phaeophyceae
ORDER	Laminariales
FAMILY	Alariaceae
DISTRIBUTION	Vancouver Island, British Columbia, to Monterey Region, Santa Catalina Island, California from southern California to Isla Magdalena, Baja California.
HABITAT	Saxicolous, forming dense subtidal "groves" in the low intertidal and subtidal to 10 m.
REFERENCES	Abbott and Hollenberg 1976.
CRITERIA FOR LISTING	Habitat-forming species.

SCIENTIFIC NAME	<i>Pterygophora californica</i>
PHYLUM	Phaeophyta
CLASS	Phaeophyceae
ORDER	Laminariales
FAMILY	Alariaceae
DISTRIBUTION	Vancouver Island, British Columbia to Bahia del Rosario, Baja California.
HABITAT	Saxicolous, forming extensive beds at depths of 7-20 m, occasionally low intertidal.
REFERENCES	Abbott and Hollenberg 1976.
CRITERIA FOR LISTING	Habitat-forming species.

COMMON NAME	Scouder Surfgrass
SCIENTIFIC NAME	<i>Phyllospadix scoulei</i>
PHYLUM	Anthophyta
CLASS	Monocotyledoneae
ORDER	Heloviae
FAMILY	Potamogetonaceae
DISTRIBUTION	Found along the entire California coast.
HABITAT	Prefers rocky shorelines with heavy surf and wave action.
COMMERCIAL REGULATIONS	Title 14. Chapter 6. Section 165(g)(4). No surf grass may be cut or disturbed.
SPORT REGULATIONS	Section 30.10. No surf grass may be cut or disturbed.
REFERENCES	http://www.sfsu.edu/~geog/bhdzman/ptreyes http://fff.nhm.ac.uk/fff/
CRITERIA FOR LISTING	Habitat-forming species.

COMMON NAME	Torrey Surfgrass
SCIENTIFIC NAME	<i>Phyllospadix torreyi</i>
PHYLUM	Anthophyta
CLASS	Monocotyledoneae
ORDER	Heloviae
FAMILY	Potamogetonaceae
DISTRIBUTION	Found along the entire California coast.
HABITAT	Prefers protected sandy areas of the coastal strand.
COMMERCIAL REGULATIONS	Title 14. Chapter 6. Section 165(g)(4). No surf grass may be cut or disturbed.
SPORT REGULATIONS	Section 30.10. No surf grass may be cut or disturbed.
REFERENCES	http://www.sfsu.edu/~geog/bhdzman/ptreyes http://fff.nhm.ac.uk/fff/
CRITERIA FOR LISTING	Habitat-forming species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Eelgrass
SCIENTIFIC NAME	<i>Zostera spp.</i>
PHYLUM	Anthophyta
CLASS	Monocotyledoneae
ORDER	Heloviae
FAMILY	Zosteraceae
DISTRIBUTION	Found from Mexico to Alaska.
HABITAT	Prefer protected bays and lagoons up to 40 ft. deep (usually in the intertidal or subtidal zone) with a muddy or sandy bottom.
REMARKS	In the northwest the maximum depth of eelgrass is 22 ft., but in extremely clear water off of California, eelgrass has been found growing at depths of more than 100 ft.
COMMERCIAL REGULATIONS	Title 14. Chapter 6. Section 165(g)(4). No eel grass may be cut or disturbed.
SPORT REGULATIONS	Section 30.10. No eel grass may be cut or disturbed.
REFERENCES	http://www.sfsu.edu/~geog/bhdzman/ptreyes http://ff.nhm.ac.uk/fff/ http://www.botos.com/marine/egrass01.html
CRITERIA FOR LISTING	Habitat-forming species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME California Hydrocoral
SCIENTIFIC NAME *Allopora californica*

PHYLUM Cnidaria
CLASS Hydrozoa
ORDER Stylasterina
FAMILY Stylasteriidae

DISTRIBUTION Alaska to San Diego. Common subtidally in the Monterey County.

HABITAT Common under ledges and the surfaces of boulders shaded from sunlight in the low intertidal on wave-swept rocky shores.

BREEDING BEHAVIOR In November, this species produces planulae that settle near adult colonies.

REFERENCES Morris et al. 1980.

CRITERIA FOR LISTING Indicator or sensitive species.

SCIENTIFIC NAME	<i>Abietinaria</i> spp.
PHYLUM	Cnidaria
CLASS	Hydrozoa
ORDER	Hydroida
FAMILY	Sertulariidae
DISTRIBUTION	Alaska to San Diego.
HABITAT	Common under ledges and the surfaces of boulders shaded from sunlight in the low intertidal on wave-swept rocky shores.
BREEDING BEHAVIOR	Releases sperm but retains eggs. Fertilization and development into ciliated planula larvae occurs in the gonangia.
REFERENCES	Morris et al. 1980.
CRITERIA FOR LISTING	Indicator or sensitive species.

COMMON NAME	Ostrich-Plume Hydroid
SCIENTIFIC NAME	<i>Aglaophenia latirostris</i>
PHYLUM	Cnidaria
CLASS	Hydrozoa
ORDER	Hydroida
FAMILY	Plumulariidae
DISTRIBUTION	Southern Alaska to Santa Barbara.
HABITAT	Common on rocks and larger red and brown algae in the low intertidal zone along semi-protected rocky shores in the subtidal to 35 m.
DIET	Individual feeding polyps are small, but their arrangement in the plume appears to provide maximum filtration of food from waters passing through the colony.
BREEDING BEHAVIOR	The corbulae contain the reduced, sessile medusoids. The sexes are separate and male and female corbulae differ in form. Sperm are shed, but eggs are retained until they develop into large wormlike orange planulae, which eventually become free.
REMARKS	The sea spider <i>Tanystylum californicum</i> and small skeleton shrimps (caprellids) commonly inhabit <i>A. latirostris</i> in the Monterey Bay area.
REFERENCES	Morris et al. 1980.
CRITERIA FOR LISTING	Indicator or sensitive species.

COMMON NAME Ostrich-Plume Hydroid
SCIENTIFIC NAME *Aglaophenia struthionides*

PHYLUM Cnidaria
CLASS Hydrozoa
ORDER Hydroida
FAMILY Plumulariidae

DISTRIBUTION Southern Alaska to San Diego, California.

HABITAT Low intertidal on rocky, wave-beaten shores, subtidal to 160 m. Always attached to rocky reefs and pinnacles, generally less than 50 ft (16 m) deep.

DIET Found wherever ocean currents will insure enough food for survival. Colonies consist of feeding individuals (polyps) equipped with tentacles for capturing food as it drifts into reach.

BREEDING BEHAVIOR Reproductive polyps which produce a free-swimming medusae. The medusae produce eggs and sperm that develop into another colony.

REMARKS Individual plumes may reach 15 cm. in length.

REFERENCES Gotshall and Laurant 1979.

CRITERIA FOR LISTING Indicator or sensitive species.

SCIENTIFIC NAME *Clytia bakeri*

PHYLUM Cnidaria

CLASS Hydrozoa

ORDER Hydroida

FAMILY Campanulariidae

DISTRIBUTION San Francisco to Baja California.

HABITAT Often common on shells of snails (*Nucifera fossatus* and *Olivella biplicata*) and bivalves (*Tivela stultorum* and *Donax gouldii*) in the low intertidal and adjacent subtidal zones along sandy beaches of open coast.

BREEDING BEHAVIOR Each branch of the stalk, rising up to 12 cm tall, terminates in a feeding polyp. Sessile gonangia arise at junctions of stalks and branches. At irregular periods during the year, enormous numbers of small free medusae are produced and released, forming a significant part of the plankton.

REFERENCES Morris et al. 1980.

CRITERIA FOR LISTING Indicator or sensitive species.

SCIENTIFIC NAME	<i>Garveia annulata</i>
PHYLUM	Cnidaria
CLASS	Hydrozoa
ORDER	Hydroida
FAMILY	Bougainvilliidae
DISTRIBUTION	Sitka (Alaska) to Santa Catalina Island (Channel Islands).
HABITAT	Common seasonally in shaded areas on open or semiprotected rocky shores, usually growing on sponges or the branched coralline algae <i>Bossiella</i> and <i>Calliarthron</i> in the low intertidal zone. Subtidal to depths of 120 m.
BREEDING BEHAVIOR	The gonophores are sessile medusoid structure, which on a given colony are either all male or all female. Male medusoids shed their sperm to the sea. The female gonophores retain the several large eggs they produce and liberate planula larvae.
REFERENCES	Morris et al. 1980.
CRITERIA FOR LISTING	Indicator or sensitive species.

SCIENTIFIC NAME *Obelia spp.*

PHYLUM Cnidaria

CLASS Hydrozoa

ORDER Hydroida

FAMILY Campanulariidae

DISTRIBUTION Reported from the Pacific Coast and worldwide.

HABITAT Common throughout the year on rocks, pilings, seaweeds, shells, and other fixed objects along the open coast and in bays and harbors in the low intertidal zone to 50 m.

DIET *Obelia* polyps are preyed upon by *Hermisenda crassicornis*, *Dendronotus frondosus*, and probably other nudibranchs.

BREEDING BEHAVIOR A small, ovoid, swimming larva settles and attaches to the substratum and rapidly develops into a feeding polyp. The polyp grows and buds off other feeding individuals, which remain connected to the main stalk and form a delicate treelike colony. Mature colonies develop specialized polyps here and there that do not feed, but instead bud off tiny medusae that detach, swim away, grow, and develop gonads. Eggs and sperm are shed into the sea and each fertilized egg forms a ciliated planula larva. In California, *Obelia* medusae are found in the plankton most of the year.

REFERENCES Morris et al. 1980.

CRITERIA FOR LISTING Indicator or sensitive species.

SCIENTIFIC NAME	<i>Sarsia spp.</i>
PHYLUM	Cnidaria
CLASS	Hydrozoa
ORDER	Hydroida
FAMILY	Corynidae
DISTRIBUTION	British Columbia to Chile, and on both coasts of the North Atlantic.
HABITAT	Common on rocks and wharf pilings, from the low intertidal in coastal areas protected from strong wave action. Also in quiet bays on harbor floats and the eelgrass <i>Zostera</i> .
DIET	Polyps bend toward copepods that swim nearby.
BREEDING BEHAVIOR	Tiny medusae are budded from the bases of the feeding polyps and released to the sea in spring and summer in California. The medusae feed, grow, and reproduce sexually as pelagic forms. Larvae settle mainly during the winter months in Monterey Bay.
REFERENCES	Morris et al. 1980.
CRITERIA FOR LISTING	Indicator or sensitive species.

SCIENTIFIC NAME	<i>Sertularella turgida</i>
PHYLUM	Cnidaria
CLASS	Hydrozoa
ORDER	Hydroida
FAMILY	Sertulariidae
DISTRIBUTION	British Columbia to San Diego.
HABITAT	Common under rocks and ledges in the low intertidal on exposed shores. Subtidal to 160 m.
BREEDING BEHAVIOR	Releases sperm but retains eggs. Fertilization and development into ciliated planula larvae occurs in the gonangia.
REFERENCES	Morris et al. 1980.
CRITERIA FOR LISTING	Indicator or sensitive species.

SCIENTIFIC NAME *Sertularia frucata*

PHYLUM Cnidaria

CLASS Hydrozoa

ORDER Hydroida

FAMILY Sertulariidae

DISTRIBUTION British Columbia to San Diego.

HABITAT Common on bases of blades of surfgrass (*Phyllospadix spp.*) and red algae in the low intertidal zone on exposed rocky shores. Subtidal to 50 m.

BREEDING BEHAVIOR The medusoids are not released by produce gamete while they remain sessile within the gonangia. Sperm are liberated into the sea, but the eggs are retained and fertilized in place, developing into ciliated planula larvae, which swim off and settle to start new colonies.

REFERENCES Morris et al. 1980.

CRITERIA FOR LISTING Indicator or sensitive species.

SCIENTIFIC NAME	<i>Tubularia crocea</i>
PHYLUM	Cnidaria
CLASS	Hydrozoa
ORDER	Hydroida
FAMILY	Tubulariidae
DISTRIBUTION	Gulf of Alaska to San Diego, California.
HABITAT	Common on pilings and floats in harbors and bays in the low intertidal zone and subtidal to 40 m.
DIET	Catches and consumes a wide variety of animal plankton, especially copepods and small chaetognaths.
BREEDING BEHAVIOR	Medusae buds arise on feeding polyps between the two whorls of tentacles. Male and female medusae occur on separate animals and remain attached. When the gametes mature in summer, sperm are released to the sea. However, ripe eggs are retained and the female reproductive structures release substances that attract swimming sperm. The eggs are fertilized in the medusoid and actinula larvae are released. From June through August, the actinulae settle in concentrations of up to 200 individuals per cm ² .
REFERENCES	Morris et al. 1980.
CRITERIA FOR LISTING	Indicator or sensitive species.

COMMON NAME Red Gorgonian
SCIENTIFIC NAME *Lophogorgia chilensis*

PHYLUM Cnidaria
CLASS Anthozoa
ORDER Gorgonacea
FAMILY Muriceidae

DISTRIBUTION Monterey Bay to the San Benitos Islands, Baja California.

HABITAT Attached to rocks, particularly offshore pinnacles in depths of 50-200 ft (16-66 m).

REMARKS Grows to about 90 cm. in height.

REFERENCES Gotshall and Laurant 1979.

CRITERIA FOR LISTING Indicator or sensitive species.

COMMON NAME	California Golden Gorgonian
SCIENTIFIC NAME	<i>Muricea californica</i>
PHYLUM	Cnidaria
CLASS	Anthozoa
ORDER	Gorgonacea
FAMILY	Muriceidae
DISTRIBUTION	Point Conception to Baja California and into the Gulf of California.
HABITAT	Attached to rocks, particularly offshore pinnacles.
REMARKS	Reaches 90 cm. in height.
REFERENCES	Gotshall and Laurant 1979.
CRITERIA FOR LISTING	Indicator or sensitive species.

COMMON NAME Brown Gorgonian
SCIENTIFIC NAME *Muricea fruticosa*

PHYLUM Cnidaria
CLASS Anthozoa
ORDER Gorgonacea
FAMILY Muriceidae

DISTRIBUTION Point Conception to Cedros Island, Baja California.

HABITAT Attaches to rocks or other solid substrate such as pier pilings, pipes, wrecks, etc. in waters at depths of 50-100 ft (16-33 m).

REMARKS Capable of surviving in polluted inshore waters as well as in the clear, uncontaminated waters around offshore rocks. Colonies may reach 90 cm. in height.

REFERENCES Gotshall and Laurant 1979.

CRITERIA FOR LISTING Indicator or sensitive species.

COMMON NAME Colonial Sand Tube Worm
SCIENTIFIC NAME *Phragmatopoma californica*

PHYLUM Annelida
CLASS Polychaeta
ORDER Terebellida
FAMILY Sabellariidae

DISTRIBUTION Fort Bragg, California to Ensenada, Baja California.

HABITAT Occurs only on rock with an adequate amount of sand washed over the rock for the worms to capture, build, and maintain their tubes. From the intertidal zone to 240 ft (80 m).

REFERENCES Gotshall and Laurant 1979.

CRITERIA FOR LISTING Indicator or sensitive species.

COMMON NAME Giant Acorn Barnacle
SCIENTIFIC NAME *Balanus nubilus*

PHYLUM Arthropoda
CLASS Crustacea
ORDER Thoracica
FAMILY Balanidae

DISTRIBUTION Southern Alaska to San Quintin, Baja California.

HABITAT Hard substrate, such a rocks or pier pilings in strong currents or pounding waves from the intertidal zone to 90 m.

REFERENCES Gotshall and Laurant 1979.

