California Department of Fish and Game
Preferred Alternative for Marine Protected Areas
in the Central Coast Study Region

Detailed Description of Areas, Goals, and Rationale for changes to the Marine Life Protection Act Blue Ribbon Task Force Preferred Alternative
June 22, 2006

Explanation of Descriptive Parameters:

Proposed MPA or MMA: The proposed name and classification of the marine protected area or marine managed area, using the classification system established by the Marine Managed Areas Improvement Act.

Area (square miles): The approximate surface area of the proposed MPA or MMA measured using a geographical information system program.

Along-shore span (miles): The approximate straight line distance parallel to shore of the proposed MPA or MMA or, if not adjacent to shore, the straight line distance of the greatest dimension parallel or perpendicular to shore. This distance is not the length of the shoreline within the MPA, but rather an "as-the-fish-swims" measure.

Depth range (feet): The approximate range of depth within the proposed MPA or MMA, with 0 feet being equivalent to the shoreward boundary of mean high tide if applicable measured using a geographical information system program.

Primary habitat types: The types of benthic substrate and attached marine plant or macroalgal species which comprise the majority of the proposed MPA or MMA.

Proposed regulations: The specific fishing or other use regulations within the proposed MPA or MMA which are in addition to those of the general area.

Boundaries: Waypoints expressed in latitude and longitude defining the corners of the proposed MPA or MMA (including the intersection with the shoreline at mean high tide if applicable), with straight lines, unless otherwise specified, connecting the waypoints in the order listed to form the seaward boundaries.

Examples of species likely to benefit: A subset of the marine fish, invertebrate, plant, bird, and mammal species likely to directly or indirectly benefit from the proposed MPA or MMA. This includes marine fish, invertebrate, and plant species which are generally either sessile, sedentary, or have relatively small home ranges and for which take is prohibited in the proposed regulations, but also includes marine bird and mammal species which, although already fully protected through other regulations or statutes, may benefit further from protection of their primary prey or forage species.

Summary of Objectives: A brief summary of the objectives for the proposed MPA or MMA and how these objectives are related to the overall goals of the MLPA.

Explanation of and Rationale for changes to proposed MPA or MMA from Package 3R: a brief description of the rationale used by the Department in modifying the proposed MPA or MMA from Package 3R.

Detailed Objectives (with reference to regional goal and objective): a list of all the individual objectives proposed for the MPA or MMA, with reference to the applicable Regional Goal number and Regional Objective number. Since Package P was based on revisions to Package 3R, the MPA objectives listed here relate to those developed and adopted by the proponents of Package 3R prior to modification by the Task Force, with appropriate modifications by the Department relevant to the modifications of the proposed MPAs or MMAs.

Definitions:

Shallow: 100 meters (330 feet) or less

Deep: greater than 100 meters (330 feet)

Pelagic finfish: northern anchovy (*Engraulis mordax*), barracudas (*Sphyraena* spp.), billfishes* (family *Istiophoridae*), dolphinfish (*Coryphaena hippurus*), Pacific herring (*Clupea pallasi*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), salmon (*Oncorhynchus* spp.), Pacific sardine (*Sardinops sagax*), blue shark (*Prionace glauca*), salmon shark (*Lamna ditropis*), shortfin mako shark (*Isurus oxyrinchus*), thresher sharks (*Alopias* spp.), swordfish (*Xiphias gladius*), tunas (family *Scombridae*), and yellowtail (*Seriola lalandi*). *Marlin is not allowed for commercial take.

Coastal pelagic finfish: northern anchovy (*Engraulis mordax*), Pacific herring (*Clupea pallasi*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), and Pacific sardine (*Sardinops sagax*).

Nearshore Rockfish: black rockfish (*Sebastes melanops*), black-and-yellow rockfish (*S. chrysomelas*), blue rockfish (*S. mystinus*), brown rockfish (*S. auriculatus*), calico rockfish (*S. dalli*), China rockfish (*S. nebulosus*), copper rockfish (*S. caurinus*), gopher rockfish (*S. carnatus*), grass rockfish (*S. rastrelliger*), kelp rockfish (*S. atrovirens*), olive rockfish (*S. serranoides*), quillback rockfish (*S. maliger*), treefish (*S. serriceps*).

Nearshore Fishery Management Plan species: the above 13 nearshore rockfishes and cabezon (*Scorpaenichthys marmoratus*), California scorpionfish (*Scorpaena guttata*), California sheephead (*Semicossyphus pulcher*), greenlings of the genus *Hexagrammos*, and monkeyface prickleback (*Cebidichthys violaceus*).

Shelf Rockfish: bocaccio (*Sebastes paucispinis*), bronzespotted rockfish (*S. gilli*), canary rockfish (*S. pinniger*), chilipepper (*S. goodei*), cowcod (*S. levis*), dusky rockfish (*S. ciliatus*), flag rockfish (*S. rubrivinctus*), greenblotched rockfish (*S. rosenblatti*),

greenspotted rockfish (*S. chlorostictus*), greenstriped rockfish (*S. elongates*), harlequin rockfish (*S. variegates*), honeycomb rockfish (*S. umbrosus*), Mexican rockfish (*S. macdonaldi*), pink rockfish (*S. eos*), redstripe rockfish (*S. proriger*), rosethorn rockfish (*S. helvomaculatus*), rosy rockfish (*S. rosaceus*), shortbelly rockfish (*S. jordani*), silvergray rockfish (*S. brevispinis*), speckled rockfish (*S. ovalis*), squarespot rockfish (*S. hopkinsi*), starry rockfish (*S. constellatus*), stripetail rockfish (*S. saxicola*), tiger rockfish (*S. nigrocinctus*), vermilion rockfish (*S. miniatus*), widow rockfish (*S. entomelas*), yelloweye rockfish (*S. ruberrimus*), yellowtail rockfish (*S. flavidus*).

Slope Rockfish: aurora rockfish (*Sebastes aurora*), bank rockfish (*S. rufus*), blackgill rockfish (*S. melanostomus*), darkblotched rockfish (*S. crameri*), Pacific ocean perch (*S. alutus*), redbanded rockfish (*S. babcocki*), rougheye rockfish (*S. aleutianus*), sharpchin rockfish (*S. zacentrus*), shortraker rockfish (*S. borealis*), splitnose rockfish (*S. diploproa*), yellowmouth rockfish (*S. reedi*).

Note: some of the above rockfish species do not occur within the central coast, and some of them will not benefit from central coast marine protected areas due to their relatively large home ranges.

Proposed Areas Descriptions, Rationale, and Goals:

Proposed MPA: Año Nuevo State Marine Reserve
Area (sq. mi.): 8.77
Along-shore span (mi): 8.4
Depth range (ft): 0-160

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom.

Proposed regulations: No take.

Boundaries: This area is bounded in the north by the mean high tide line and a distance of 200 feet seaward of mean low tide between the following two points (Figure 1):
37º 10.00' N. lat. 122º 21.90' W. long.; and
37º 07.25' N. lat. 122º 20.50 W. long.
The area then continues southward bounded by the mean high tide line and straight lines connecting the following points in the order listed (Figure 1):
37º 07.25' N. lat. 122º 20.50' W. long.;
37º 04.70' N. lat. 122º 20.50' W. long.; and
37º 04.70' N. lat. 122º 16.20' W. long.