CRITERIA FOR LISTING Indicator or sensitive species.

COMMON NAME	Aggregating Anemone
SCIENTIFIC NAME	<i>Anthopleura elegantissima</i>
PHYLUM	Cnidaria
CLASS	Anthozoa
ORDER	Actiniaria
FAMILY	Actiniidae
DISTRIBUTION	Alaska to Baja California.
HABITAT	On rock faces and boulders, in tidepools or crevices, on wharf pilings, singly or in dense aggregations. Middle intertidal zone of semiprotected rocky shores of both bays and outer coasts.
DIET	Copepods, isopods, amphipods, and small animals that contact the tentacles.
PREDATORS	Nudibranch (<i>Aeolidia papillosa</i>), snail (<i>Epitonium tinctum</i>), and the sea star (<i>Dermasterias imbricata</i>).
REMARKS	Releases sperm and eggs in late summer. Development has not been followed, but the larvae apparently swim or float freely for a period of time and become widely dispersed. Also reproduces asexually by longitudinal fission resulting in aggregations or cones of anemones pressed together in concentrations of several hundred per square meter.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Indicator or sensitive species.

COMMON NAME	Giant Starfish
SCIENTIFIC NAME	<i>Pisaster giganteus</i>
PHYLUM	Echinodermata
CLASS	Asteroidea
ORDER	Forcipulatida
FAMILY	Asteriidae
DISTRIBUTION	Vancouver Island (British Columbia) to Baja California; Fisher (1930) recognized the southern forms as an intergrading subspecies, <i>P. giganteus capitatus</i> (Stimpson).
HABITAT	Common on piers and pilings, very low intertidal zone to 88 m depth in protected coastal areas; occasionally on sand in subtidal waters.
DIET	Bivalves, snails, chitons, and barnacles.
REMARKS	In the Monterey Bay, gonads of the species enlarge in the fall and winter, and spawning occurs in March or April.
REFERENCES	Morris et al. 1980.
CRITERIA FOR LISTING	Keystone or dominant species.

COMMON NAME	Ochre Starfish
SCIENTIFIC NAME	<i>Pisaster ochraceus</i>
PHYLUM	Echinodermata
CLASS	Asteroidea
ORDER	Forcipulatida
FAMILY	Asteriidae
DISTRIBUTION	Prince William Sound (Alaska) to Point Sal (Santa Barbara); a subspecies (<i>P. ochraceus segnis</i> Fisher) extends at least to Ensenada (Baja California).
HABITAT	Common, middle and low intertidal zones on wave-swept rocky shores; subtidal on rocks to 88 m; juveniles in crevices and under rocks, seldom seen in central and southern California. Larvae are free-swimming and pelagic.
DIET	Mussels; where <i>Mytilus</i> is absent, it feeds mainly on barnacles, snails, limpets, and chitons.
REMARKS	Sexual reproduction occurs in the spring or early summer.
REFERENCES	Morris et al. 1980.
CRITERIA FOR LISTING	Keystone or dominant species.

COMMON NAME	California Sea Cucumber
SCIENTIFIC NAME	<i>Parastichopus californicus</i>
PHYLUM	Echinodermata
CLASS	Holothuroidea
ORDER	Aspidochirotida
FAMILY	Stichopodidae
DISTRIBUTION	British Columbia to Isla Cedros (Baja California).
HABITAT	Often encountered on rocky shores protected from strong wave action and on pilings in open bays, low intertidal and subtidal waters in northern area; usually subtidal to 90 m in California.
DIET	Organic detritus and small organisms, which it ingests through bottom sediments.
BREEDING BEHAVIOR	Breeding occurs in the summer. Development is indirect; fertilized eggs develop into auricularia larvae. The larvae metamorphose into doliolaria larvae, which swim for a time and then settle. The entire pelagic phase lasts 7-13 weeks in the laboratory.
COMMERCIAL REGULATIONS	Fish and Game Code 8405-8405.4. Sea cucumbers shall not be taken, possessed aboard a boat, or landed by a person for commercial purposes except under a valid sea cucumber permit issued to that person...Section 8496(c). Any amount of sea cucumbers may be possessed by a person who holds a valid sea cucumber permit...Title 14. Chapter 6. Section 123. To take mollusks, crustaceans, or other invertebrates for commercial purposes in any tide pool or tidal area, including tide flats or other area between the high tide mark and 1,000 ft below the low tide mark, revocable permits may be issued by the department...Also see Section 123(d).
SPORT REGULATIONS	Section 29.10. Except as otherwise provided in this article, there are no closed seasons, closed hours or minimum size limits for any invertebrate. Section 29.10(b). Tidal invertebrates may not be taken in any tidepool or other areas between the high tide mark and 1,000 ft. seaward and lateral to the low tide mark. Also see Section 29.10(b-d).
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Commercial importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Warty Sea Cucumber
SCIENTIFIC NAME	<i>Parastichopus parvamensis</i>
PHYLUM	Echinodermata
CLASS	Holothuroidea
ORDER	Aspidochirotida
FAMILY	Stichopodidae
DISTRIBUTION	Monterey Bay to Punta San Bartolome (Baja California).
HABITAT	Uncommon and found only subtidally north of Point Conception. Common on sandy or sandy-mud surfaces and between rocks in the low intertidal zone of bays, and well-protected rocky shores from the subtidal to at least 27 m on rocks, pilings, sandy or mud bottom, and in tropical regions, in seagrass beds.
DIET	Organic detritus and small organisms, which it ingests through bottom sediments.
COMMERCIAL REGULATIONS	Fish and Game Code 8405-8405.4. Sea cucumbers shall not be taken, possessed aboard a boat, or landed by a person for commercial purposes except under a valid sea cucumber permit issued to that person...Section 8496(c). Any amount of sea cucumbers may be possessed by a person who holds a valid sea cucumber permit...Title 14. Chapter 6. Section 123. To take mollusks, crustaceans, or other invertebrates for commercial purposes in any tide pool or tidal area, including tide flats or other area between the high tide mark and 1,000 ft below the low tide mark, revocable permits may be issued by the department...Also see Section 123(d).
SPORT REGULATIONS	Section 29.10. Except as otherwise provided in this article, there are no closed seasons, closed hours or minimum size limits for any invertebrate. Section 29.10(b). Tidal invertebrates may not be taken in any tidepool or other areas between the high tide mark and 1,000 ft. seaward and lateral to the low tide mark. Also see Section 29.10(b-d).
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Commercial importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Red Sea Urchin
SCIENTIFIC NAME	<i>Strongylocentrotus franciscanus</i>
PHYLUM	Echinodermata
CLASS	Echinoidea
ORDER	Echinoida
FAMILY	Strongylocentrotidae
DISTRIBUTION	N Japan and Alaska to Isla Cedros (Baja California).
HABITAT	Uncommon in very low intertidal zone on open, coastal rocky shore; more abundant subtidally, and extending to depths of 90 m.
DIET	Brown and red algae, particularly <i>Macrocystis</i> .
BREEDING BEHAVIOR	The red urchin breeds in the spring. The main spawning is in April and May. winter spawning has been reported in S California. The free-swimming larval period lasts 62-131 days under aquarium conditions. Juveniles are often found beneath the outspread spines of adults.
COMMERCIAL REGULATIONS	Fish and Game Code Section 9054. Sea urchins shall not be taken for commercial purposes except under a valid sea urchin diving permit....Title 14. Chapter 6. Section 120.7. Season: Nov 1 - Mar 31: 7 d/wk; Apr and Oct: MTWTh, May and Sept; MTWTh except closed during the second full week, June and Aug: MTW except closed during the second full week. July: MT except closed during second full week. During any closed period, no red sea urchins may be possessed on any commercially registered vessel... Size: In S California, no red sea urchin between 1.5 and 3.25 inches in shell diameter, not including the spines, may be taken, possessed, sold, or purchased, except that not more than 30 such urchins per permit per load may be taken, possessed, sold, or purchased. Red sea urchins less than 1.5 inches in shell diameter shall not be considered as part of the 30 undersized red sea urchins per permit.
SPORT REGULATIONS	Section 29.10. Except as otherwise provided in this article, there are no closed seasons, closed hours or minimum size limits for any invertebrate. Section 29.10 (b). Tidal invertebrates may not be taken in any tidepool or other areas between the high tide mark and 1,000 ft. seaward and lateral to the low tide mark. Also see Section 29.10 (b-d).
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Commercial importance. Habitat-forming species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Purple Sea Urchin
SCIENTIFIC NAME	<i>Strongylocentrotus purpuratus</i>
PHYLUM	Echinodermata
CLASS	Echinoidea
ORDER	Echinoida
FAMILY	Strongylocentrotidae
DISTRIBUTION	Vancouver Island (British Columbia) to Isla Cedros (Baja California).
HABITAT	Common in lower intertidal zone on rocky shores and pilings typically in areas of moderate to strong wave action; subtidal to 160 m.
DIET	Brown and red algae, particularly <i>Macrocystis</i> .
PREDATORS	Sea stars (<i>Pycnopodia helianthoides</i> and <i>Astrometis sertulifera</i>), some fishes (especially California Sheephead), and the southern sea otter.
BREEDING BEHAVIOR	Purple urchins become sexually mature during their second year when they are 25 mm or more. Most spawning usually occurs in the first 3 months of the year. Growth of normal juveniles after metamorphosis is slow. Some larger individuals may be 10 years old and approximately 5% of the animals in some areas may be over 30 years old.
COMMERCIAL REGULATIONS	Fish and Game Code Section 9054. Sea urchins shall not be taken for commercial purposes except under a valid sea urchin diving permit....Title 14. Chapter 6. Section 120.7. Season: Nov 1 - Mar 31: 7 d/wk; Apr and Oct: MTWTh, May and Sept; MTWTh except closed during the second full week, June and Aug: MTW except closed during the second full week. July: MT except closed during second full week.
SPORT REGULATIONS	Section 29.10. Except as otherwise provided in this article, there are no closed seasons, closed hours or minimum size limits for any invertebrate. Section 29.10 (b). Tidal invertebrates may not be taken in any tidepool or other areas between the high tide mark and 1,000 ft. seaward and lateral to the low tide mark. Also see Section 29.10 (b-d).
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Habitat-forming species. Indicator or sensitive species.

COMMON NAME	Pink Abalone
SCIENTIFIC NAME	<i>Haliotis corrugata</i>
PHYLUM	Mollusca
CLASS	Gastropoda
ORDER	Archaeogastropoda
FAMILY	Haliotidae
DISTRIBUTION	Point Conception, California to Santa Maria Bay, Baja California, including the Channel Islands and Guadalupe Island.
HABITAT	Subtidal zone from 6-60 m, on exposed rock surfaces in protected bays and open coast, commonly in beds of giant kelp.
DIET	Pieces of drifting algae, mainly the brown alga <i>Eisenia</i> and red alga <i>Plocamium</i> , but also brown algae <i>Macrocystis</i> , <i>Dictyopteris</i> and <i>Pachydictyon</i> .
BREEDING ACTIVITY	Some evidence indicates that the pink abalone may spawn twice a year, first in late winter and then again in early spring. Females produce 2,000,000 eggs per year. The larvae are free-swimming and tend to settle where adults are common, and recruitment of young from the plankton is poor in apparently suitable areas where the adult population has been depleted.
COMMERCIAL REGULATIONS	Fish and Game Code Section 7855. Abalone shall not be possessed aboard a commercial fishing vessel while that vessel is on a commercial fishing trip. Also see sections 2371, 5520-5522, 7149.8, 7400, 8040-8070, 10650-10667, and 12000-12026. Title 14. Chapter 6. Section 100. Abalone may not be taken for commercial purposes.
SPORT REGULATIONS	Section 29.15 (a). Abalone may only be taken north of a line drawn due west magnetic from the center of the mouth of San Francisco Bay. No abalone may be taken, landed, or possessed if landed south of this line.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Historical commercial importance. Exhibited rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Black Abalone
SCIENTIFIC NAME	<i>Haliotis cracherodii</i>
PHYLUM	Mollusca
CLASS	Gastropoda
ORDER	Archaeogastropoda
FAMILY	Haliotidae
FEDERAL STATUS	Candidate
DATE LISTED	1-1-00
DISTRIBUTION HABITAT	Mendocino County, California to southern Baja California. Common under large rocks and in crevices in the high intertidal zone down to 6 m depth; most abundant intertidally.
DIET	Large brown algae and many other plants.
PREDATORS	Octopuses, sea stars (<i>Pisaster ochraceus</i>), cabezon, sea otters, and man.
BREEDING ACTIVITY	Mature eggs are most abundant in females in the summer (July to September); a smaller peak occurs in January. The summer spawning is conspicuous and more or less synchronous at any given location. Species settle as plankton and reach a length of 20-30 mm within 1 year.
COMMERCIAL REGULATIONS	Fish and Game Code Section 7855. Abalone shall not be possessed aboard a commercial fishing vessel while that vessel is on a commercial fishing trip. Also see sections 2371, 5520-5522, 7149.8, 7400, 8040-8070, 10650-10667, and 12000-12026. Title 14. Chapter 6. Section 100. Abalone may not be taken for commercial purposes.
SPORT REGULATIONS	Section 29.15 (a). Abalone may only be taken north of a line drawn due west magnetic from the center of the mouth of San Francisco Bay. No abalone may be taken, landed, or possessed if landed south of this line.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Candidate species. Exhibited rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Green Abalone
SCIENTIFIC NAME	<i>Haliotis fulgens</i>
PHYLUM	Mollusca
CLASS	Gastropoda
ORDER	Archaeogastropoda
FAMILY	Haliotidae
DISTRIBUTION	Point Conception to Bahia Magdalena (Baja California).
HABITAT	Low intertidal zone and subtidally down to 30 ft (10 m). Commonly in crevices where surfgrass and algal cover is dense. Commonest at 2-3 m in deep crevices exposed to strong wave action.
DIET	Larger drifting algae, particularly <i>Gelidium</i> , <i>Pterocladia</i> , <i>Plocamium</i> , and <i>Gigartina</i> .
REMARKS	Fairly common. Size to 25 cm, commonly less than 20 cm.
BREEDING ACTIVITY	Spawning occurs from early summer to early fall. Females shed 2-3.5 million eggs per year. Larvae settle after a short pelagic period. Juvenile abalones live in protected areas. At 1-2 yrs they settle more or less permanently. Sexual maturity is attained at 5-7 yrs.
COMMERCIAL REGULATIONS	Fish and Game Code Section 7855. Abalone shall not be possessed aboard a commercial fishing vessel while that vessel is on a commercial fishing trip. Also see sections 2371, 5520-5522, 7149.8, 7400, 8040-8070, 10650-10667, and 12000-12026. Title 14. Chapter 6. Section 100. Abalone may not be taken for commercial purposes.
SPORT REGULATIONS	Section 29.15 (a). Abalone may only be taken north of a line drawn due west magnetic from the center of the mouth of San Francisco Bay. No abalone may be taken, landed, or possessed if landed south of this line.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Historical commercial importance. Exhibited rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Red Abalone
SCIENTIFIC NAME	<i>Haliotis rufescens</i>
PHYLUM	Mollusca
CLASS	Gastropoda
ORDER	Archaeogastropoda
FAMILY	Haliotidae
DISTRIBUTION	Sunset Bay (Oregon) to Bahia Tortugas (Baja California)
HABITAT	Intertidal zone in rocky areas with heavy surf, more abundant offshore to depths of over 180 m, with maximum concentration between 6-17 m.
DIET	Microscopic plants and red, brown and green algae.
REMARKS	Uncommon. Size to at least 11.76 inches, commonly 6-8 inches. World's largest abalone. Most desirable commercially for size and light meat color. May recolonize depleted areas more rapidly than other species. Object of aquaculture in California.
COMMERCIAL REGULATIONS	Fish and Game Code Section 7855. Abalone shall not be possessed aboard a commercial fishing vessel while that vessel is on a commercial fishing trip. Also see sections 2371, 5520-5522, 7149.8, 7400, 8040-8070, 10650-10667, and 12000-12026. Title 14. Chapter 6. Section 100. Abalone may not be taken for commercial purposes.
SPORT REGULATIONS	Section 29.15 (a). Abalone may only be taken north of a line drawn due west magnetic from the center of the mouth of San Francisco Bay. No abalone may be taken, landed, or possessed if landed south of this line.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Historical commercial importance. Exhibited rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	White Abalone
SCIENTIFIC NAME	<i>Haliotis sorenseni</i>
PHYLUM	Mollusca
CLASS	Gastropoda
ORDER	Archaeogastropoda
FAMILY	Haliotidae
FEDERAL STATUS	Candidate
DATE LISTED	1-1-00
DISTRIBUTION	Point Conception, California to Bahia Tortugas, Baja California. Mostly found at the Channel Islands.
HABITAT	Subtidal zone from 25-66 m (80-200 ft). Commonly in open, exposed areas.
DIET	Microscopic plants and red, brown and green algae.
REMARKS	Size to 10 inches, commonly 5-8 inches. Desirable for it's tender meat.
COMMERCIAL REGULATIONS	Fish and Game Code Section 7855. Abalone shall not be possessed aboard a commercial fishing vessel while that vessel is on a commercial fishing trip. Also see sections 2371, 5520-5522, 7149.8, 7400, 8040-8070, 10650-10667, and 12000-12026. Title 14. Chapter 6. Section 100. Abalone may not be taken for commercial purposes.
SPORT REGULATIONS	Section 29.15(a). Abalone may only be taken north of a line drawn due west magnetic from the center of the mouth of San Francisco Bay. No abalone may be taken, landed, or possessed if landed south of this line.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Historical commercial importance. Candidate species. Exhibited rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Owl Limpet
SCIENTIFIC NAME	<i>Lottia gigantea</i>
PHYLUM	Mollusca
CLASS	Gastropoda
ORDER	Archaeogastropoda
FAMILY	Acmaeidae
DISTRIBUTION	Neah Bay (Washington) to Bahia de Tortuga (Baja California).
HABITAT	Common on cliff faces and rocks of surf-beaten shores, high and middle intertidal zone.
DIET	Algae.
BREEDING ACTIVITY	<i>Lottia</i> probably breed in the fall and early winter in California (September through January).
REMARKS	<i>Lottia</i> exhibits clear territorial behavior, removing other grazers by rasping them off with the radula or pushing them, using the shell like a bulldozer. When <i>Lottia</i> is removed from its territory, other grazing limpets move in; their density soon equals that in outside areas, and the algal patch, as a distinctive area, entirely disappears.
REFERENCES	Morris et al. 1980.
CRITERIA FOR LISTING	Provides habitat for other species. Indicator or sensitive species.