Examples of species likely to benefit: nearshore and shelf rockfishes, lingcod, cabezon, kelp greenling, surfperches, sardine, mackerel, anchovy, California halibut, sanddabs, Dungeness crab, littleneck clams, squid, murres, shearwaters.

Summary of Objectives: Provide complete protection to shallow soft and hard substrates and associated species in an area characterized by low-relief shale and a mixture of giant kelp and bull kelp. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
The proposed state marine reserve is reduced in extent from that of package 3R for the following reasons:

- The Package 3R SMR caused a conflict with an existing kelp bed lease. The Blue Ribbon Task Force specifically requested the Department to review kelp harvest leases[1]. The Department proposal includes approximately 0.02 square miles of kelp canopy in the MPA of the leased area, compared to 0.05 square miles in the total lease. This area is also at the far northern edge of the lease and far from port. The majority of kelp in the leased area is much closer to the nearest port at Santa Cruz.

[1] In the April 28th memo transmitting the Task Force's recommendations to the Department they identify a number of issues of concern and recommendations to the Department and Commission including: "Review kelp harvest leases, including seasonal leasing and hand-harvesting, in potential MPAs.

- The Package 3R SMR caused a conflict with a dedicated public fishing access along shore from the Greyhound Rock area. The Department proposal provides continued opportunity to the south of the access point. The area to the south includes approximately 0.5 miles of shoreline fishing access. Additional areas further south also provide access.
- The Package 3R SMR caused a potential significant negative impact to the squid fishery.
- The Package 3R SMR caused an unnecessary impact to recreational and commercial salmon fishing.
- The alignment of the western boundary of the Año Nuevo State Marine Reserve with the Año Nuevo buoy may result in a minor negative impact to the recreational rockfish fishery but should improve boundary recognition and facilitate enforcement.
- The alignment of the southern boundary of the Año Nuevo State Marine Reserve with the fishing access point should improve boundary recognition.
- Along with the proposed Año Nuevo SMCA, the complex is slightly larger than the Package 3R SMR providing potentially greater protection to benthic finfishes and invertebrates other than squid.

Detailed Objectives (with reference to regional goal and objective):
Protect area of high species diversity characteristic of the central coast region north of Monterey Bay and maintain species diversity and abundance as demonstrated by monitoring appropriate indicator species, with focus on Nearshore Fishery Management Plan species. (Goal 1, Objective 1)

Protect diverse intertidal habitats including wave-cut rocky platforms, sand and gravel beaches, offshore island, shallow rocky reef, shallow soft bottom, and mixed giant/bull kelp beds, in close proximity to each other. (Goal 1, Objective 2)

Protect natural size and age structure and genetic diversity of populations of nearshore rockfish species and invertebrates including appropriate indicator species. (Goal 1, Objective 3)

Protect natural trophic structure and food web including forage base (including crabs, squid and coastal pelagic finfish) for listed marine birds and marine mammals as well as higher trophic level fish. (Goal 1, Objective 4)

Protect range of ecosystem functions associated with lee of headland in productive upwelling zone. (Goal 1, Objective 5)

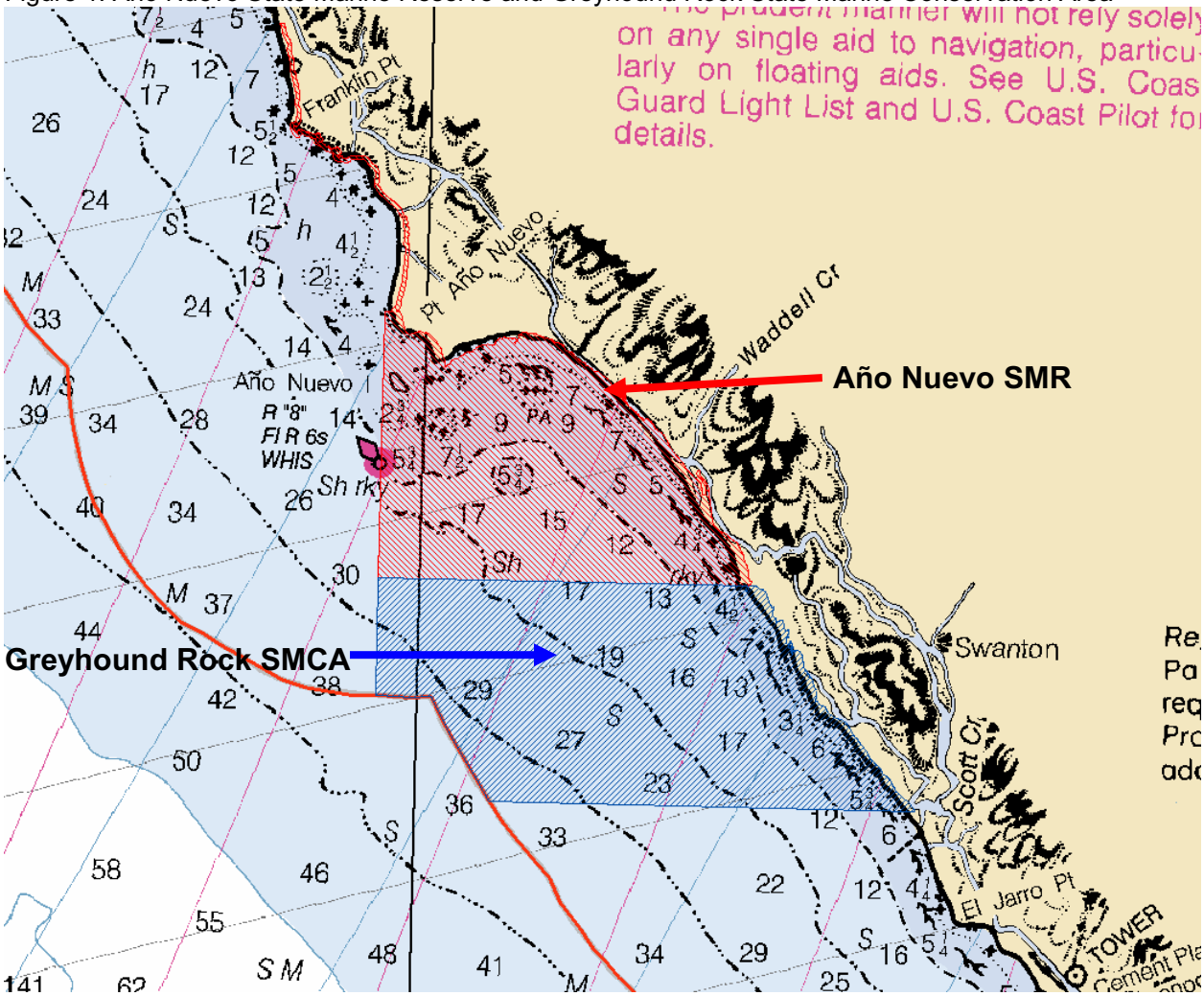
Protect important forage area for nearby breeding colonies of listed marine birds and marine mammals, including sea otters. Reduce disturbance to breeding colonies of listed marine birds, in particular marbled murrelets, and marine mammal rookeries from activities associated with vessels fishing (lights, noise, etc). (Goal 2, Objective 1)