COMMON NAME	Wavy Turban Snail
SCIENTIFIC NAME	<i>Lithopoma undosa</i>
PHYLUM	Mollusca
CLASS	Gastropoda
ORDER	Archaeogastropoda
FAMILY	Turbinidae
DISTRIBUTION	Point Conception (Santa Barbara Co.) to Isla Asuncion (Baja California).
HABITAT	Among low intertidal rocks, commoner near subtidal kelp beds. Larger animals are usually found only subtidally in kelp beds.
REMARKS	Little is known about their biology.
REFERENCES	Morris et al. 1980.
CRITERIA FOR LISTING	Indicator or sensitive species.

COMMON NAME	Kellett's Whelk
SCIENTIFIC NAME	<i>Kelletia kelletii</i>
PHYLUM	Mollusca
CLASS	Gastropoda
ORDER	Neogastropoda
FAMILY	Buccinidae
DISTRIBUTION	Point Conception (Santa Barbara Co.) to Isla Asuncion (Baja California).
HABITAT	Rare, under rock ledges, low intertidal zone; common subtidally to 70 m on rocky reefs and gravel bottoms and below offshore kelp beds.
DIET	Dead or injured animals on the sea floor. Often feeds on with the predatory sea star <i>Pisaster giganteus</i> on common food items.
BREEDING ACTIVITY	The snails mate in March or April, spawning usually occurs in April regardless of water temperature. During spawning the snails aggregate into groups of up to 20 individuals. Eggs are deposited in capsules secured to the rocks and over a 30 day period, a single female has been observed to produce up to 85 egg capsules. Each capsule may contain 1,000 eggs. Fertile eggs develop into velinger larvae in 30-34 days after spawning at 14-17oC, and the larvae swim free when the gelatinous plug at the end of the capsule dissolves.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Indicator or sensitive species.

COMMON NAME	California Mussel
SCIENTIFIC NAME	<i>Mytilus californianus</i>
PHYLUM	Mollusca
CLASS	Bivalvia
ORDER	Mytiloida
FAMILY	Mytilidae
DISTRIBUTION	Aleutian Islands (Alaska) to southern Baja California.
HABITAT	Abundant. Attached in massive beds on surf-exposed rocks and wharf piles, mainly in the upper-middle intertidal zone on outer coast; subtidal and offshore to 24 m depth.
DIET	Mussels eat fine organic detritus suspended in seawater and plankton, particularly dinoflagellates. When submerged, the animals open the valves slightly and use ciliary currents to move water through the gills. Suspended food is filtered out, caught in mucus, and transported by other cilia to the palps and then to the mouth. Animals living at the lowest part of the bed in the intertidal zones are submerged more of the time, get more food, have higher respiratory and metabolic rates, grow more rapidly, reach larger size, and have relatively heavier shells than those high in the bed.
REMARKS	One of the most common invertebrates on surf-swept rocks along the California shores. The animals are firmly rooted to the rocks and to each other by byssal fibers. Small animals seem to be able to break the byssal threads and move about a bit, both up and down and horizontally in the beds. Some spawning occurs all year, but breeding peaks are in July and December in California.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8344. Mussels may be taken only in accordance with such regulations as the commission may prescribe. Also see Sections 2850-2863, 5669-5675, 5700-5702, 7880-7892, and 9000-9024. Title 14. Chapter 6. Section 123. To take mollusks, crustaceans, or other invertebrates for commercial purposes in any tide pool or tidal area, including tide flats or other area between the high tide mark and 1,000 ft below the low tide mark, revocable permits may be issued by the department.
SPORT REGULATIONS	Limit: 10 lbs. (in the shell) of California sea mussels and bay mussels in combination.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Commercial importance. Provides habitat for other species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Rock Scallop
SCIENTIFIC NAME	<i>Hinnites giganteus (multirugosus)</i>
PHYLUM	Mollusca
CLASS	Bivalvia
ORDER	Pterioida
FAMILY	Pectinidae
DISTRIBUTION	Queen Charlotte Islands (British Columbia) to Punta Abreojos (Baja California).
HABITAT	Common in rock crevices along exposed outer coast, underneath floats and on pilings in bays, low intertidal zone to subtidal depths of 50 m. Adults cemented to the substratum, juveniles free.
DIET	The rock scallop is highly prized as food, being eaten raw or fried. Heavy collecting by clambers and divers has depleted the population in many areas.
REMARKS	The juvenile stages can swim by clapping the valves together repeatedly and spurting jets of water outward on either side of the hinge. At rest the juvenile may attach temporarily by secreting a few byssal threads. After attaining a diameter of 25 mm the animal cements the right valve to the rocks and thereafter grows and lives as a sessile organism. Once attached, the scallop grows slowly and may take 25 years or more to reach full size. Spawning occurs in April
COMMERCIAL REGULATIONS	Fish and Game Code 8345. It is unlawful for any person to sell or purchase any rock scallops (<i>Hinnites multirugosus</i>) or scallops except that scallops pursuant to Division 12 (commencing with section 15000) which may be sold or purchased subject to regulations of the commission. Also see sections 2850-2863, 5669-5675, 5700-5702, 7880-7892, and 9000-9024.
SPORT REGULATIONS	Title 14. Chapter 6. Section 123. To take mollusks, crustaceans, or other invertebrates for commercial purposes in any tide pool or tidal area, including tide flats or other area between the high tide mark and 1,000 ft below the low tide mark, revocable permits may be issued by the department. Section 29.60(a). Limit: 10. (b) Rock scallops may be taken only by hand, by the use of dive knives, or by devices commonly known as abalone irons in compliance with provisions of Section 29.15(e) of these regulations.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Commercial importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Pismo Clam
SCIENTIFIC NAME	<i>Tivela stultorum</i>
PHYLUM	Mollusca
CLASS	Bivalvia
ORDER	Veneroida
FAMILY	Veneridae
DISTRIBUTION	Half Moon Bay (San Mateo Co.) to Bahia Magdalena (Baja California).
HABITAT	Low intertidal zone and offshore to 25 m depth on broad sandy beaches exposed to strong surf.
DIET	Very fine detritus particles and minute planktonic organisms.
REMARKS	The best intertidal collecting localities in the past were the beaches of Monterey Bay from Santa Cruz to Elkhorn Slough, and those at Pismo Beach and Morro Bay. From 1916 to 1947, some 50,000 clams per year were collected by commercial diggers, and in one record year (1918) 350,000 clams were taken, mainly from Pismo Beach and Morro Bay. In recent years there has been a disastrous decline in the intertidal population of these clams; in 1973 only 21 legal sized clams were taken from Pismo Beach and fewer still in Morro Bay.
COMMERCIAL REGULATIONS	Fish and Game Code 8340. Except as otherwise provided by this article, in Districts 8, 9, and 17, clams may be taken between Sept 1 and April 30, and in other districts, clams may be taken at any time. Section 8346. It is unlawful for any person to sell or purchase any pismo clams taken in this State. Section 7290. No pismo clam not in the shell may be possessed, except when it is being prepared for immediate consumption. Also see Sections 2368-2369, 10500, and 10711.
SPORT REGULATIONS	Section 29.40A. May be taken in Santa Cruz and Monterey Counties Sept 1 through April 30. May be taken in all other counties year round except in clam preserves and marine life refuges. Section 29.40B. Limit 10. Section 29.40C. Minimum size: 5 inches in greatest shell diameter; 4½ inches in greatest shell diameter south of the boundary, between San Luis Obispo and Monterey Counties.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Commercial importance. Exhibited rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Geoduck Clam
SCIENTIFIC NAME	<i>Panopea generosa</i>
PHYLUM	Mollusca
CLASS	Bivalvia
ORDER	Myoida
FAMILY	Hiatellidae
DISTRIBUTION	Forrester Island (Alaska) to Scammon Lagoon (Baja California). Common farther north.
HABITAT	In burrows, low intertidal zone and subtidal waters in sandy mud of protected bays.
DIET	Very fine detritus particles and minute planktonic organisms.
BREEDING BEHAVIOR	In British Columbia, these clams spawn in April and early May. Growth is slow, and the animals may live for 15-16 years and weight 6 kg or more.
REMARKS	The largest and deepest-dwelling of the California burrowing clams, sometimes found in permanent burrows 1.3 m deep, with the long siphons reaching to the mud surface. Prized for food, but difficult to unearth.
COMMERCIAL REGULATIONS	Fish and Game Code 8340. Except as otherwise provided by this article, in Districts 8, 9, and 17, clams may be taken between Sept 1 and April 30, and in other districts, clams may be taken at any time.
SPORT REGULATIONS	Section 29.40A. May be taken in Santa Cruz and Monterey Counties Sept 1 through April 30. May be taken in all other counties year round except in clam preserves and marine life refuges. Section 29.40B. Limit 10. Section 29.40C. Minimum size: 5 inches in greatest shell diameter; 4½ inches in greatest shell diameter south of the boundary, between San Luis Obispo and Monterey Counties.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Commercial importance.

COMMON NAME	Market Squid
SCIENTIFIC NAME	<i>Loligo opalescens</i>
PHYLUM	Mollusca
CLASS	Cephalopoda
ORDER	Decapoda
FAMILY	Loliginidae
DISTRIBUTION	Southern British Columbia to Isla Guadalupe (Mexico) and Bahia Asuncion (Baja California).
HABITAT	Pelagic in open coastal waters, returning to school and spawn on muddy sand in shallow inshore areas.
DIET	Shrimplike crustaceans (e.g. euphausiids and mysids), fishes, benthic polychaete worms, and their own young.
REMARKS	S California squid populations spawn mainly in the winter (December through March) but they may also spawn in July. Females produce numerous, large, cylindrical capsules, each containing 100-300 eggs, fastening the egg cases to the bottom or to other egg cases. Development is direct, and small juveniles emerge after 3-4 weeks. Adults die after spawning. Most spawning squid appear to be about 3 years old.
COMMERCIAL REGULATIONS	Fish and Game Code 8421(b). A commercial market squid vessel permit shall be issued only for vessels employing dip, purse seine, or lampara nets for the taking of market squid for commercial purposes. No permit is required for any vessel taking or landing market squid for commercial purposes if the amount taken by the vessel does not exceed two tons landed in any calendar day or if the squid is used for live bait only...Also see sections 8420-8429.7, and 8399.1.
SPORT REGULATIONS	Fish and Game Code 8420.5 and Title 14. Chapter 6. Section 149. North of a line extending due west magnetic from Point Conception, market squid may be taken for commercial purposes only between noon on Sunday and noon on Friday of each week.
REFERENCES	Section 29.70. May be taken with hand-held dip nets. There is no limit.
CRITERIA FOR LISTING	Morris et al. 1980
	Commercial importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	California Spiny Lobster
SCIENTIFIC NAME	<i>Panulirus interruptus</i>
PHYLUM	Arthropoda
CLASS	Crustacea
ORDER	Decapoda
FAMILY	Palinuridae
DISTRIBUTION	San Luis Obispo County to Bahia Rosalia (Baja California).
HABITAT	Found in rocky areas, sheltering under rocks and in crevices and caves during the day and emerging at night. Low intertidal to 200 ft (60 m).
DIET	Hard-shelled prey.
COMMERCIAL REGULATIONS	<p>Fish and Game Code 8251. Spiny lobsters may be taken only between the first Wed in Oct and the first Wed after Mar 15.</p> <p>Section 8252. No spiny lobster less than 3.25 inches in length...may be taken, possessed, purchased, or sold. Section 8254(a). Lobsters shall not be taken for commercial purposes except under a valid lobster permit. Also see Sections 7256, 8250-8259, 9000-9024.</p> <p>Title 14. Chapter 6. Section 122. No lobster trap used under authority of a lobster permit shall be pulled or raised or placed in the water between 1 h before sunset and 1 h before sunrise. All lobster traps and receivers impounding lobsters shall be individually buoyed; each buoy identifying a lobster trap shall display the commercial fishing license number. No lobster trap shall be used within 750 ft of any publicly owned pier, wharf, jetty, or breakwater; however such traps may be used within 75 ft of any privately owned pier, wharf, jetty, or breakwater. No lobster traps shall be set or operated within 250 ft of the following specified navigation channels.</p>
SPORT REGULATIONS	<p>Fish and Game Code 7256. Spiny lobster may not be taken under a sport fishing license except by use of a hoop net or by hand.</p> <p>Section 29.90A. Season: From the Sat preceding the first Wed in Oct through the first Wed after Mar 15. Section 29.90B. Limit 7. Section 29.90C. Minimum size: 3 1/4 inches.</p>
REFERENCES	NMFS, Morris et al. 1980
CRITERIA FOR LISTING	Commercial importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Red Rock Shrimp
SCIENTIFIC NAME	<i>Lysmata californica</i>
PHYLUM	Arthropoda
CLASS	Crustacea
ORDER	Decapoda
FAMILY	Hippolytidae
DISTRIBUTION	Santa Barbara (California) to Bahia Sebastian Vizcaino (Baja California).
HABITAT	Often common among rocks and algae in low intertidal pools and crevices; subtidal to over 60 m.
DIET	Moves over the surface of other animals picking off almost anything removable, including parasites and decaying tissue.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8591. Prawns or shrimp may be taken for commercial purposes under the regulations of the commission. Section 8593. Except where provided in this article, prawns or shrimp may be taken in any waters of the State. Section 8594. From Point Conception south to the Mexican border, prawns or shrimp may be taken with prawn or shrimp traps only in waters 50 fathoms or greater in depth. Section 8595(a). Prawns or shrimp may be taken for commercial purposes with a trawl net, subject to Article 10 of Chapter 3, or either a prawn trap or a shrimp trap, subject to Article 1 of Chapter 4. Also see Sections 8830-8843, 8596-8598.6, 8601-8609, 9000-9024, and 15000-15007. Title 14. Chapter 6. Section 102.1. Method: Otter trawl or a beam trawl net. Section 120(e). Permit Areas: Not less than 3 nautical miles from the nearest point of land on the mainland shore, all offshore islands and the boundary line of district 19A. Section 120(f). Season: April 1 through October 31. Also see Sections 120(i-j).
SPORT REGULATIONS	Section 29.80 (a). Saltwater crustaceans may be taken by hand. Nets, traps, or other appliances may not be used except provided in this section. Section 29.80 (f). Shrimp and prawn traps may be used to take shrimp and prawns only. Trap openings may not exceed 0.5 in. in any dimension on traps used south of Point Conception nor 5 in. in any dimension north of Point Conception. Also see Sections 29.80 (g-j).
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Commercial importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Spot Prawn
SCIENTIFIC NAME	<i>Pandalus platyceros</i>
PHYLUM	Arthropoda
CLASS	Crustacea
ORDER	Decapoda
FAMILY	Hippolytidae
DISTRIBUTION	Northeast Pacific Ocean from southern Alaska to southern California and also in Asian waters around the Sea of Japan.
HABITAT	Rocky bottom from intertidal to over 250 fm in depth.
DIET	Shrimp, worms, sponges, small mollusks, fish carcasses, and plankton.
COMMERCIAL REGULATIONS	<p>Fish and Game Code Section 8591. Prawns or shrimp may be taken for commercial purposes under the regulations of the commission. Section 8593. Except where provided in this article, prawns or shrimp may be taken in any waters of the State. Section 8594. From Point Conception south to the Mexican border, prawns or shrimp may be taken with prawn or shrimp traps only in waters 50 fathoms or greater in depth. Section 8595(a). Prawns or shrimp may be taken for commercial purposes with a trawl net, subject to Article 10 of Chapter 3, or either a prawn trap or a shrimp trap, subject to Article 1 of Chapter 4. Also see Sections 8830-8843, 8596-8598.6, 8601-8609, 9000-9024, and 15000-15007.</p> <p>Title 14. Chapter 6. Section 102.1. Method: Otter trawl or a beam trawl net.</p> <p>Section 120(e). Permit Areas: Not less than 3 nautical miles from the nearest point of land on the mainland shore, all offshore islands and the boundary line of district 19A.</p> <p>Section 120(f). Season: April 1 through October 31. Also see Sections 120(i-j).</p>
SPORT REGULATIONS	<p>Section 29.80 (a). Saltwater crustaceans may be taken by hand. Nets, traps, or other appliances may not be used except provided in this section. Section 29.80 (f). Shrimp and prawn traps may be used to take shrimp and prawns only. Trap openings may not exceed 0.5 in. in any dimension on traps used south of Point Conception nor 5 in. in any dimension north of Point Conception. Also see Sections 29.80 (g-j).</p>
REFERENCES	http://www.hmsc.orst.edu/odfw/devfish/sp/
CRITERIA FOR LISTING	Commercial importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Ridgeback shrimp
SCIENTIFIC NAME	<i>Sicyonia ingentis</i>
PHYLUM	Arthropoda
CLASS	Crustacea
ORDER	Decapoda
FAMILY	Hippolytidae
DISTRIBUTION	Monterey, California to Cedros Island, Baja California. The fishery is centered in the Santa Barbara Channel and off Santa Monica Bay.
REPRODUCTION	Females reach a maximum carapace length of 1.8 inches, and males 1.5 inches. Sexes are separate and the shrimp are free spawners and do not carry their eggs. Studies suggest that ridgeback shrimp undergo multiple spawning during June through October. Following spawning, both sexes molt and continue molting through winter and spring.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8591. Prawns or shrimp may be taken for commercial purposes under the regulations of the commission. Section 8593. Except where provided in this article, prawns or shrimp may be taken in any waters of the State. Section 8594. From Point Conception south to the Mexican border, prawns or shrimp may be taken with prawn or shrimp traps only in waters 50 fathoms or greater in depth. Section 8595(a). Prawns or shrimp may be taken for commercial purposes with a trawl net, subject to Article 10 of Chapter 3, or either a prawn trap or a shrimp trap, subject to Article 1 of Chapter 4. Also see Sections 8830-8843, 8596-8598.6, 8601-8609, 9000-9024, and 15000-15007. Title 14. Chapter 6. Section 102.1. Method: Otter trawl or a beam trawl net. Section 120(e). Permit Areas: Not less than 3 nautical miles from the nearest point of land on the mainland shore, all offshore islands and the boundary line of district 19A. Section 120(f). Season: April 1 through October 31. Also see Sections 120(i-j).
SPORT REGULATIONS	Section 29.80 (a). Saltwater crustaceans may be taken by hand. Nets, traps, or other appliances may not be used except provided in this section. Section 29.80 (f). Shrimp and prawn traps may be used to take shrimp and prawns only. Trap openings may not exceed 0.5 in. in any dimension on traps used south of Point Conception nor 5 in. in any dimension north of Point Conception. Also see Sections 29.80 (g-j).
REFERENCES	Sunada and Richards, 1992 http://www.seafood.ucdavis.edu/pubs
CRITERIA FOR LISTING	Commercial importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Red Crab
SCIENTIFIC NAME	<i>Cancer productus</i>
PHYLUM	Arthropoda
CLASS	Crustacea
ORDER	Decapoda
FAMILY	Cancridae
DISTRIBUTION	Kodiak, Alaska to San Diego.
HABITAT	Found from the middle intertidal to 79 m (260 ft). Occurs on a wide range of substrate types, but is most common in gravelly areas and on well-protected boulder beaches. Primarily in bays and estuaries, but also on protected rocky coasts.
DIET	A voracious predator, using its powerful claws to open clams, snails, mussels, and barnacles, and to catch smaller crabs.
REMARKS	Mating occurs when females are soft-shelled during the summer months. Ovigerous females occur from January to August (especially April to June) in S California. Juvenile crabs are common in S California in fall and winter.
COMMERCIAL REGULATIONS	Title 14. Chapter 6. Section 123. To take mollusks, crustaceans, or other invertebrates for commercial purposes in any tide pool or tidal area, including tide flats or other area between the high tide mark and 1,000 ft below the low tide mark, revocable permits may be issued by the department...Section 123 (d). Commercial fishermen taking only...crab...need not possess the permit as required in this section, but must have the appropriate permits to take such species as required by Fish and Game Code Sections 8254, 8306.8, 8396, 9001, and 9054, and regulations adopted pursuant thereto.
SPORT REGULATIONS	Section 29.85(b). All crabs in the <i>Cancer</i> genus, except Dungeness crabs, but including: yellow crabs, rock crabs, red crabs, and slender crabs: (1) Open season: all year. (2) Limit 35. (3) Minimum size: 4 inches.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Commercial importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Rock Crab
SCIENTIFIC NAME	<i>Cancer antennarius</i>
PHYLUM	Arthropoda
CLASS	Crustacea
ORDER	Decapoda
FAMILY	Cancridae
DISTRIBUTION	Coos Bay (Oregon) to Baja California.
HABITAT	Common in some areas, low intertidal region on rocky shores; subtidal around bases of kelp and on gravel bottoms to 40 m depth.
DIET	Both a scavenger and an active predator, eating a wide variety of other animals.
REMARKS	Mating occurs after female crabs molt and while they are still soft-shelled. Ovigerous females are most common from November to January, but a few may be found at other seasons in Southern California.
COMMERCIAL REGULATIONS	Title 14. Chapter 6. Section 123. To take mollusks, crustaceans, or other invertebrates for commercial purposes in any tide pool or tidal area, including tide flats or other area between the high tide mark and 1,000 ft below the low tide mark, revocable permits may be issued by the department...Section 123 (d). Commercial fishermen taking only...crab...need not possess the permit as required in this section, but must have the appropriate permits to take such species as required by Fish and Game Code Sections 8254, 8306.8, 8396, 9001, and 9054, and regulations adopted pursuant thereto.
SPORT REGULATIONS	Section 29.85(b). All crabs in the <i>Cancer</i> genus, except Dungeness crabs, but including: yellow crabs, rock crabs, red crabs, and slender crabs: (1) Open season: all year. (2) Limit 35. (3) Minimum size: 4 inches.
REFERENCES	NMFS, Morris et al. 1980
CRITERIA FOR LISTING	Limited sport fishery.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Sheep Crab
SCIENTIFIC NAME	<i>Loxorhynchus grandis</i>
PHYLUM	Arthropoda
CLASS	Crustacea
ORDER	Decapoda
FAMILY	Majidae
DISTRIBUTION	Cordell Bank (Marin County) to Punta San Bartolome (Baja California).
HABITAT	Occasional, low intertidal zone on a variety of substrates; characteristically subtidal (6 m) to depth of 124 m.
DIET	Algae, sponges, small crustaceans, erect bryozoan colonies, and several other invertebrates.
REMARKS	Slow-moving crabs covered with foreign growth, such as hydroids, anemones, seaweeds, bryozoans, and sponges.
COMMERCIAL REGULATIONS	Title 14. Chapter 6. Section 123. To take mollusks, crustaceans, or other invertebrates for commercial purposes in any tide pool or tidal area, including tide flats or other area between the high tide mark and 1,000 ft below the low tide mark, revocable permits may be issued by the department...Section 123 (d). Commercial fishermen taking only...crab...need not possess the permit as required in this section, but must have the appropriate permits to take such species as required by Fish and Game Code Sections 8254, 8306.8, 8396, 9001, and 9054, and regulations adopted pursuant thereto.
SPORT REGULATIONS	Section 29.85(b). All crabs in the <i>Cancer</i> genus, except Dungeness crabs, but including: yellow crabs, rock crabs, red crabs, and slender crabs: (1) Open season: all year. (2) Limit 35. (3) Minimum size: 4 inches.
REFERENCES	Morris et al. 1980
CRITERIA FOR LISTING	Commercial importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Leopard Shark
SCIENTIFIC NAME	<i>Triakis semifasciata</i>
PHYLUM	Chordata
CLASS	Chondrichthyes
ORDER	Carcharhiniformes
FAMILY	Triakidae
DISTRIBUTION	Oregon to Baja and N Gulf of California.
HABITAT	Temperate coastal waters, mainly inshore. Prefers sandy and rock-strewn flat bottom near rocky reefs. Very common in N California bays. Usually at less than 12 ft (3.7 m), but sometimes more than 300 ft (91 m).
DIET	Fishes and invertebrates.
REMARKS	Strong-swimming, nomadic, schooling. Schools may visit areas briefly, then depart. Occasionally rests on bottom. Generally timid around divers; not considered dangerous.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8561. (a) Shark and swordfish shall not be taken for commercial purposes with drift gill nets except under a valid drift gill net shark and swordfish permit issued to that person that has not been suspended or revoked and is issued to at least one person aboard the boat. (b) A drift gill net shark and swordfish permit shall not be required for the taking of sharks with drift gill nets with a mesh size smaller than 8 inches in stretched mesh and twine size no. 18 or the equivalent of this twine size or smaller. Section 8388.5. (a) A person shall not take, possess, sell, or purchase for commercial purposes any leopard shark less than 36 inches in total length. Section 8598. (a) Notwithstanding Section 8140 or subdivision (b) of Section 8597, specimens of the following groups or species shall not be taken, possessed aboard a boat, or landed for commercial purposes: (2)(A) All shark and ray eggcases. Also see Sections 7704, 8561-8582, and 8370-8403.
SPORT REGULATIONS	Section 28.56A. Limit: 3. Section 28.56B. Minimum size: 36 in.
REFERENCES	Eschmeyer et al. 1983
CRITERIA FOR LISTING	Commercial importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Pacific Angel Shark
SCIENTIFIC NAME	<i>Squatina californica</i>
PHYLUM	Chordata
CLASS	Chondrichthyes
ORDER	Squatiniformes
FAMILY	Squatinidae
DISTRIBUTION	Southern Alaska to Baja California and the Gulf of California. Rare north of California. Also Peru to Southern Chile.
HABITAT	Offshore and in shallow bays; often on sand or mud bottom near kelp or rocks, or canyons. 10-150 ft (3-46 m), but in Gulf of California to 600 ft (183 m).
DIET	Fishes.
REMARKS	Its powerful jaws can be protruded to capture prey and are potentially dangerous to fishermen and divers.
REFERENCES	Eschmeyer et al. 1983.
CRITERIA FOR LISTING	Commercial importance. Indicator or sensitive species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Soufin Shark
SCIENTIFIC NAME	<i>Galeorhinus galeus</i>
PHYLUM	Chordata
CLASS	Chondrichthyes
ORDER	Carcharhiniformes
FAMILY	Triakidae
DISTRIBUTION	Nearly worldwide. Northern British Columbia to central Baja California, Peru and Chile.
HABITAT	Offshore, also coastal and in bays; muddy shallows to 1350 ft (411 m). Females usually less than 55 m; males deeper.
DIET	Fishes and squids.
REFERENCES	Eschmeyer et al. 1983.
CRITERIA FOR LISTING	Commercial importance. Indicator or sensitive species.

COMMON NAME	Thornback Ray
SCIENTIFIC NAME	<i>Platyrrhinoidis triseriata</i>
PHYLUM	Chordata
CLASS	Chondrichthyes
ORDER	Squatiniformes
FAMILY	Platyrrhinidae
DISTRIBUTION	Tomales Bay (Northern California) to Baja California, commonly from southern California southward.
HABITAT	Most abundant in waters shallower than 20 ft (6 m), but found from the surf line to 150 ft (50 m); in or on sand and mud in shallow, quiet waters.
DIET	Worms, crabs, shrimps, and clams.
REMARKS	Spawning probably occurs in the
REFERENCES	Love 1991.
CRITERIA FOR LISTING	Recreational importance. Indicator or habitat species.