Protect larval source and enhance reproductive capacity of invertebrate species such as Dungeness crab, limpets, mussels, turban snails, red abalone, black abalone, and finfish species including nearshore rockfishes and California halibut. (Goal 2, Objective 2)

Site a marine protected area adjacent to a terrestrial state park with high number of annual visitors that has traditionally served as an important marine education site through visitor center and docent program. (Goal 3, Objective 1)

Protect sandy and gravel beaches, and shallow hard and soft bottom habitat in a state marine reserve. (Goal 4, Objective 2)

Figure 1. Año Nuevo State Marine Reserve and Greyhound Rock State Marine Conservation Area



Proposed MPA: Greyhound Rock State Marine Conservation Area
Area (sq. mi.): 11.23
Along-shore span (mi): 3.1
Depth range (ft): 0-209

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom.

Proposed regulations: Take of all living marine resources is prohibited except commercial and recreational hand harvest of giant kelp (*Macrocystis* sp.); commercial and recreational take of squid and salmon; and the recreational harvest of finfish by hook-and-line from shore.

Boundaries: This area is bounded by the mean high tide line, the state water boundary and straight lines connecting the following points in the order listed except where stated as following the state water boundary (Figure 1):
37º 04.70' N. lat. 122º 16.20' W. long.;
37º 04.70' N. lat. 122º 20.50' W. long.;
37º 03.55' N. lat. 122º 20.50' W. long.; thence southward along the state water line to
37º 02.57' N. lat. 122º 19.10' W. long.; and
37º 02.57' N. lat. 122º 14.00' W. long.

Examples of species likely to benefit: nearshore and shelf rockfishes, lingcod, cabezon, kelp greenling, surfperches, sardine, mackerel, anchovy, California halibut, sanddabs, Dungeness crab, littleneck clams, squid, murres, shearwaters.

Summary of Objectives: Provide increased protection to shallow soft and hard substrates and associated species in the northern portion of the study region characterized by low-relief shale and a mixture of giant kelp and bull kelp. This area is intended to protect the subtidal fish and invertebrate and intertidal invertebrate communities while allowing for uses that have little on those communities to continue. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
The proposed state marine conservation area partially replaces the proposed state marine reserve in package 3R for the following reasons:

- The Package 3R SMR caused a conflict with an existing kelp bed lease. The Blue Ribbon Task Force specifically requested the Department to review kelp harvest leases (see footnote 1 above). The Department's proposal provides access to kelp in the area closer to port.
- The Package 3R SMR caused a conflict with a dedicated public fishing access along shore from the Greyhound Rock area. The Department's proposal provides recreational fishing opportunities to the south of the access point. California Recreational Fisheries Survey data show that this access site is a relatively low use site and the Department expects this proposal to provide enough area to accommodate existing uses.

- The Package 3R SMR caused a potential significant negative impact to the squid fishery.
- The Package 3R SMR caused an unnecessary impact to recreational and commercial salmon fishing.

Along with the proposed Año Nuevo SMR, the complex is larger than the Package 3R SMR providing potentially greater protection to benthic finfishes and invertebrates other than squid. Although the allowance of shore-based hook and line fishing reduces the SAT analysis level of protection in this area to low, the Department feels that restricting the fishing to the shoreline only will limit impacts to deeper water ecosystems.

Detailed Objectives (with reference to regional goal and objective):
Protect area of high benthic species diversity characteristic of the central coast region north of Monterey Bay and maintain benthic species diversity and abundance as demonstrated by monitoring appropriate indicator species, with focus on Nearshore Fishery Management Plan species. (Goal 1, Objective 1)

Protect natural size and age structure and genetic diversity of populations of nearshore rockfish species and invertebrates including appropriate indicator species. (Goal 1, Objective 3)

Protect important forage area for nearby breeding colonies of listed marine birds by prohibiting the harvest of pelagic finfish other than salmon. (Goal 2, Objective 1)

Protect larval source and enhance reproductive capacity of invertebrate species such as Dungeness crab, limpets, mussels, turban snails, red abalone, black abalone, and finfish species including nearshore rockfishes and California halibut. (Goal 2, Objective 2)

Site a marine protected area adjacent to a terrestrial state park with high number of annual visitors that has traditionally served as an important marine education site through visitor center and docent program. (Goal 3, Objective 1)

Deleted from 3R: Natural Bridges Intertidal State Marine Reserve

Explanation of and Rationale for changes to proposed MPA from Package 3R: The Department feels that the intertidal habitats encompassed in this area are included in other proposed areas in the region. Existing uses in this area would be unnecessarily curtailed by additional protection at this specific location. The Department feels that intertidal MPAs are difficult to enforce as their offshore boundaries are poorly defined. This area would add unnecessary complexity to the set of MPAs and potentially add to public confusion. Finally, human impacts to the intertidal zone from disturbance other than directed take of living resources (e.g., trampling) would not be addressed by the proposed MPA.

Deleted from 3R: Opal Cliffs State Marine Park

Explanation of and Rationale for changes to proposed MPA from Package 3R: See explanation above under Natural Bridges SMR. Additionally, there are no existing commercial uses in the area that would be reduced by the proposed park.

Proposed MPA: Elkhorn Slough State Marine Reserve
Area (sq. mi.): 1.48
Along-shore span (mi): 4.4
Depth range (ft): 0-10

Primary habitat types: estuary, coastal marsh, tidal flats, shallow soft bottom.

Proposed regulations: No take.

Boundaries: This area includes the area below mean high tide within Elkhorn Slough and between longitude 121º 46.40' W. and latitude 36º 50.50' N.

Examples of species likely to benefit: leopard shark, surf perches, bat ray, starry flounder, crabs, gaper clams, ghost shrimp, mud shrimp, worms, eelgrass.

Summary of Objectives: Continue to provide complete protection for one of the few estuarine areas of the central coast and expand this protection to include the entire slough channel as opposed to one half of the channel as is presently included.

Explanation of and Rationale for changes to proposed MPA from Package 3R: Package 3R had proposed a larger SMR, extending from the Highway 1 Bridge to the tidal extent of the slough. Due to concerns for traditional recreational uses by members of the public who were not represented in the stakeholder group process, including hook-and-line fishermen from boats, intertidal clammers, and waterfowl hunters, the Department proposes to change part of the proposed expanded Elkhorn Slough SMR in package 3R to a state marine park; allowing those traditional uses to continue, while providing increased protection due to the prohibition of commercial fishing and recreational clamming in a portion of the slough. The area traditionally used by hunters is not included in the Department proposal.