COMMON NAME	Pacific Herring
SCIENTIFIC NAME	<i>Clupea pallasii</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Clupeiformes
FAMILY	Clupeidae
STATUS	Vulnerable in Puget Sound. 4 or 8 stocks may have declined by 0-95% from overharvesting while annual natural mortality has increased from 20% to 80% because of increased pinniped predation mitigated y increase in local pinniped populations.
DISTRIBUTION	Korea and Japan to arctic Alaska and to northern Baja California.
HABITAT	Frequently offshore, but often inshore in harbors and estuaries during spawning in winter and spring.
COMMERCIAL REGULATIONS	California Fish and Game Code Section 8552.6, 8688. In Districts 11, 12, and 13, gill nets may be used to take only herring, subject to Article 15 (commencing with Section 8550) of Chapter 2. No gill net may be possessed on any boat in Districts 11, 12, and 13, except by persons possessing a valid permit aboard boats specifically authorized to take herring during the open seasons established by the commission. Title 14. Section 163. (F2) The use of round haul nets to take herring for roe...is prohibited. (B) The total take of herring for the fresh fish market shall not exceed 10 tons per season.
REFERENCES	Eschmeyer et al. 1983, West 1997
CRITERIA FOR LISTING	Vulnerable species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Pacific Sardine
SCIENTIFIC NAME	<i>Sardinops sagax</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Clupeiformes
FAMILY	Clupeidae
DISTRIBUTION	Kamchatka (USSR) to southeast Alaska and southward to the Guaymas, Mexico and possibly off Peru and Chile. Most of the population is centered from southern California southward.
HABITAT	Sardines are schooling, pelagic fish found from very near shore to hundreds of miles off the coast.
DIET	Sardines feed on various types of plankton, and in turn, provide food for fish, birds, and marine mammals.
REMARKS	Recent studies show that sardines spawn year round with a peak in the summer and fall. Considerable spawning occurs nearshore, but some probably takes place out to at least 300 miles. Females spawn more than once a season.
COMMERCIAL REGULATIONS	Fish and Game Code. Section 8152. 8150.7. It is the intent of the Legislature that the sardine resource be rehabilitated. During the process of rehabilitation a small fishery shall be allowed once the spawning population has reached 20,000 tons as determined by the department during the first 60 days of each calendar year. As the spawning population increases, in excess of 20,000 tons, the seasonal quota may also be increased but at such a rate as to allow the continued increase in the spawning population. This process shall continue with the objective of maximizing the sustained harvest. Title 14. Section 158.
REFERENCES	Eschmeyer et al. 1983, Love 1991
CRITERIA FOR LISTING	Commercial importance. Prey species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Northern Anchovy
SCIENTIFIC NAME	<i>Engraulis mordax</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Clupeiformes
FAMILY	Engraulidae
STATUS	
DISTRIBUTION	Queen Charlotte Island (British Columbia) to the tip of Baja California and in the Gulf of California, most abundantly from Point Conception to northern Baja California.
HABITAT	From the surface to over 1000 ft (300 m) from the surf zone out to at least 300 miles, although most live within 100 miles of the shore.
DIET	Zooplankton, such as copepods, arrow worms, and krill, phytoplankton, and small fish. Almost any fish, sea bird, squid, or marine mammal will eat anchovies.
REMARKS	Off southern California, spawning occurs all year with peaks from December to May. Most fish spawn away from the coast, but some spawning occurs near shore. Most females spawn at night, every day for 6-8 days, during the peak season. Periods of calm water tend to benefit the young larvae.
COMMERCIAL REGULATIONS	Title 14. Section 147. Anchovies shall not be taken, possessed, landed, or processed for reduction purposes except under revocable permits...B(1). It is unlawful to use a roundhalu net with a wet-stretch mesh size less than 10/16 of an inch. (F3). If the department...does not produce a northern anchovy biomass estimate, total tonnage reserved for a harvest quota is 5,000 tons and is established on August 1 of each year.
REFERENCES	Eschmeyer et al. 1983, Love 1991
CRITERIA FOR LISTING	Commercial importance. Prey species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Pacific Cod
SCIENTIFIC NAME	<i>Gadus macrocephalus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Gadiformes
FAMILY	Gadidae
STATUS	Vulnerable in Puget Sound. Populations have declined by 80-90% since 1970s. No indication of recovery despite fisheries regulations. Recovery may be hampered by warming waters. Other populations not at risk.
DISTRIBUTION	Japan to Bering Sea and to Santa Monica, California. Rare south of northern California.
HABITAT	Usually near the bottom; wide ranging from 12-550 m. Usually shallower in spring and deeper in fall.
REFERENCES	Eschmeyer et al. 1983, Palsson et al. 1997, West 1997, Wright 1999b.
CRITERIA FOR LISTING	Vulnerable species.

COMMON NAME	California Grunion
SCIENTIFIC NAME	<i>Leuresthes tenuis</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Antheriniformes
FAMILY	Antherinidae
STATUS	
DISTRIBUTION	San Francisco to southern Baja California. Most abundant south of Point Conception.
HABITAT	Pelagic, schooling fish, usually found from just behind the surf line to depths of about 40 ft (13 m). Adults do not seem to migrate much.
BREEDING BEHAVIOR	Spawns on sandy beaches, out of the water. Spawning occurs only on 3-4 nights following each full or new moon and then only for 1-3 hours immediately after the high tide, from late February to early September (peaking in early March to early June). Females spawn 4-8 times per season, at about 15 day intervals, producing 1,000 to 3,000 eggs. Spawning occurs more frequently south of Morro Bay. Eggs remain in the sand until they are liberated during the next high tide.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8381. It is unlawful to take grunion except between June 1 st and March 31 st .
REFERENCES	NMFS, Eschmeyer et al. 1983, Love 1991
CRITERIA FOR LISTING	Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	California Scorpionfish
SCIENTIFIC NAME	<i>Scorpaena guttata</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Santa Cruz (central California) to Gulf of California; rare north of southern California.
HABITAT	Usually in rocky areas of bays and along shore, especially in caves and crevices; also perch on sand and mud; shallow water to about 600 ft (183 m), but usually above 100 ft (30 m).
BREEDING BEHAVIOR	Extensive spawning migrations in late spring and early summer, when most adults move into 120-360 ft (40-120 m), forming large spawning aggregations on or near the bottom. Spawning occurs in the same areas year after year and it is likely that the same fish return each time. When spawning ends, the aggregations disperse and many of the fish move into shallower waters. Females produce eggs imbedded in gelatinous walls of hollow pear-shaped structures which are transparent or greenish and float near the surface. Within these structures eggs hatch in about 5 days. Young appear in shallow waters in summer and fall and usually hide on the bottom in heavy cover.
DIET	Small crabs, fishes octopi, shrimps, and pebbles.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares... that there is increasing pressure being placed on these [scorpionfish] from recreational and commercial fisheries,...and that, if depleted, many of these species may take decades to rebuild.
REFERENCES	Love 1996, Eschmeyer et al. 1983.
CRITERIA FOR LISTING	Commercial importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Pacific Ocean Perch
SCIENTIFIC NAME	<i>Sebastes alutus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
STATUS	Vulnerable in Washington and Oregon. 81-91% decline from overfishing. Not at risk in Alaska.
DISTRIBUTION	Japan and Bering Sea to La Jolla, California. More common north of Oregon.
HABITAT	Abundant offshore, trawled at 44-640 m. Adults usually below 122 m.
COMMERCIAL REGULATIONS	<p>Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6.</p> <p>Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.</p>
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Heifitz et al. 1999, Ianelli and Zimmerman 1998, Ito et al. 1999.
CRITERIA FOR LISTING	Vulnerable species.

COMMON NAME	Kelp Rockfish
SCIENTIFIC NAME	<i>Sebastes atrovirens</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Timber Cove (central California) to central Baja California.
HABITAT	Usually on or near bottom in kelp beds or rocky areas; to 150 ft (46 m), common at 30-40 ft (9-12 m).
DIET	Important foods include small fishes, shrimps, amphipods, and isopods.
BREEDING BEHAVIOR	Spawning takes place from late winter to early spring, and juveniles settle out of the plankton into kelp beds in the summer, from April through August. Young settle in the fronds of kelp beds and as they grow, they spread out, away from the canopy.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6. Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983
CRITERIA FOR LISTING	Commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Brown Rockfish
SCIENTIFIC NAME	<i>Sebastes auriculatus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
STATUS	Candidate list (Puget Sound only). Long term decline since the mid 1980s. Spawner output declined by 80% between 1989 and 1992. Not at risk in Alaska.
DISTRIBUTION	SE Alaska to central Baja.
HABITAT	Widely distributed in shallow water and bays; near shore and to 420 ft (128 m). Most commonly 20 ft (7 m). Bottom dwellers, living on hard bottom or sand, near structure of some kind, such as rocks, oil platforms, sewer pipes and even old tires. Usually not found on high reefs.
BREEDING BEHAVIOR	In central California females spawn from December to July. Females produce 42,000-266,000 eggs. In southern California, females spawn more than once per season. Juveniles gradually move into deeper water as they mature.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6.
	Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Wright 1999b.
CRITERIA FOR LISTING	Candidate species. Exhibited long-term or rapid decline.

COMMON NAME	Gopher Rockfish
SCIENTIFIC NAME	<i>Sebastes carnatus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Eureka (northern California) to central Baja California. Common from Mendocino County (northern California) south to Santa Monica Bay.
HABITAT	Holes or crevices near the bottom in rocky areas to 180 ft (55 m). More common below 30-120 ft (10-40 m). Solitary and territorial.
DIET	Small fish eat zooplankton, such as copepods and crab larvae. Larger fish eat crabs, shrimps, and occasionally fishes and octopi.
BREEDING BEHAVIOR	Spawning occurs in spring and the young first appear in kelp beds in May and June. Young live among kelp fronds, later descending down the plant and eventually leaving its protection.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6.
SPORT REGULATIONS	Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
REFERENCES	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat. Eschmeyer et al. 1983
CRITERIA FOR LISTING	Historical commercial importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Copper Rockfish
SCIENTIFIC NAME	<i>Sebastes caurinus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
STATUS	Candidate list (Puget Sound only). Long term decline since the mid 1980s, spawner output declined by 80% since 1979. Not at risk in Alaska.
DISTRIBUTION	Gulf of Alaska to central Baja. Most abundant from British Columbia to southern California.
HABITAT	Common in rocky or high relief areas such as pinnacles and wrecks or rock-sand bottom in shallow water. Found most commonly from 20-400 ft (6-166 m) but occasionally to 600 ft (183 m). Solitary and territorial. Juveniles live in shallower waters, up to about 20 ft (6 m).
DIET	Juveniles eat plankton; adults feed on snails, worms, squid, octopus, crabs, shrimp, and fishes.
BREEDING BEHAVIOR	Spawning occurs in late winter to early spring. Young first appear in kelp and other algae in April. Small fish are found near the bottom over sand along rock-sand interfaces.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6.
SPORT REGULATIONS	Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
REFERENCES	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat. Eschmeyer et al. 1983, Love, 1991, Wright 1999.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Candidate species. Exhibited long-term decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Greenspotted Rockfish
SCIENTIFIC NAME	<i>Sebastes chlorostictus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Copalis Head (Washington) to central Baja California. Abundant as far north as Monterey Bay.
HABITAT	Solitary and sedentary species that is common on soft bottom from 300-660 ft (49-201 m). Juveniles found most commonly between 100-300 ft (30-100 m). Spends most of its time on or near the bottom over rocks, hard bottom, sand, mud, vertical faces, and horizontal plains.
DIET	Invertebrates, such as crabs and shrimps. Also fishes, squids, and octopi.
BREEDING BEHAVIOR	Spawning takes place from February to July, peaking in April, off of southern California. Females produce up to 760,000 eggs.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6.
	Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Black and Yellow Rockfish
SCIENTIFIC NAME	<i>Sebastes chrysomelas</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Eureka (northern California) to central Baja California. Common southward to San Diego.
HABITAT	Holes and crevices in rocky areas. Intertidal and to 120 ft (37 m). Usually less than 60 ft (18 m).
DIET	Small fish eat zooplankton, such as copepods and crab larvae. Larger fish eat crabs, shrimps, and occasionally fishes and octopi.
BREEDING BEHAVIOR	Spawning occurs in spring and the young first appear in kelp beds in May and June. Young live among kelp fronds, later descending down the plant and eventually leaving its protection.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6.
	Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Darkblotched Rockfish
SCIENTIFIC NAME	<i>Sebastes crameri</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
STATUS	Vulnerable in Washington, Oregon, and California. 77-89% decline.
DISTRIBUTION	Bering Sea to Santa Catalina Island (S California).
HABITAT	Soft bottom at 30-550 m, but usually deeper than 75 m.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6. Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Rogers et al. 2000.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

COMMON NAME	Starry Rockfish
SCIENTIFIC NAME	<i>Sebastes constellatus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Cordell Bank (northern California) to Thetis Bank (southern Baja California).
HABITAT	Common south of Monterey Bay. Usually on deep reefs at 80-900 ft (24-274 m). Adults are most common 180-450 ft (60-150 m) and juveniles are common from 90-250 ft (30-80 m). Exclusively over hard bottoms, usually around large rocks or wrecks. Live on the bottom and rarely emerge more than a meter above the rocks. Usually solitary, occasionally in small groups. Sedentary.
DIET	Small fishes, crabs, shrimps, and other small invertebrates.
BREEDING BEHAVIOR	Spawn from February to July in southern California. Females produce up to 230,000 eggs.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6.
SPORT REGULATIONS	Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip. Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Calico Rockfish
SCIENTIFIC NAME	<i>Sebastes dallii</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	San Francisco to central Baja California; rare north of Santa Barbara.
HABITAT	On or near soft bottom at 24-840 ft (8-256 m). Most abundant 150-300 ft (30-100 m).
DIET	Copepods, grammarid amphipods, bivalves and crabs.
BREEDING BEHAVIOR	Females may be viviparous. Calico rockfish spawn from January to May, peaking in February. Females produce 3,900-18,000 eggs per season.
COMMERCIAL REGULATIONS	<p>Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6.</p> <p>Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.</p>
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Widow Rockfish
SCIENTIFIC NAME	<i>Sebastes entromelas</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
STATUS	Vulnerable in Washington, Oregon, and California. 81-82% decline.
DISTRIBUTION	Kodiak Island (southeast Alaska) to northern Baja California. Abundant from central California to southern Washington.
HABITAT	Over rocky banks and other hard bottoms (e.g. oil platforms and wrecks); adults at about 80-1200 ft (24-366 m). Almost all adults live from 150-1000 ft (30-333 m). Young in shallow water (often in kelp beds). Often in schools of thousands or tens of thousands.
DIET	Plankton, particularly krill, crab larvae, and salps, and fish such as deep sea lanternfish.
BREEDING BEHAVIOR	Females spawn December to May, with a February peak. Some females produce over a million eggs. Juveniles settle out of the plankton beginning in April. Reproduction seems most successful during years when there are violent winter storms and above average water temperatures.
COMMERCIAL REGULATIONS	Fish and Game Code Sections 8585.5, 8585-8589.7 and 8596-8598.6. Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Clausen and Heifetz 1999, Williams et al. 2000.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Cowcod
SCIENTIFIC NAME	<i>Sebastes levis</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
STATUS	Vulnerable in the U.S. 91-97% decline.
DISTRIBUTION	Mendocino (central California) to central Baja and Guadalupe Island.
HABITAT	On bottom at moderate depths to 1200 ft (366 m). Adults common off S California on deep rocky banks at 500-800 ft (152-244 m); young shallower (100-600 ft or 33 to 100 m). Juveniles commonly live over sand or mud; adults only inhabit hard or rocky bottoms.
DIET	Diet includes mainly fishes, octopus, and squid. Juvenile cowcod eat copepods, mysid shrimp, small fishes, and crabs.
BREEDING BEHAVIOR	Spawning occurs off southern California from November through May with a January peak. Young of the year appear on the bottom in May.
COMMERCIAL REGULATIONS	Fish and Game Code Sections 8585.5, 8585-8589.7 and 8596-8598.6. Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Butler et al. 1999, Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Black Rockfish
SCIENTIFIC NAME	<i>Sebastes melanops</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
STATUS	Vulnerable in Puget Sound.
DISTRIBUTION	Amchitka Island (Aleutian Islands) to San Miguel Island (southern California).
HABITAT	Wide-ranging, often in schools; lives both off and on bottom, near surface to 366 m. Occurs near rocky reefs in shallow water and in open water over deep banks.
PREDATORS	Juveniles are important as food for other fishes, marine mammals, and birds.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6. Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Barker 1998, Crawford 1999, Eschmeyer et al. 1983, Love 1996, Wright 1999b.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Vermilion Rockfish
SCIENTIFIC NAME	<i>Sebastes miniatus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Zaikof Bay, Prince William Sound (Alaska) to central Baja California. Abundant from northern California southward to Baja.
HABITAT	Adults on shallow subtidal waters to deep rocky reefs (less common on deep reefs); common between 180-750 ft (60-250 m), but up to 1440 ft (480 m). Young shallow.
DIET	Other fishes, such as anchovies, lanternfishes, small rockfishes), octopi, squids, and krill.
BREEDING BEHAVIOR	Spawning occurs in southern California from September to December. A single female may have as many as 2,680,000 eggs. Young of the year are found as early as February.
COMMERCIAL REGULATIONS	Fish and Game Code Sections 8585.5, 8585-8589.7 and 8596-8598.6. Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Blue Rockfish
SCIENTIFIC NAME	<i>Sebastes nystinus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Vancouver Island to northern Baja California. Abundant in California and Oregon.
HABITAT	Most abundant from 15-200 ft (5-66 m); but have been found in tide pools to depths of 1,800 ft (600 m). Midwater or surface dwelling fish, swimming in schools of hundreds or thousands over reefs and around kelp.
DIET	Zooplankton (such as jellyfish, krill, and copepods), fishes, hydroids, and kelp. Larger individuals may eat fishes.
BREEDING BEHAVIOR	Females are primitively viviparous; they produce as many as 300,000 eggs per year. Fertilization is internal and occurs in October. Spawning occurs from November to March with a January-February peak. Young appear in April in kelp beds over rocky reefs.
COMMERCIAL REGULATIONS	Fish and Game Code Sections 8585.5, 8585-8589.7 and 8596-8598.6. Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Speckled Rockfish
SCIENTIFIC NAME	<i>Sebastes ovalis</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Northern Washington to northern Baja California, common from central California southward.
HABITAT	Midwater fish over rocks, normally from near the bottom to about 30 ft (10 m) above the reefs. Commonly between 250-500 ft (86-166 m). Juveniles most common between 100-250 ft (33-86 m).
DIET	Plankton and small fishes.
BREEDING BEHAVIOR	Spawning occurs from October to May, with a peak in January and February. A single female may have up to 160,000 eggs.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6. Title 14, Chapter 6, Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	NMFS, Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6, Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Bocaccio Rockfish
SCIENTIFIC NAME	<i>Sebastes paucispinis</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
STATUS	Vulnerable in Washington, Oregon, and California. 96-98% decline.
DISTRIBUTION	Kodiak Island to central Baja California.
HABITAT	Wide-ranging: adults live over rocky reefs but also common on open, rocky bottom; occasionally over sand and mud. Adults from the surface to 1568 ft (533 m), but common between 150-1000 ft (50-333 m). Young shallower (30-90 ft or 10-30 m). Juveniles live under drifting kelp mats which have broken free of beds. As they grow, they swim into deeper waters.
DIET	Diet includes mainly fishes such as surfperch, jack mackerel, sablefish, anchovies, squid, octopus, and crab. Large juveniles eat small fishes, particularly juvenile rockfishes.
BREEDING BEHAVIOR	Females are primitively viviparous; they produce as many as 2,300,000 eggs per season. Larvae are spawned in 2 or more batches in southern California, from October to July. Young appear in inshore waters in February.
COMMERCIAL REGULATIONS	Fish and Game Code Sections 8585.5, 8585-8589.7, 8596-8598.6. Title 14. Chapter 6. Section 189(b). <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. Of that 150,000 lbs., no more than 2,000 lbs. shall be bocaccio rockfish. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip. For line and pot gear a trip limit of 500 lbs. per trip shall not to exceed 1000 lbs. per month and for set nets a cumulative limit of 2,000 lbs. of bocaccio per mo.
SPORT REGULATIONS	Section 28.55(a). Bocaccio may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat. No bocaccio may be taken or possessed that is less than 10 inches in total length.
REFERENCES	Eschmeyer et al. 1983, Love 1996, McCall et al. 1999.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Canary Rockfish
SCIENTIFIC NAME	<i>Sebastes pinniger</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
STATUS	Vulnerable in Washington, Oregon, and California. 77-93% decline.
DISTRIBUTION	Southeastern Alaska to northern Baja California.
HABITAT	Rocky bottom at about 91-274 m. Adults shallowest in northern part of range. Young shallow throughout range.
DIET	Small fishes and krill.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7, 8596-8598.6. Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. Of that 150,000 lbs, no more than 15,000 shall be canary rockfish. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip. Of the total quota, not more than 7,500 lbs. shall be canary rockfish.
SPORT REGULATIONS	Section 28.55A. Rockfish may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Love 1996, O'Connell et al. 1999.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Grass Rockfish
SCIENTIFIC NAME	<i>Sebastes rastrelliger</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Yaquina Bay (Oregon) to central Baja California.
HABITAT	Common on rocky bottom in tidepools and near shore, also in kelp and eelgrass beds; to 150 ft (46 m) but usually less than 50 ft (15 m).
DIET	Crabs, shrimps, fishes, and octopi.
BREEDING BEHAVIOR	Spawning occurs in winter and young appear in shallow water during spring and summer.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7, 8596-8598.6. Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. Of that 150,000 lbs, no more than 15,000 shall be canary rockfish. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip. Of the total quota, not more than 7,500 lbs. shall be canary rockfish.
SPORT REGULATIONS	Section 28.55A. Rockfish may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Yelloweye Rockfish
SCIENTIFIC NAME	<i>Sebastes ruberrimus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
STATUS	Vulnerable in Puget Sound. Long-term decline, has virtually disappeared from recreational catches.
DISTRIBUTION	Gulf of Alaska to northern Baja California.
HABITAT	Rocky reefs at 150-1800 ft (46-549 m).
COMMERCIAL REGULATIONS	<p>Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6.</p> <p>Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.</p>
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Barker 1998, Eschmeyer et al. 1983, Love 1996, Wright 1999b.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Flag Rockfish
SCIENTIFIC NAME	<i>Sebastes rubrivinctus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	San Francisco to northern Baja California.
HABITAT	Rocky areas at 100-1380 ft (30-460 m). Adults are strictly solitary, bottom-dwelling reef fish, often found among sea anemones. Commonly along sewer lines off southern California. Young are often found under drifting kelp mats.
DIET	Crabs, shrimps, and occasional fish and octopus.
BREEDING BEHAVIOR	Probably spawn in the summer. Young appear in August, leaving drifting kelp mats in January and February.
COMMERCIAL REGULATIONS	<p>Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6.</p> <p>Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.</p>
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Olive Rockfish
SCIENTIFIC NAME	<i>Sebastes serranoides</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Redding Rock (northern California) to central Baja California. Abundant from southern California northward to Mendocino County (northern California).
HABITAT	Shallow water, 10-570 ft (3-190 m). Usually 15-180 ft (5-60 m). Midwater fish that live over hard, high relief (such as reefs, wrecks, oil platforms, or pipes). Form aggregations of several hundred. Young aggregate over low rocks, in areas with reduced water movement, particularly over drift algae, between the bottom and mid-water column. Young descend to the bottom at night.
DIET	Fishes (particularly juvenile rockfish), octopi, squids, and planktonic organisms such as copepods and crab larvae.
BREEDING BEHAVIOR	Spawning occurs from January to March with a peak in February. Beginning in April, newly settled olive rockfish appear over rocky reefs.
COMMERCIAL REGULATIONS	Fish and Game Code Sections 8585.5, 8585-8589.7 and 8596-8598.6. Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Treefish
SCIENTIFIC NAME	<i>Sebastes serriceps</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	San Francisco to central Baja California. Common from Santa Barbara southward.
HABITAT	Solitary, reef-dwelling fish, almost always in caves and crevices between 20-140 ft (6-46 m) up to 150 ft (50 m). Young are found drifting in kelp mats.
DIET	Invertebrates, such as crabs and shrimp, and small fishes.
BREEDING BEHAVIOR	Probably spawn in winter.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6. Title 14, Chapter 6, Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Honeycomb Rockfish
SCIENTIFIC NAME	<i>Sebastes umbrosus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
DISTRIBUTION	Point Pinos (central California) to south-central Baja California. Uncommon north of Point Conception.
HABITAT	Mid-shallow rocky reefs from 98-390 ft (33-130 m).
BREEDING BEHAVIOR	Females spawn from March to July and young settle to the bottom in the fall.
COMMERCIAL REGULATIONS	<p>Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6.</p> <p>Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.</p>
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

COMMON NAME	Shortspine Thornyhead
SCIENTIFIC NAME	<i>Sebastolobus alascanus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Scorpaenidae
STATUS	Vulnerable in Washington, Oregon, and California. 73% decline.
DISTRIBUTION	Bering Sea to northern Baja California.
HABITAT	Very common on soft bottom in deep water at 84-5000 ft (26-1524 m) or deeper but usually below 300 ft (91 m).
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of rockfish (genus <i>Sebastes</i>). Also see Sections 8585-8589.7 and 8596-8598.6. Title 14. Chapter 6. Section 189B. <i>Sebastes spp.</i> may not be taken or possessed during the months of Jan and Feb in ocean waters south of 36°N lat. No more than 150,000 lbs. of the <i>Sebastes</i> complex shall be landed in any 2-month cumulative fishing period. All line, pot, and set net gear: no more than 40,000 lbs. of <i>Sebastes spp.</i> shall be landed during any calendar month and for line and trap gear no more than 10,000 lbs. shall be landed per trip.
SPORT REGULATIONS	Section 28.55A. <i>Sebastes spp.</i> may not be taken or possessed by a person aboard a vessel, or by spear fishing during the months of Jan and Feb in ocean waters south of 36°N lat.
REFERENCES	Eschmeyer et al. 1983, Love 1996, Rogers et al. 1998.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Lingcod
SCIENTIFIC NAME	<i>Ophiodon elongatus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Hexagrammidae
STATUS	Vulnerable in Washington, Oregon, and California. 92.5% decline.
DISTRIBUTION	Kodiak Island (Alaska) to N Baja; possibly Bering Sea. Common from southeast Alaska to central California and the northern Channel Islands.
HABITAT	Adults are bottom-dwelling, near rocks; inshore and to 1620 ft (443 m). Juveniles are pelagic; larger juveniles can be found on sand or mud bottom of bays to 200 ft (66 m) and inshore areas, including eelgrass beds.
DIET	A voracious predator feeds mostly on other fishes, squids and octopi.
BREEDING BEHAVIOR	Females are oviparous and produce between 6,000-500,000 eggs. Spawns in shallow water in fall or early winter; male guards eggs.
COMMERCIAL REGULATIONS	Fish and Game Code Sections 8691 and 8680-8700. Title 14. Chapter 6. Section 189(d)(1) Routine Management Measures. No more than 30,000 lbs. shall be landed during any 2-month cumulative fishing period. All lingcod shall be greater than 24 in total length, except 100 lbs. of trawl-caught lingcod less than 24 inches may be landed per trip. Section 189(2) Open Access Fishery. (B). All line, pot, and set net gear: no more than 1,000 lbs. shall be landed in any 2 month fishing period. Fish shall be larger than 24 in. total length.
SPORT REGULATIONS	Section 28.27. Open all year except lingcod may not be taken or possessed by a person aboard a vessel or by spear fishing during the months of January and February in the waters south of 36°N latitude at Lopez Point, Monterey. Limit: 2. Minimum size: 26 inches.
REFERENCES	Method of take: not more than 3 hooks per line. Adams et al. 1999, Eschmeyer et al. 1983
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Cabazon
SCIENTIFIC NAME	<i>Scorpaenichthys marmoratus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Cottidae
DISTRIBUTION	Sitka (Alaska) to central Baja California. Abundant from Washington to southern California.
HABITAT	Hard-bottom dwellers found over natural and artificial reefs, oil platforms, and wrecks. Occasionally venture into the kelp canopy. Intertidal and to 362 ft (120 m). Most common to about 90 ft (30 m).
DIET	Small fish in tide pools eat small crustaceans such as amphipods, shrimp, crabs, and isopods. Adults feed on crabs, fishes, abalone, chitons, and octopi.
BREEDING BEHAVIOR	Females are oviparous and produce 49,000-98,000 eggs per season; they may spawn twice in the same time. Off California, spawning may occur at low levels throughout the year. Nests are made on exposed surfaces of rocks, intertidal to 55 ft (18 m) and eggs may be exposed at low tide. Young recruit from the plankton into tide pools. Large fish enter the pools at high tide to feed.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8588. (a) Notwithstanding any other provision of this code or any regulation adopted by the commission, no fish listed under this section taken pursuant to a commercial fishing license, shall be possessed, sold, or purchased unless it exceeds the specified minimum total length in the round or dressed with head on, as established under subdivision (b), except that nearshore fin fish taken in trawls and landed dead are exempt from these size limits. (b)(9) Minimum size: 14 in. (356 mm). Also see Sections 8585-8589.7 and 10650-10667.
SPORT REGULATIONS	Section 28.28A. Limit: 10, Section 28.28B. Min. Size: 14 in.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

COMMON NAME	Giant Sea Bass
SCIENTIFIC NAME	<i>Stereolepis gigas</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Sciaenidae
STATUS	Threatened in the Gulf of California. Vulnerable within the U.S.
DISTRIBUTION	Humboldt Bay to Gulf of California; rare north of S California.
HABITAT	On rock bottom; near shore, outside kelp beds, and along drops-offs; 18-150 ft (5.5-46 m). Large specimens are usually deeper than 100 ft (30 m); small individuals occur over sand and in kelp beds mainly at 40-70 ft (12-21 m).
DIET	Feed upon a wide variety of items including anchovies, white croakers, sheephead, ocean whitefish, sand bass, <i>Cancer</i> crabs and red crabs.
BREEDING BEHAVIOR	Spawning occurs from July to September. A 320 pound female may contain approximately 60 million eggs. Life span: >70 yrs.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8380(a). Giant seabass may not be taken for any purpose, except that not more than one fish per vessel may be possessed or sold if taken incidentally in commercial fishing operations by gill or trammel net. Any fish so taken shall not be transferred to any other vessel. Also see Section 8051(a)(18).
SPORT REGULATIONS	Fish and Game Code Section 7350. Giant seabass may not be taken under a sport fishing license except by hook and line when engaged in the taking of other fish. Section 28.10(a). May not be taken off California. All fish taken incidental to other fishing activity shall be immediately returned to the water where taken. Section 28.10B. Two per angler per trip when fishing south of the United States-Mexico border. A valid fishing permit or license from the Mexican government constitutes proof that fish were taken legally.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Broomtail Grouper
SCIENTIFIC NAME	<i>Mycteroperca xenarcha</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Scorpaeniformes
FAMILY	Serranidae
STATUS	Vulnerable in California.
DISTRIBUTION	San Francisco Bay to Peru, including the Galapagos Islands, rare north of southern California.
HABITAT	Inshore and to 70 ft (21 m).
REMARKS	Large species with low productivity. Probably aggregates to spawn, thus vulnerable to overexploitation.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Historical commercial and recreational importance. Exhibited long-term or rapid decline.