Detailed Objectives (with reference to regional goal and objective):
Protect estuarine area with high bird diversity. (Goal 1, Objective 1)

Protect area with diversity of estuarine habitats, including open channels, mud flats, and eelgrass beds, in close proximity to each other. (Goal 1, Objective 2)

Protect natural age, size structure, and genetic diversity of fish and invertebrate species characteristic of one of largest estuarine systems within the central coast, in particular elasmobranches, flatfishes, gaper clams, and fat innkeeper worms. (Goal 1, Objective 3)

Protect natural structure and food web of estuarine system, including invertebrate forage base for sea otters and marine birds. (Goal 1, Objective 4)

Help protect listed marine birds and southern sea otter by protecting feeding, roosting, and nesting habitat. (Goal 2, Objective 1)

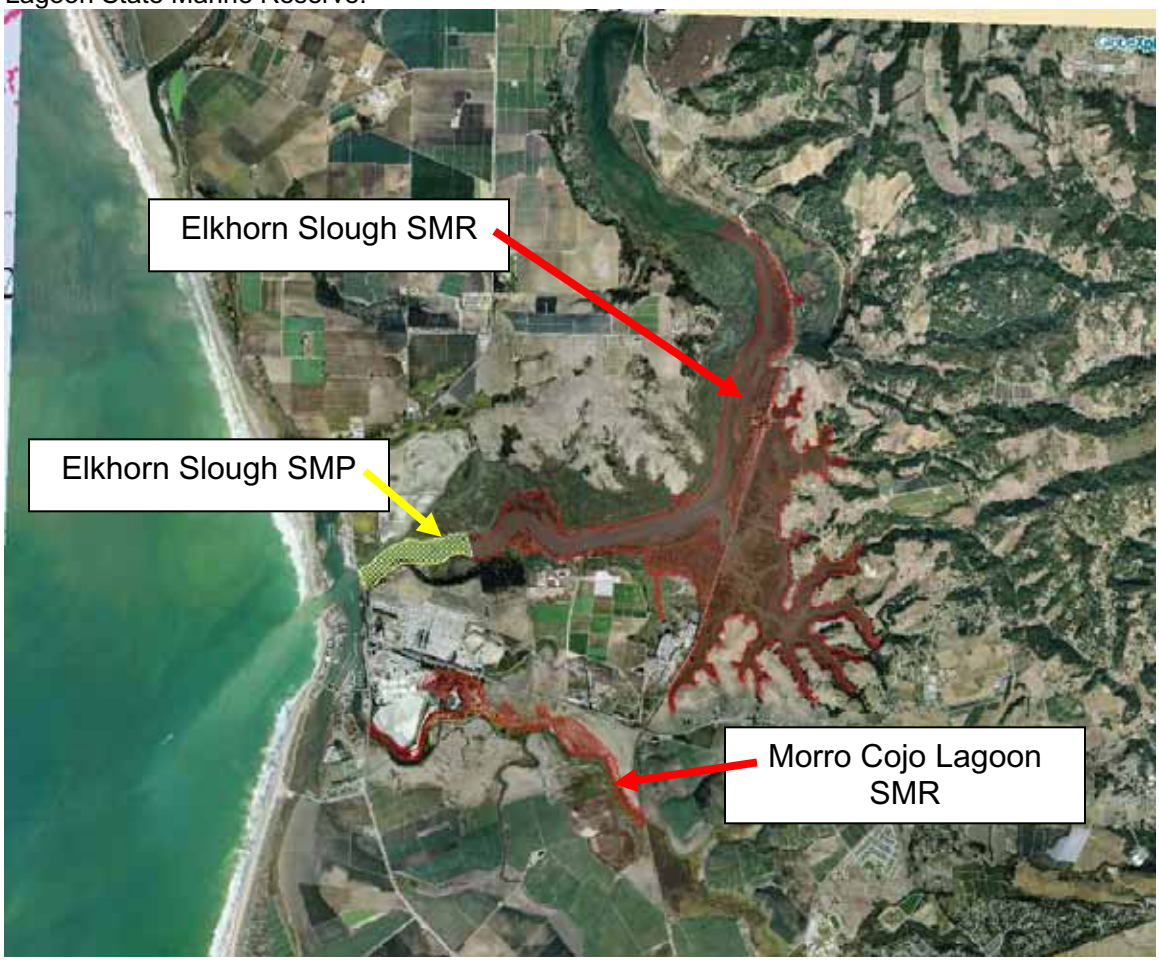
Enhance reproductive capacity of both invertebrate and fish species by prohibiting take in important nursery area. (Goal 2, Objective 2)

Provide increased research and education opportunities by expanding an existing state marine reserve in an area adjacent to educational and interpretive facilities of the National Estuarine Research Reserve and Moss Landing Marine Laboratories. (Goal 3, Objective 1)

Protect and replicate representative estuarine habitat in central coast region within a state marine reserve. (Goal 3, Objective 2)

Protect estuarine habitat within a state marine reserve. (Goal 4, Objective 1)

Figure 2. Elkhorn Slough State Marine Reserve, Elkhorn Slough State Marine Park, and Morro Cojo Lagoon State Marine Reserve.



Proposed MPA: Elkhorn Slough State Marine Park
Area (sq. mi.): 0.09
Along-shore span (mi): 1.4
Depth range (ft): 0-10

Primary habitat types: estuary, coastal marsh, tidal flats, shallow soft bottom.

Proposed regulations: Take of all living marine resources is prohibited except the recreational take of finfish by hook-and-line, and the recreational take of clams in the area adjacent to the Department of Fish and Game Wildlife Area on the north shore of the slough.

Boundaries: This area includes the area below mean high tide within Elkhorn Slough between by the Highway 1 Bridge and longitude 121º 46.40' W. (Figure 2).

Examples of species likely to benefit: crabs, ghost shrimp, mud shrimp, worms, eelgrass.

Summary of Objectives: Provide increased protection for one of the few estuarine areas of the central coast while allow for traditional uses of recreational fishing. The intent of the area is to allow small scale recreational fishing activities to continue, while limiting any future increases in use that do not presently occur. The area will also prohibit take of clams in an area used by sea otters for foraging, potentially providing more available prey for the otters.

Explanation of and Rationale for changes to proposed MMA from Package 3R: Package 3R had proposed a much larger SMR, extending from the Highway 1 Bridge to the tidal extent of the slough. Due to concerns for traditional recreational uses by members of the public who were not represented in the stakeholder group process, including hook-and-line fishermen from boats, intertidal clammers, and waterfowl hunters, the Department proposes to change the proposed western expansion of the SMR to a state marine park and allow those traditional uses to continue, while providing increased protection due to the prohibition of commercial fishing

Detailed Objectives (with reference to regional goal and objective):
Protect estuarine area with high bird diversity. (Goal 1, Objective 1)

Protect area with diversity of estuarine habitats, including open channels, mud flats, and eelgrass beds, in close proximity to each other. (Goal 1, Objective 2)

Protect natural age, size structure, and genetic diversity of some invertebrate species, such as fat innkeeper worms, characteristic of one of largest estuarine systems within the central coast. (Goal 1, Objective 3)

Provide for traditional recreational consumptive and nonconsumptive uses while offering some protection due to the prohibition of commercial fishing. (Goal 2, Objective 3)

Provide increased research and education opportunities by expanding an existing state marine reserve in an area adjacent to educational and interpretive facilities of the National Estuarine Research Reserve and Moss Landing Marine Laboratories. (Goal 3, Objective 1)

Proposed MPA: Moro Cojo State Marine Reserve
Area (sq. mi.): 0.46
Along-shore span (mi): 5.0
Depth range (ft): 0-10

Primary habitat types: estuary, tidal flats, shallow soft bottom.