COMMON NAME	Kelp Bass
SCIENTIFIC NAME	<i>Paralabrax clathratus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Serranidae
DISTRIBUTION	Columbia River (Washington) to southern Baja California, rare north of southern California.
HABITAT	Usually in or near kelp beds, rocks, sewer pipes, and oil platforms, shallow water and to about 150 ft (46 m) but mostly at 8-70 ft (2.4-21 m). Found throughout the water column; larger specimens usually occur deeper.
DIET	Small shrimp-like crustaceans are very important in the diet of kelp bass of all ages. Larger fish eat more fish, including anchovies and small surfperch.
BREEDING BEHAVIOR	Spawning occurs from April to November and peaks during summer. Kelp fish form large aggregations and may move into slightly deeper water during spawning. Largest females spawn earliest in the season. Kelp bass eggs are pelagic and after fertilization drift about for 1-2 days before hatching. Larval bass metamorphose into juveniles after about one month. These fish recruit inshore and to kelp and other algae in late summer and fall.
COMMERCIAL REGULATIONS	Fish and Game Code Section 7856(f). Notwithstanding other provisions of this section, kelp bass shall not be possessed aboard a commercial fishing vessel while that vessel is on a commercial fishing trip.
SPORT REGULATIONS	Fish and Game Code Section 8385. No person holding a commercial fishing license while on any barge or boat which for hire carries any sport fisherman may take or have in his possession in any one day more than the aggregate number of ...kelp bass.... Section 28.30A. Minimum size: 12 in total or 8.5 in alternate. Section 28.30B. Limit: 10 bass spp.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Recreational importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Ocean Whitefish
SCIENTIFIC NAME	<i>Caulolatilus princeps</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Malacanthidae
DISTRIBUTION	Vancouver Island to Peru, including Galapagos Islands; rare north of central California. Common in shallow reefs off the Channel Islands.
HABITAT	Mostly offshore rocky reefs and banks, especially around islands; usually at 33-300 ft (10-91 m). Common from 90-200 ft (30-66 m).
DIET	Bottom invertebrates, such as worms, shrimp, crabs, octopi, and squids.
BREEDING BEHAVIOR	Possibly spawn from early spring to summer, but most larvae are found off of Baja California.
SPORT REGULATIONS	Section 27.60 (a). Limit: No more than 20 fin fish in any combination of all species with not more than 10 of any one species, may be taken or possessed by any one person except as otherwise provided.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Recreational importance.

COMMON NAME	White Seabass
SCIENTIFIC NAME	<i>Atractoscion nobilis</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Sciaenidae
DISTRIBUTION	Juneau (Alaska) to southern Baja California and northern Gulf of California; rare north of Point Conception.
HABITAT	Young seabass live in drift algae just behind the surf line on sand beaches. Older juveniles occupy bays and shallow coastal waters, often near rocks or kelp. Adults are found in schools over rocky bottom and in kelp beds; also in surf zone to about 400 ft (122 m).
BREEDING BEHAVIOR	Spawns March-August, often near kelp beds.
COMMERCIAL REGULATIONS	Fish and Game Code Section 6596 (c) Any person who takes, possesses aboard a boat, or lands any white seabass for commercial purposes, south of a line extending due west from Point Arguello, shall have a valid commercial ocean fishing enhancement stamp issued to that person that has not been suspended or revoked. Section 8383.5. It is unlawful to take, possess, sell, or purchase any white seabass less than 28 inches in length. Section 8623. (a) It is unlawful to use any purse seine or round haul net to take...white seabass. (b) It is unlawful to possess any...white seabass, except those taken south of the international boundary between the United States and Mexico...Section 8383. White seabass may not be taken for commercial purposes between March 15 and June 15...Also see Sections 2362, 6590, 6596(c), 7051(b), 7059, 7071, 8051, 8576, 9027.5, 10650-10667.
SPORT REGULATIONS	Fish and Game Code Section 8385. No person holding a commercial fishing license while on any barge or boat which for hire carries any sport fisherman may take or have in his possession in any one day more than the aggregate number of the following kinds of fish permitted in the case of sport fishing: bluefin tuna, yellowfin tuna, skipjack, yellowtail, marlin, broadbill swordfish, black seabass, albacore, barracuda, white seabass, bonito, rock bass, kelp bass, California halibut, California corbina, yellowfin croaker, and spotfin croaker. Section 28.35C. Limit: 3, except that only 1 fish may be taken in waters south of Point Conception between March 15 and June 15. Section 28.35A. Minimum size: 28 in.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Halfmoon
SCIENTIFIC NAME	<i>Medialuna californiensis</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Kyphosidae
DISTRIBUTION	Vancouver Island to Gulf of California; rare north of Point Conception.
HABITAT	Often in rocky areas, kelp, and oil platforms; inshore and to 130 ft (40 m). Abundant from 10-65 ft (3-31 m).
DIET	Algae and small invertebrates.
BREEDING BEHAVIOR	Females are oviparous and they spawn from April to October. Halfmoon larvae are found between 150-300 miles offshore. Heaviest larval concentrations are off northern Baja California.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Recreational importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Black Surfperch
SCIENTIFIC NAME	<i>Embiotoca jacksoni</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Embiotocidae
DISTRIBUTION	Fort Bragg (northern California) to central Baja California, including Guadalupe Island.
HABITAT	Chiefly rocky areas near kelp; occasionally over sand bottom of coastal bays and around piers and pilings; rarely in surf. Intertidal to 150 ft (46 m), but usually about 20 ft (6.1 m). Usually in small groups.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8395. Surfperch of the family Embiotocidae may be taken only between July 16 and April 30. Surfperch may be sold or purchased only between July 16 and May 10. South of a line drawn east and west through Point Arguello, barred surfperch...may not be taken for commercial purposes. Surfperch which have been taken north of the line during the open season and shipped south of the line may be sold or purchased under such regulations as the commission may prescribe. Also see Sections 10650-10667.
SPORT REGULATIONS	Section 27.60 (a). Limit: No more than 20 fin fish in any combination of all species with not more than 10 of any one species, may be taken or possessed by any one person except as otherwise provided.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Keystone or dominant species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Barred Surfperch
SCIENTIFIC NAME	<i>Amphistichus argenteus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Embiotocidae
DISTRIBUTION	Northern Washington to Plaza Maria Bay, Baja California. Common from Santa Cruz southward.
HABITAT	Congregate in depressions on the bottom in the surf zone along sandy beaches less than 20 ft (6 m). Also around piers, in bays and over small sandy beaches which interrupt rocky shores.
DIET	Sand crabs and other crustaceans, bean clams, and small crabs.
BREEDING BEHAVIOR	Breeding occurs in November and spawning occurs from February to July. Females are viviparous. As many as 113 young have been found in one female.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8395. Surfperch of the family Embiotocidae may be taken only between July 16 and April 30. Surfperch may be sold or purchased only between July 16 and May 10. South of a line drawn east and west through Point Arguello, barred surfperch...may not be taken for commercial purposes. Surfperch which have been taken north of the line during the open season and shipped south of the line may be sold or purchased under such regulations as the commission may prescribe. Also see Sections 10650-10667.
SPORT REGULATIONS	Section 27.60 (a). Limit: No more than 20 fin fish in any combination of all species with not more than 10 of any one species, may be taken or possessed by any one person except as otherwise provided.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Commercial and recreational importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Shiner Surfperch
SCIENTIFIC NAME	<i>Cymatogaster aggregata</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Embiotocidae
DISTRIBUTION	Occur from Port Wrangell, Alaska, to San Quintin Bay, Baja California. Abundant south of British Columbia.
HABITAT	Prefer calm water and are most abundant in bays around eelgrass beds and the pilings of wharves and piers.
DIET	Copepods, arrow worms, amphipods, fish eggs, small crustaceans and other invertebrates. Frequently observed around pier pilings nipping off the appendages of barnacles.
BREEDING BEHAVIOR	Mating occurs in June or July, and females store sperm through the winter. Spawning occurs in April and May off southern California.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8395. Surfperch of the family Embiotocidae may be taken only between July 16 and April 30, except shiner perch (<i>Cymatogaster aggregata</i>), which may be taken, sold or purchased at any time. Surfperch may be sold or purchased only between July 16 and May 10. Also see Sections 10650-10667.
SPORT REGULATIONS	Section 27.60(c). There is no limit on shiner surfperch.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Commercial and recreational importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Walleye Surfperch
SCIENTIFIC NAME	<i>Hyperprosopon argenteum</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Embiotocidae
DISTRIBUTION	Vancouver Island (British Columbia) to Point San Rosarito (Baja California). Common from Washington southward.
HABITAT	Found in dense schools along sandy beaches, near rocks, and around piers. Move over reefs at night. Shallow waters to 600 ft (200 m).
DIET	Krill, amphipods, isopods, and small fishes.
BREEDING BEHAVIOR	Females are viviparous. Mating occurs in November and the fish spawn from April to June. A female produces up to 19 young.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8395. Surfperch of the family Embiotocidae may be taken only between July 16 and April 30. Surfperch may be sold or purchased only between July 16 and May 10.
SPORT REGULATIONS	Section 27.60(a). Limit: No more than 20 fin fish in any combination of all species with not more than 10 of any one species, may be taken or possessed by any one person except as otherwise provided.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Commercial and recreational importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Silver Surfperch
SCIENTIFIC NAME	<i>Hyperprosopon ellipticum</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Embiotocidae
DISTRIBUTION	Occur from Rio San Vicente, Baja California, to Schooner Cove, near Tofino, Vancouver Island, British Columbia.
HABITAT	Frequent the sandy surf zone; also caught among the shallow rocks from piers in bays. Common to 120 m.
DIET	Shrimp, crustaceans, clams, amphipods and algae.
BREEDING BEHAVIOR	Females are viviparous, mating occurs in late September and October. Off Oregon, the young are born in June to August. Females produce 4 to 16 young per season.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8395. Surfperch of the family Embiotocidae may be taken only between July 16 and April 30. Surfperch may be sold or purchased only between July 16 and May 10. Also see Sections 10650-10667.
SPORT REGULATIONS	Section 27.60 (a). Limit: No more than 20 fin fish in any combination of all species with not more than 10 of any one species, may be taken or possessed by any one person except as otherwise provided.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Commercial and recreational importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Rubberlip Surfperch
SCIENTIFIC NAME	<i>Rhacochilus toxotes</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Embiotocidae
DISTRIBUTION	Thurloe Head, Baja California, to Medocino County, California.
HABITAT	Frequently found in rocky areas, tidepools and kelp beds on the outer coast as well as bays and harbors. Shallow subtidal to 156 ft (52 m). Common from 10-100 ft (3-33 m). Young live in shallow waters in algae.
DIET	Adults feed upon crabs, shrimps and octopus. Juveniles feed on typical surfperch food such as worms, small crabs, mussels, and tiny snails.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8395. Surfperch of the family Embiotocidae may be taken only between July 16 and April 30. Surfperch may be sold or purchased only between July 16 and May 10. Also see Sections 10650-10667.
SPORT REGULATIONS	Section 27.60(a). Limit: No more than 20 fin fish in any combination of all species with not more than 10 of any one species, may be taken or possessed by any one person except as otherwise provided.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Commercial and recreational importance.

COMMON NAME Blacksmith
SCIENTIFIC NAME *Chromis punctipinnis*

PHYLUM Chordata
CLASS Osteichthyes
ORDER Perciformes
FAMILY Pomacentridae

DISTRIBUTION Monterey Bay to central Baja California. Rare north of Point Conception. However, blacksmith are common at least as far north as Monterey Bay during some years (e.g. 1980).

HABITAT Abundant over structures such as rocky reefs and oil platforms in nearshore waters from the surface to 150 ft (50 m). During the day large schools, up to hundreds of individuals can be found over most reefs. At night most blacksmith shelter in crevices or on sand near crevices.

DIET Feeds mostly on zooplankton such as copepods, crustacean larvae and eggs.

REMARKS Blacksmith mature at 2 years of age. Spawning occurs in summer. The larvae are pelagic and newly recruited juveniles appear in the late summer or early fall. Schools of these very young fish are semi-pelagic, occasionally entering kelp beds.

REFERENCES Eschmeyer et al. 1983, Love 1991.

CRITERIA FOR LISTING Indicator or sensitive species.

COMMON NAME	Garibaldi
SCIENTIFIC NAME	<i>Hypsypops rubicundus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Pomacentridae
DISTRIBUTION	Monterey Bay to S Baja and Guadalupe Island (off N central Baja). Rare north of Point Conception.
HABITAT	Over rocky bottom in clear water; often near crevices and small caves, occasionally in kelp. Inshore and to 95 ft (29 m).
DIET	Feeds mostly on attached invertebrates.
REMARKS	Male clears a sheltered nest site; female deposits eggs, which male guards.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8597(a). It is unlawful for any person to take, possess aboard a boat, or land for marine aquaria pet trade purposes...[garibaldi]...unless that person has a valid marine aquaria collector's permit that has not been suspended or revoked. At least one person aboard the boat shall have a valid marine aquaria collector permit. (b) Except as provided in Section 8598.2...[garibaldi]...may be taken, possessed aboard a boat, or landed under a marine aquaria collector's permit.
SPORT REGULATIONS	Section 28.05. May not be taken or possessed.
REFERENCES	NMFS, Eschmeyer et al. 1983
CRITERIA FOR LISTING	Exhibited long-term or rapid decline. Indicator or sensitive species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	California Sheephead
SCIENTIFIC NAME	<i>Semicossyphus pulcher</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Labridae
STATUS	Populations off southern California have declined because of fishing pressure and reduction of kelp beds; large males are now rare.
DISTRIBUTION	Monterey Bay to Guadalupe Islands (northern central Baja California) and Gulf of California; uncommon north of Point Conception.
HABITAT	Prefers rocky bottom, particularly in kelp beds; subtidal to 281 ft (93 m) but adults and juveniles usually at 10-100 ft (3-30 m).
DIET	Often feeds on hard-shelled organisms such as sea urchins, mollusks, lobsters, and crabs, which it crushes with tooth-plates in rear of mouth. Can pry food from rocks with canine teeth.
BREEDING BEHAVIOR	Each individual functions first as a female but changes to a male at about 1 ft (30 cm). Spawning occurs from July to September and each fish probably spawns several times.
COMMERCIAL REGULATIONS	Fish and Game Code Section 8585.5. The Legislature finds and declares that important commercial and recreational fisheries exist on numerous stocks of California sheephead... Section 8588(b). Minimum size: 12 in. (305 mm). Section 8597(b). ...Specimens of [sheephead] larger than 6 inches total length may be taken, possessed aboard a boat, or landed under a marine aquaria collector's permit. Also see Sections 10664-10667.
SPORT REGULATIONS	Section 27.60 (a). Limit: No more than 20 fin fish in any combination of all species with not more than 10 of any one species, may be taken or possessed by any one person except as otherwise provided.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Commercial and recreational importance. Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Tidewater Goby
SCIENTIFIC NAME	<i>Eucylogobius newberryi</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Perciformes
FAMILY	Gobiidae
STATUS	Endangered.
DISTRIBUTION	Smith River (northern California) to Agua Hedionda Lagoon (southern California).
HABITAT	Coastal lagoons and brackish bays at the mouth of freshwater streams.
REFERENCES	Eschmeyer et al. 1983, Lafferty et al. 1996.
CRITERIA FOR LISTING	Endangered species.