Proposed regulations: No take.

Boundaries: This area includes the area within Moro Cojo Slough below mean high tide and between the Highway 1 Bridge and the crossing of the Southern Pacific Railroad tracks (Figure 2).

Examples of species likely to benefit: surfperches, snails, eelgrass.

Summary of Objectives: Provide complete protection for one of the few estuarine areas of the central coast. A recent grant to the North Monterey County Recreation and Park District will create more than three miles of nature trails and interpretive stations within the slough; the additional protection provided by the reserve will help ensure this increased access does not lead to new take of living resources.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
No changes from Package 3R. The eastern boundary has been confirmed using aerial photographs and adjusted to the railroad crossing as intended in 3R.

Detailed Objectives (with reference to regional goal and objective):
Help protect listed marine birds by protecting feeding, roosting, and nesting habitat. (Goal 2, Objective 1)

Protect estuarine habitat within a state marine reserve. (Goal 4, Objective 1)

Proposed MPA: Soquel Canyon State Marine Conservation Area
Area (sq. mi.): 23.39
Along-shore span (mi): 7.2
Depth range (ft): 247-2113

Primary habitat types: shallow hard and soft bottom, deep hard and soft bottom, deep canyon.

Proposed regulations: Take of all living marine resources is prohibited except the commercial and recreational take of pelagic finfish and take of spot prawn by trap.

Boundaries: This area is bounded by straight lines connecting the following points in the order listed (Figure 3):
36º 51.00' N. lat. 121º 56.00' W. long.;
36º 51.00' N. lat. 122º 03.80' W. long.;
36º 48.00' N. lat. 122º 02.88' W. long.;
36º 48.00' N. lat. 121º 56.00' W. long.; and
36º 51.00' N. lat. 121º 56.00' W. long.

Examples of species likely to benefit: shelf and slope rockfishes, lingcod, Dover sole, squid.

Summary of Objectives: Provide increased protection to shallow and deep complex submarine canyon habitat and the majority of associated benthic species. This area would allow the continued take of spot prawn by trap and allow comparisons with an area that precludes this take just to the south (Portuguese Ledge). The Soquel Canyon area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
No changes are proposed in boundaries. The Department proposal, unlike Package 3R, would allow spot prawn fishing in this MPA. This recognizes the historical importance of the area to a relatively low-impact fishery with existing data on bycatch. For comparison, spot prawn fishing would be prohibited in the Portuguese Ledge SMCA.

Detailed Objectives (with reference to regional goal and objective):
Protect area with high species diversity associated with submarine canyon, including depth-stratified species assemblages with shelf and slope rockfishes. (Goal 1, Objective 1)

Help protect area of diverse habitat including shallow hard and soft bottom, deep hard and soft bottom, and submarine canyon, over a large depth range, and in close proximity to each other. (Goal 1, Objective 2)

Help restore overfished groundfish species by maintaining large individuals of species such as bocaccio, canary, and yelloweye rockfishes in an area that serves as a natural

refuge for these species due to inaccessible vertical rock outcrops in a submarine canyon. (Goal 1, Objective 3)

Protect overfished rockfishes, including bocaccio, canary, and yelloweye. (Goal 2, Objective 1)

Enhance reproductive capacity of benthic and deepwater fish species by prohibiting fishing for these species and allowing only fisheries with limited bycatch of these species. (Goal 2, Objective 2)

Protect rockfishes and other components of a deep benthic community, while allowing the harvest of pelagic finfish and spot prawn. (Goal 2, Objective 3)

Enhance education and study opportunities by establishing a marine protected area near the Monterey Bay Aquarium Research Institute and Moss Landing Marine Laboratories where remotely operated vehicles, a future Monterey Accelerated Research System (MARS) cable, and other research methods have already generated baseline data. (Goal 3, Objective 1)

Provide replicate deepwater hard bottom, soft bottom and submarine canyon habitats, in which fishing for benthic finfish species is prohibited, for Portuguese Ledge and Point Lobos State Marine Conservation Areas and Big Creek State Marine Reserve. (Goal 3, Objective 2)

Protect submarine canyon head habitat within a marine protected area. (Goal 4, Objective 1)

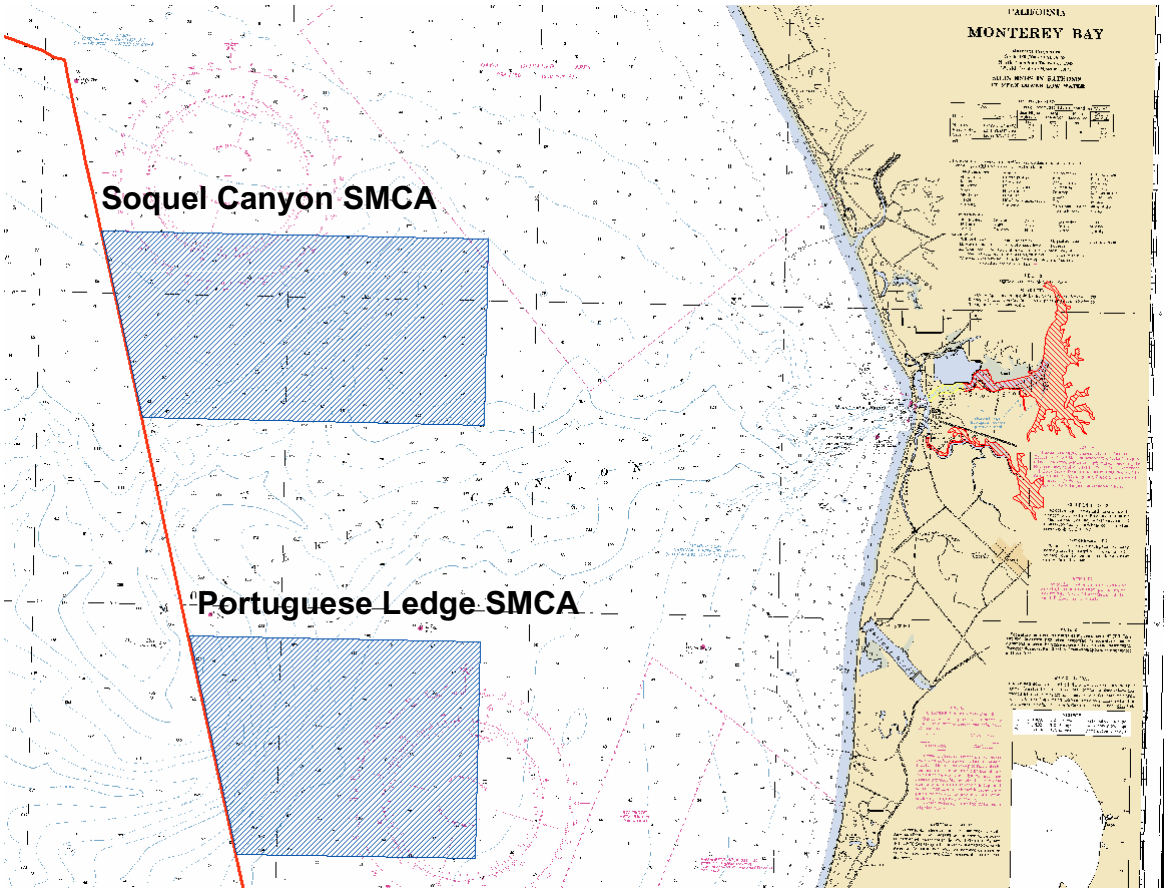
Protect and replicate deepwater hard and soft bottom and submarine canyon habitats across a wide range of depth. (Goal 4, Objective 2)

Minimize negative socio-economic impacts to the pelagic finfish and spot prawn fisheries while protecting benthic finfishes within a marine protected area. (Goal 5, Objective 1)

Minimize negative socio-economic impacts to rockfish fisheries by establishing a state marine conservation area in an area which encompasses the Rockfish Conservation Area, which is already closed to rockfish fishing. (Goal 5, Objective 1)

Establish marine protected areas that meet Master Plan Framework scientific guidelines regarding preferred size (greater than 18 square miles). (Goal 5, Objective 3)

Figure 3. Soquel Canyon State Marine Conservation Area and Portuguese Ledge State Marine Conservation Area.



Proposed MPA: Portuguese Ledge State Marine Conservation Area
Area (sq. mi.): 19.82
Along-shore span (mi): 5.4
Depth range (ft): 302-4838

Primary habitat types: shallow hard and soft bottom, deep hard and soft bottom, deep submarine canyon.

Proposed regulations: Take of all living marine resources is prohibited except the commercial and recreational take of pelagic finfish.

Boundaries: This area is bounded by straight lines connecting the following points in the order listed (Figure 3):
36º 44.50' N. lat. 121º 56.00' W. long.;
36º 44.50' N. lat. 122º 01.85' W. long.;
36º 41.00' N. lat. 122º 00.80' W. long.;
36º 41.00' N. lat. 121º 56.00' W. long.; and
36º 44.50' N. lat. 121º 56.00' W. long.

Examples of species likely to benefit: shelf and slope rockfishes, lingcod, Dover sole, Dungeness crab, spot prawn, squid.

Summary of Objectives: Provide increased protection to deep submarine canyon, other deep hard and soft habitat, and all associated benthic species. Allows for comparison with a similar area to the north (Soquel Canyon) that allows spot prawn trapping. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
The proposed SMCA would be larger than that in Package 3R in order to incorporate more deep rock habitat and better meet the habitat guidelines recommended in the Master Plan Framework. Any additional fishery impacts would be minimal due to the presence of the Rockfish Conservation Area within the MPA and the allowance of pelagic finfish fisheries. This area is outside the historically important area of the spot prawn trap fishery and thus has lesser potential impacts on spot prawn trapping than the proposed area in Package 3R.

Detailed Objectives (with reference to regional goal and objective):
Protect area with high species diversity associated with submarine canyon, including depth-stratified species assemblages with shelf and slope rockfishes. (Goal 1, Objective 1)

Help protect area of diverse habitat including shallow hard and soft bottom, deep hard and soft bottom, and submarine canyon, over a large depth range, and in close proximity to each other. (Goal 1, Objective 2)

Help restore overfished groundfish species by maintaining large individuals of species such as bocaccio, canary, and yelloweye rockfishes in an area that has been fished heavily for decades and has become less productive. (Goal 1, Objective 3)

Protect overfished rockfishes, including bocaccio, canary, and yelloweye. (Goal 2, Objective 1)

Enhance reproductive capacity of benthic and deepwater fish and invertebrate species by prohibiting fishing for these species and allowing fisheries with limited bycatch of these species. (Goal 2, Objective 2)

Protect rockfishes and other components of a deep benthic community, while allowing the harvest of pelagic finfish. (Goal 2, Objective 3)

Enhance education and study opportunities by establishing a marine protected area near the Monterey Bay Aquarium Research Institute and Moss Landing Marine Laboratories where remotely operated vehicles and other research methods have already generated baseline data. (Goal 3, Objective 1)

Provide replicate deepwater hard bottom, soft bottom and submarine canyon habitats, in which fishing for benthic species is prohibited, for Soquel Canyon and Point Lobos State Marine Conservation Areas and Big Creek State Marine Reserve. (Goal 3, Objective 2)

Protect submarine canyon head habitat within a marine protected area. (Goal 4, Objective 1)

Protect and replicate deepwater hard and soft bottom and submarine canyon habitats across a wide range of depth. (Goal 4, Objective 2)

Minimize negative socio-economic impacts to the pelagic finfish fisheries while protecting benthic habitat within a marine protected area. (Goal 5, Objective 1)

Minimize negative socio-economic impacts to rockfish fisheries by establishing a state marine conservation area in an area which encompasses the Rockfish Conservation Area, which is already closed to rockfish fishing. (Goal 5, Objective 1)

Establish marine protected areas that meet Master Plan Framework scientific guidelines regarding minimum size. (Goal 5, Objective 3)

Proposed MPA: Ed Ricketts State Marine Conservation Area
Area (sq. mi.): 0.22
Along-shore span (mi): 1
Depth range (ft): 0-74

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom, kelp bed.

Proposed regulations: Take of all living marine resources is prohibited except the recreational take of finfish by hook-and-line and, north of 36° 38.83' N Latitude, the commercial take of kelp by hand. Any individual licensed commercial kelp harvester may take no more than 12 tons of kelp from the portion of Administrative Kelp Bed 220 within the Ed Rickets State Marine Conservation Area in any calendar month.

Boundaries: This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed (Figure 4):
36º 36.50' N. lat. 121º 53.37' W. long.;
36º 37.25' N. lat. 121º 53.78' W. long.; and
36º 37.10' N. lat. 121º 54.01' W. long.

Examples of species likely to benefit: mussels, limpets, turban snails, sea stars.

Summary of Objectives: Provide increased protection to a heavily-used area with shallow hard and soft bottom habitats, including kelp beds, while allowing for some traditional consumptive uses. The primary purpose of this area is to provide for recreational opportunities (both consumptive and nonconsumptive) in an area that is minimally impacted by other consumptive activities.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
This proposed SMCA combines the areas proposed as an SMR and an adjacent SMCA in Package 3R. Package 3R had proposed the portion of this area from the Coast Guard breakwater to the Chart House (36° 38.83' N Latitude) as a state marine reserve. This is an area of many uses, both consumptive and nonconsumptive, and is directly adjacent to a major port within the central coast.