COMMON NAME	California Halibut
SCIENTIFIC NAME	<i>Paralichthys californicus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Pleuronectiformes
FAMILY	Bothidae
DISTRIBUTION	Quillayute River (northern Washington) to southern Baja California.
HABITAT	Variable: mostly on sand bottom near reefs, rocks, or kelp holdfasts. Common beyond surf line, also in bays and estuaries. Near shore to 600 ft (183 m). Commonly from 5-180 ft (2-60 m). Halibut tend to make seasonal inshore-offshore movements, moving inshore and aggregating in the late winter and early spring to spawn and feed, staying through the summer and fall, then dispersing offshore in late fall and winter.
DIET	Juveniles feed on copepods and amphipods. Adults feed on anchovies and similar small fishes.
BREEDING BEHAVIOR	Females are oviparous. Some spawning occurs throughout the year, but most spawning occurs from February to June. Spawning occurs inshore and most larvae are found over water shallower than 250 ft (83 m). The larvae settle out into shallow water 30 days after hatching.
COMMERCIAL REGULATIONS	Fish and Game Code 8609. The Legislature finds and declares that: (a) The central California nearshore gill and trammel net fisheries for California halibut and the use of gill nets in this fishery is expanding at a rapid rate. Section 8391. California halibut may be taken at any time. Section 8392(a) No California halibut may be taken, possessed, or sold that measures less than 22 inches in total length, unless it weighs 4 lbs. or more in the round, 3.5 lbs. or more dressed with the head on, or three pounds or more dressed with the head off. Also see Sections 316, 6903.5, 8405.3, 8495-8497, 8609, 8625(a-c), 8626(a-d), 8842(a-b), 9027-9027.5, and 10664-10667. Title 14. Chapter 6. Section 189D.3. Not more than 500 lbs of groundfish bycatch may be retained, processed or landed per trip. Landings shall contain a legal size California halibut (22 in total length except fish weighing 4 lbs or more in the round, 3.5 lbs or more dressed with the head on, or 3 lbs or more dressed with the head off).
SPORT REGULATIONS	Fish and Game Code Sections 8385 and 28.15(a). Limit: 5 in waters south of a line extending due west magnetic from Point Sur Monterey County. (b) Min. size: 22 in.
REFERENCES	Eschmeyer et al. 1983
CRITERIA FOR LISTING	Commercial and recreational importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Starry Flounder
SCIENTIFIC NAME	<i>Platichthys stellatus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Pleuronectiformes
FAMILY	Pleuronectidae
DISTRIBUTION	Japan to Bering Sea and Arctic Alaska, and to Santa Barbara (southern California).
HABITAT	Common near shore, often in estuaries and to 900 ft (274 m). Common from 5-150 ft (2-53 m).
DIET	Small starry flounders eat mostly worms and small crustaceans. As they grow they eat progressively more crabs, clams, sand dollars and brittle stars. Large individuals also eat some fishes, including sardines, sanddabs and surfperch.
BREEDING BEHAVIOR	Females are oviparous and produce 900,000 to 11,000,000 eggs per year. Off California, spawning occurs from October to February. Eggs stay near the surface and hatch after 2-15 days, depending on temperature. Young settle out of the water column in shallow water, most commonly in estuaries, but also in the sandy intertidal zone and in freshwater.
SPORT REGULATIONS	Section 27.60(a). Limit: No more than 20 fin fish in any combination of all species with not more than 10 of any one species, may be taken or possessed by any one person except as otherwise provided. (b). There is no limit on starry flounder.
REFERENCES	Eschmeyer et al. 1983
CRITERIA FOR LISTING	Recreational importance.

COMMON NAME	C-O Turbot
SCIENTIFIC NAME	<i>Pleuronichthys coenosus</i>
PHYLUM	Chordata
CLASS	Osteichthyes
ORDER	Pleuronectiformes
FAMILY	Pleuronectidae
DISTRIBUTION	SE Alaska to northern Baja California.
HABITAT	On sandy, flat bottom but also in rocky areas, common in shallow water. Inshore to 1150 ft (383 m).
DIET	Sediment dwellers, such as worms, small crustaceans and small fish.
BREEDING BEHAVIOR	Spawning season is about March to August. Females are oviparous and produce pelagic eggs.
COMMERCIAL REGULATIONS	Fish and Game Code Section 10667(a). In the Dana Point Marine Life Refuge below the intertidal zone, ... [c-o turbot],...may be taken under the authority of a sportfishing license as authorized by this code.
SPORT REGULATIONS	Section 27.60(a). Limit: No more than 20 fin fish in any combination of all species with not more than 10 of any one species, may be taken or possessed by any one person except as otherwise provided.
REFERENCES	Eschmeyer et al. 1983, Love 1996.
CRITERIA FOR LISTING	Commercial and recreational importance.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Ashy Storm-Petrel
SCIENTIFIC NAME	<i>Oceanodroma homochroa</i>
PHYLUM	Chordata
CLASS	Aves
ORDER	Procellariiformes
FAMILY	Hydrobatidae
STATE STATUS	High Concern
OTHER STATUS	Migratory Breeding Seabird
DISTRIBUTION	Pacific coast from central Baja California to northern California.
HABITAT	Breeds on islands off the central and southern California coast.
DIET	Feeds on the surface of the ocean, eating small fish and crustaceans.
REGULATIONS	Migratory Bird Treaty Act 16 U.S.C. 703. Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention...for the protection of migratory birds...or any part, nest, or egg of any such bird.
REFERENCES	CADFG, Peterson 1990, Scott and Swinson 1994
CRITERIA FOR LISTING	Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	California Brown Pelican
SCIENTIFIC NAME	<i>Pelecanus occidentalis californicus</i>
PHYLUM	Chordata
CLASS	Aves
ORDER	Pelicaniformes
FAMILY	Pelecanidae
STATE STATUS	Endangered
FEDERAL STATUS	Endangered
OTHER STATUS	Migratory Breeding Seabird
DATE LISTED	10-13-70
DISTRIBUTION	Pacific coast from Baja California to San Francisco. Rare inland.
HABITAT	Coastal.
DIET	Dives from air after prey, capturing fish in pouch.
REGULATIONS	Endangered Species Act of 1973. Section 9(a). General (1) Except as provided in sections 6(g)(2) and 10 of this Act, with respect to any endangered species of fish or wildlife listed pursuant to section 4 of this Act it is unlawful for any person subject to the jurisdiction of the United States to (A) import any such species into, or export any such species from the United States; (B) take any such species within the United States or the territorial sea of the United States; (C) take any such species upon the high seas; (D) possess, sell, deliver, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever and in the course of a commercial activity, any such species; (E) deliver, receive, carry, transport, or ship in interstate or foreign commerce any such species; or (G) violate any regulation pertaining to such species or to any threatened species of fish or wildlife listed pursuant to section 4 of this Act and promulgated by the Secretary pursuant to authority provided by this Act.
REFERENCES	CADFG, Peterson 1990, Scott and Swinson 1994
CRITERIA FOR LISTING	Endangered species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Snowy Plover
SCIENTIFIC NAME	<i>Charadrius alexandrinus</i>
PHYLUM	Chordata
CLASS	Aves
ORDER	Charadriiformes
FAMILY	Charadriidae
FEDERAL STATUS	Endangered
OTHER STATUS	Migratory Breeding Shorebird
DISTRIBUTION	Point Conception. Uncommon and declining.
HABITAT	Inhabits barren sandy beaches and flats.
DIET	Feeds by quickly running then picking up food, or probing on beaches and at surf line. Eats marine worms, small crustaceans, and, inland, insects.
REMARKS	In California, there is an increasing shortage of breeding sites on small offshore rocks, due to growing populations of seals and sea lions.
REGULATIONS	Migratory Bird Treaty Act 16 U.S.C. 703. Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention...for the protection of migratory birds...or any part, nest, or egg of any such bird.
REFERENCES	Peterson 1990.
CRITERIA FOR LISTING	Exhibited long-term or rapid decline. Endangered species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	California Least Tern
SCIENTIFIC NAME	<i>Sterna antillarum browni</i>
PHYLUM	Chordata
CLASS	Aves
ORDER	Charadriiformes
FAMILY	Laridae
STATE STATUS	Endangered
FEDERAL STATUS	Endangered
DATE LISTED	6-27-71
DISTRIBUTION	Less common and declining on the west coast. Winters from central America south.
HABITAT	Nests in colonies on beaches and sandbars.
DIET	Catches small fish by plunge diving into water or skimming over the surface.
REGULATIONS	Endangered Species Act of 1973. Section 9(a). General (1) Except as provided in sections 6(g)(2) and 10 of this Act, with respect to any endangered species of fish or wildlife listed pursuant to section 4 of this Act it is unlawful for any person subject to the jurisdiction of the United States to (A) import any such species into, or export any such species from the United States; (B) take any such species within the United States or the territorial sea of the United States; (C) take any such species upon the high seas; (D) possess, sell, deliver, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever and in the course of a commercial activity, any such species; (E) deliver, receive, carry, transport, or ship in interstate or foreign commerce any such species; or (G) violate any regulation pertaining to such species or to any threatened species of fish or wildlife listed pursuant to section 4 of this Act and promulgated by the Secretary pursuant to authority provided by this Act.
REFERENCES	CADFG, Peterson 1990, Scott and Swinson 1994
CRITERIA FOR LISTING	Endangered species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Pigeon Guillemont
SCIENTIFIC NAME	<i>Cephus columba</i>
PHYLUM	Chordata
CLASS	Aves
ORDER	Charadriiformes
FAMILY	Alcidae
STATE STATUS	Medium Concern
OTHER STATUS	Migratory Breeding Seabird
DISTRIBUTION	North Pacific. Breeds in NE Siberia, Alaska, and British Columbia to California.
HABITAT	Breeds colonially or solitarily in cliffs and slopes, occasionally excavating a burrow.
DIET	Catches fish and some shrimp with underwater dives. Tends to feed in deeper water a little offshore.
REMARKS	Total population estimated at 235,000 birds, most of these in Farallon Islands
REGULATIONS	Migratory Bird Treaty Act 16 U.S.C. 703. Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention...for the protection of migratory birds...or any part, nest, or egg of any such bird.
REFERENCES	Peterson 1990
CRITERIA FOR LISTING	Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Xantus's Murrelet
SCIENTIFIC NAME	<i>Synthliboramphus hypoleucus</i>
PHYLUM	Chordata
CLASS	Aves
ORDER	Charadriiformes
FAMILY	Alcidae
STATE STATUS	Medium Concern
OTHER STATUS	Migratory Breeding Seabird
DISTRIBUTION	NE Pacific.
HABITAT	Nests in colonies on rocky islands, ledges, and sometimes in dense vegetation.
DIET	Feed mostly on fish, especially anchovies and larvae of other fish.
REMARKS	Total population estimated at 5,600 with 1,500 birds in Santa Barbara.
REGULATIONS	Migratory Bird Treaty Act 16 U.S.C. 703. Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention...for the protection of migratory birds...or any part, nest, or egg of any such bird.
REFERENCES	Peterson 1990
CRITERIA FOR LISTING	Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Cassin's Auklet
SCIENTIFIC NAME	<i>Ptychoramphus aleuticus</i>
PHYLUM	Chordata
CLASS	Aves
ORDER	Charadriiformes
FAMILY	Alcidae
STATUS	Migratory Breeding Seabird
DISTRIBUTION	N Pacific. Breeds highly colonially on coastal islands with or without in crevices, cavities, caves and also in burrows, from Buldir Island in the Aleutians to SW and SE Alaska, through British Columbia to S Baja California.
HABITAT	Nests in colonies on islands and on isolated coastal cliffs and headlands.
DIET	Eats mostly crustaceans and some small fish.
REMARKS	Total population estimated at 3,600,000 birds.
REGULATIONS	Migratory Bird Treaty Act 16 U.S.C. 703. Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention...for the protection of migratory birds...or any part, nest, or egg of any such bird.
REFERENCES	Peterson 1990
CRITERIA FOR LISTING	Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Harbor Seal
SCIENTIFIC NAME	<i>Phoca vitulina</i>
PHYLUM	Chordata
CLASS	Mammalia
ORDER	Pinnipedia
FAMILY	Phocidae
STATE STATUS	Medium Concern
OTHER STATUS	Variable
DISTRIBUTION	Worldwide distribution from Japan to the Bering Sea; S Alaska including Tres Marias and Aleutian Islands; NE Canada to Florida; Iceland and S Greenland; Spitsbergen; the British Isles and Norway.
HABITAT	Coastal waters, open ocean, estuaries and bays, freshwater lakes, and rivers. Tends to exploit rocky inshore and kelp forest, soft-sediment bottom, pelagic, and freshwater communities.
DIET	Fish, cephalopods, krill, other invertebrates. Primarily herring, cod, flounder, sculpin, gadoids, salmon, octopuses, whelks, shrimps, and amphipods.
REMARKS	Harbor seals occur year-round on San Miguel Island. They give birth to pups and breed from March to May. The population has increased steadily, stabilizing around 1,500 animals during the mid-1990s.
REGULATIONS	Marine Mammal Protection Act of 1972. Sections 1372(a), 1372(b-f), 1373, and 1374.
REFERENCES	CADFG, Bigg 1981, Riedman 1990.
CRITERIA FOR LISTING	Keystone or dominant species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Northern Fur Seal
SCIENTIFIC NAME	<i>Callorbinus ursinus</i>
PHYLUM	Chordata
CLASS	Mammalia
ORDER	Pinnipedia
FAMILY	Otariidae
FEDERAL STATUS	Depleted
OTHER STATUS	Decreasing
DATE LISTED	1-1-00
DISTRIBUTION	Tokyo (Japan) to the Bering Sea; southern Alaska to San Diego including the Pribilof and Aleutian Islands.
HABITAT	Coastal waters, open ocean, estuaries and bays, freshwater lakes, and rivers. Tends to exploit rocky inshore and kelp forest, soft-sediment bottom, pelagic, and freshwater communities.
DIET	Fish, cephalopods, and birds. Primarily pollock, herring, lantern fish, cod, rockfish, squid, loons, and petrels.
REMARKS	Northern fur seals appear firmly established at San Miguel Island, the southern extent of the species' breeding range. Adult females tagged as pups in the Bering Sea and Russian Pacific have been observed at San Miguel Island. The species' growth at San Miguel Island is due to the immigration of females from northern populations. The only severe decreases have occurred as a result of strong El Nino events in 1983 and 1997. The population numbered approximately 12,000 animals in 1997, based upon total pup production of around 3,000 for the two breeding colonies at Castle Rock and Adams Rock.
REGULATIONS	Marine Mammal Protection Act of 1972. Sections 1372(a), 1372(b-f), 1373, and 1374.
REFERENCES	NMGS, Gentry & Kooyman 1986., Riedman 1990.
CRITERIA FOR LISTING	Exhibited long-term or rapid decline.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.

COMMON NAME	Southern Sea Otter
SCIENTIFIC NAME	<i>Enhydra lutris nereis</i>
PHYLUM	Chordata
CLASS	Mammalia
ORDER	Carnivora
FAMILY	Mustelidae
FEDERAL STATUS	Threatened
DATE LISTED	1-14-77
DISTRIBUTION	Monterey Bay to Los Angeles.
HABITAT	Rocky, sandy, and mixed shores, but are most common on rocky shores, and prefer habitat with kelp. They generally remain close to shore in areas where the water depth is 20 m (65 ft) or less.
DIET	Crabs, mussels, sea stars, clams, and abalones. Fish and marine birds on occasion.
REMARKS	Population increasing between 5-7% per year to 2,400 individuals in 1995 and declining to less than 2000 in 1999. Female otters give birth to a single pup each year. Females are believed to reach sexual maturity after 3 years, males after 5 years. Most births occur between February and April, although births do occur throughout the year. Otters live between 12-20 years.
REGULATIONS	Endangered Species Act of 1973. Section 9(a) and 6(g). Marine Mammal Protection Act of 1972. Sections 1372(a), 1372(b-f), 1373, and 1374.
REFERENCES	ESA, CADFG, Watson and Root 1996.
CRITERIA FOR LISTING	Keystone or dominant species. Endangered species.

REGULATIONS MAY CHANGE. For more up-to-date information about commercial and sport fishing regulations consult the State of California Fish and Game Code, California Department of Fish and Game Title 14 Chapter 6. Commercial Fishing Regulations, and 2000 California Sport Fishing Regulations.