The Department believes that recreational fishing should continue to be allowed from the breakwater, which is by definition a public fishing pier, and also provides one of the few wheel chair access points for rockfish fishing in the central coast. The outer one-third of the breakwater is already closed to fishing in order to protect a sea lion haul out area, but is accessible to the dive community. The Department believes that the stated conflict/hazard of divers being hooked by breakwater anglers is not one that should be addressed by the MLPA process. Additionally, the City of Monterey has posted signs in the area to warn both divers and anglers of the potential hazard.

The Department agrees with the City of Monterey that recreational fishing with hook and line from small boats is a legitimate traditional use. The Department is proposing to prohibit spearfishing within this SMCA to be consistent with the stated views of the City

and to be able to compare an area where spearfishing is allowed (at Pacific Grove) with an area where it is prohibited. The Blue Ribbon Task Force asked the Department to consider spearfishing in its recommendations[2].

The Blue Ribbon Task Force requested that the Department review kelp harvest in proposed MPAs (see footnote 1 above). The Department believes that the low level of kelp harvesting by hand in the designated area represents sustainable use and should be continued to be allowed, and does not feel that the seasonal restriction proposed in Package 3R is necessary. The Department will add language which places a maximum cap on the allowable monthly harvest by an individual within Administrative Kelp Bed 220 (which includes this proposed SMCA) in order to limit the possibility of an unforeseen increase in kelp harvest. Currently kelp harvest occurs over approximately 1.2 square miles of kelp canopy area (using 1998-1999 kelp habitat data). The Department's proposal would reduce this by only 0.07 square miles of canopy. Package 3R, would reduce the available canopy by 0.3 square miles or nearly 25%.

Finally, the Department believes that this proposal in general provides a significant increase in the amount of area protected within SMRs and frequented by nonconsumptive divers within three other proposed SMRs: Hopkins, Carmel Pinnacles, and Pt. Lobos.

Detailed Objectives (with reference to regional goal and objective):
Protect invertebrates and the habitats on which they depend while allowing the harvest of finfish and kelp. (Goal 2, Objective 3)

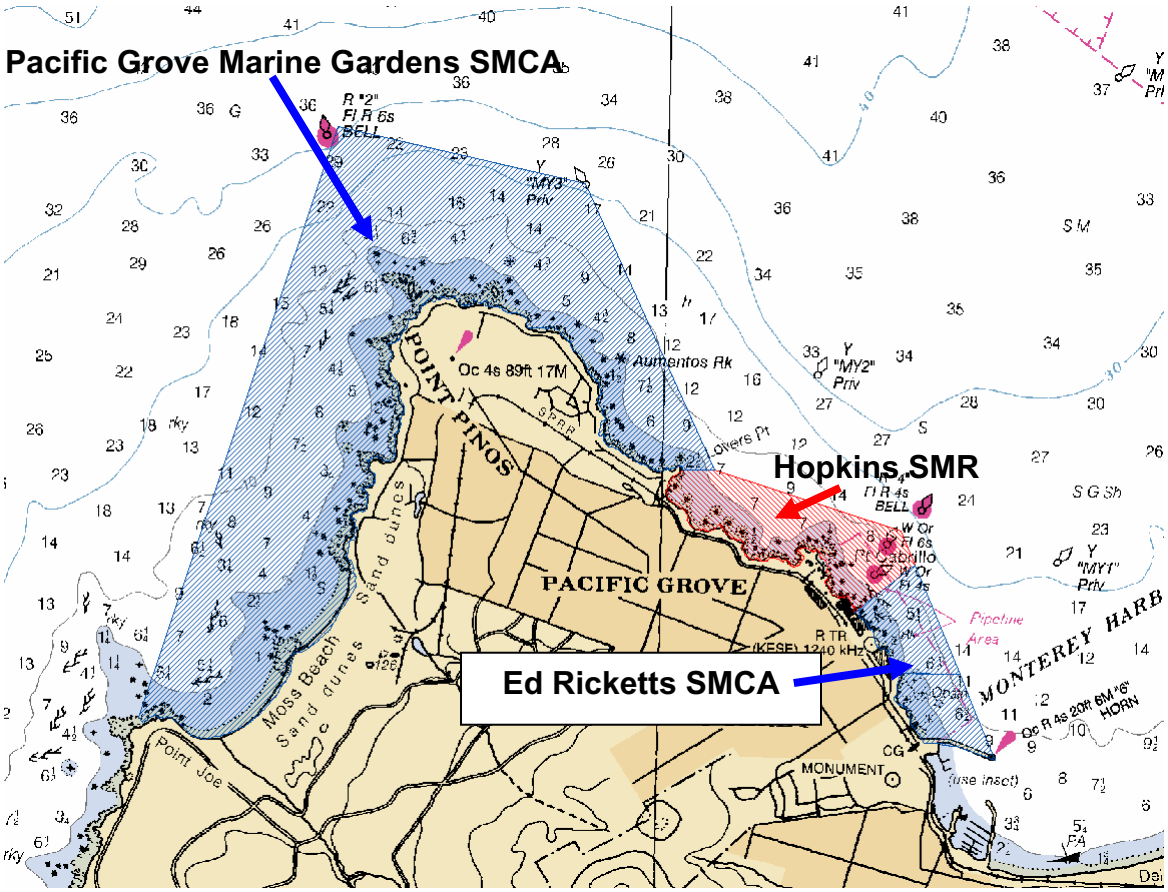
Enhance research and study opportunities by establishing a marine protected area which allows selected fishing and prohibits spearfishing close to Hopkins Marine Station and close to a state marine conservation area which allows spearfishing. (Goal 3, Objective 1)

Promote opportunity for use of volunteer scuba divers in research and monitoring projects by establishing a state marine conservation area in a location heavily used by scuba divers where volunteer monitoring by REEF already takes place. (Goal 3, Objective 3)

Minimize negative socio-economic impacts by establishing a state marine conservation area which allows recreational fishing and hand harvest of kelp by local aquaculturists, while affording protection to invertebrates and prohibiting all other commercial take. (Goal 5, Objective 1)

[2] In the April 28th memo transmitting the Task Force's recommendations to the Department they identify a number of issues of concern and recommendations to the Department and Commission including: Consider spearfishing and spearfishing contests (the BRTF note[d] stakeholder concerns expressed, but will not address).

Figure 4. Ed Ricketts State Marine Conservation Area, Hopkins State Marine Reserve, and Pacific Grove State Marine Conservation Area.



Proposed MPA: Hopkins State Marine Reserve
Area (sq. mi.): 0.30
Along-shore span (mi): 1.0
Depth range (ft): 0-88

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom, kelp bed.

Proposed regulations: No take.

Boundaries: This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed (Figure 4):
36º 37.10' N. lat. 121º 54.01' W. long.;
36º 37.25' N. lat. 121º 53.78' W. long.;
36º 37.38' N. lat. 121º 53.85' W. long.;
36º 37.60' N. lat. 121º 54.75' W. long.; and
36º 37.60' N. lat. 121º 54.91' W. long.

Examples of species likely to benefit: nearshore rockfishes, lingcod, cabezon, kelp greenling, surfperches, California halibut, giant kelp, mussels, limpets, sea stars, southern sea otter, cormorants.

Summary of Objectives: Provide for increased protection through the expansion of an existing state marine reserve in shallow hard and soft bottom habitats in an area close to population centers and used by nonconsumptive divers. The primary goal of this MPA will be to provide for recreational nonconsumptive uses in an area minimally impacted by human take. Additionally this increases the area adjacent to an existing research institution which can facilitate monitoring within the MPA.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
Minor changes in boundaries are proposed for this SMR. These will better facilitate enforcement, make use of existing or proposed buoys, and cause less of a potential impact to the local squid fishery. The area will include the Hopkins Deep Reef which is presently outside the existing MPA as well as a highly used dive site at Lover's Point.

Detailed Objectives (with reference to regional goal and objective):
Continue to provide protection to a rich diversity of invertebrates and fish species characteristic of shallow rocky and soft bottom habitat of southern Monterey Bay, while expanding protection to a small reef in slightly deeper water. (Goal 1, Objective1)

Help protect southern sea otter and marine bird habitat. (Goal 2, Objective 1)

Protect large individuals of resident nearshore fish species in known nursery area. (Goal 2, Objective 2)

Enhance scientific research opportunities at site of traditional high research value by expanding protection in adjacent areas and extending the existing state marine reserve alongshore and into deeper water. (Goal 3, Objective 1)

Enhance recreational non-consumptive diving experience at site of traditional high diving use by expanding protection in adjacent areas and extending the existing state marine reserve alongshore and into deeper water. (Goal 3, Objective 1)

Benefit from site's location adjacent to Stanford University's Hopkins Marine Station and its use by students for educational and monitoring purposes. (Goal 3, Objective 3)

Minimize socio-economic impacts by limiting the state marine reserve to a maximum depth of approximately 60 feet (except for Hopkins Deep Reef) which will allow continued commercial and recreational fishing in deeper waters adjacent to the state marine reserve. (Goal 5, Objective 1)

Proposed MPA: Pacific Grove Marine Gardens State Marine Conservation Area
Area (sq. mi.): 2.44
Along-shore span (mi): 3.8
Depth range (ft): 0-172

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom, kelp bed.

Proposed regulations: Take of all living marine resources is prohibited except recreational take of finfish and the commercial take of kelp by hand. Any individual licensed commercial kelp harvester may take no more than 27 tons of kelp from the portion of Administrative Kelp Bed 220 within the Pacific Grove Marine Gardens State Marine Conservation Area in any calendar month.

Boundaries: This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed (Figure 4):
36º 37.60' N. lat. 121º 54.91' W. long.;
36º 37.60' N. lat. 121º 54.75' W. long.;
36º 38.70' N. lat. 121º 55.40' W. long.;
36º 38.90' N. lat. 121º 56.60' W. long.; and
36º 36.60' N. lat. 121º 57.50' W. long.

Examples of species likely to benefit: invertebrates, including mussels, limpets, turban snails, sea stars, squid.

Summary of Objectives: Provide increased protection to a heavily-used area with shallow hard and soft bottom habitats, including kelp beds, while allowing for some traditional consumptive uses. The primary purpose of this area is to provide for recreational opportunities (both consumptive and nonconsumptive) in an area that is minimally impacted by other consumptive activities.

Explanation of and Rationale for changes to proposed MPA from Package 3R: This proposed SMCA combines the proposed Pacific Grove SMCA and Asilomar SMR from Package 3R into one SMCA. The Department's proposal represents an increase in protection relative to the status quo.

The Department does not feel that the prohibition of recreational fishing for finfish is warranted; this is an area close to port that is accessible to small boat anglers leaving from the nearby Monterey Marina. According to California Recreational Fisheries Survey data from 2005, the two most highly used small boat recreational rockfish fishing areas in the Monterey Peninsula are at and directly east of Pt. Pinos. The area south and west of Pt. Pinos receives less fishing effort due to ocean conditions and thus provides a more rewarding catch when it is accessible.

The Blue Ribbon Task Force asked the Department to consider spearfishing and spearfishing contests in its recommendations (see footnote 2 above). The proposed restrictions on spearfishing tournaments in Package 3R are unwarranted. Divers using

spears are subject to the same bag and size limits as hook and line anglers. Spearfishing tournaments generally occur no more than once a year in any given location and are monitored by Department biologists. Most species harvested in these tournaments over the past several decades have shown no decreases in mean length. Additionally, no data support the proposed prohibition on poke pole fishing in Package 3R.

Similar to Package 3R, the Department's proposed SMCA does provide complete protection for invertebrates and also prohibits all commercial fishing except kelp, but in a larger area than the combined SMCA/SMR proposal of Package 3R. The Department proposal uses existing buoys and easily-recognized landmarks for boundary points.

Currently kelp harvest occurs over approximately 1.2 square miles of kelp canopy area (using 1998-1999 kelp habitat data). The Department's proposal would reduce this by only 0.07 square miles. Package 3R would reduce the available canopy by 0.3 square miles or nearly 25%.

The Department proposes the name "Pacific Grove Marine Gardens State Marine Conservation Area" to recognize the Pacific Grove City Council and several residents' desire to reestablish the historic name of the MPA.

Detailed Objectives (with reference to regional goal and objective):
Enhance non-consumptive recreational experience by prohibiting commercial finfishing and all invertebrate take in an area that includes traditional scuba diving sites accessed from the beach or boats. (Goal 3, Objective 1)

Continue to protect, within a state marine conservation area, an area close to Monterey and Pacific Grove that has long-standing and strong community support and high research, educational and recreational value, particularly with respect to tide pools. (Goal 3, Objective 1)

Provide potential opportunity to study impacts of the hand harvest of kelp and spearfishing by establishing an expanded state marine reserve and a state marine conservation area (which also allows hand harvest of kelp and prohibits spearfishing) adjacent or near to this site. (Goal 3, Objective 2)

Promote opportunity for use of volunteer scuba divers in research and monitoring projects by establishing a state marine conservation area in a location heavily used by scuba divers where volunteer monitoring by REEF already takes place. (Goal 3, Objective 3)

Enhance recreational fishing within the state marine conservation area by providing for a natural size and age structure of resident finfish species in an adjacent state marine reserve and prohibition on commercial take. (Goal 3, Objective 4)

Allow continued recreational fishing in traditional use area and hand harvest of kelp close to abalone aquaculture facilities. (Goal 5, Objective 1)

Proposed MPA: Carmel Pinnacles State Marine Reserve
Area (sq. mi.): 0.53
Along-shore span (mi): 1.0
Depth range (ft): 69-223

Primary habitat types: rocky pinnacles, kelp bed.

Proposed regulations: No take.

Boundaries: This area is bounded by the straight lines connecting the following points in the order listed (Figure 5):
36º 33.65' N. lat. 121º 57.60' W. long.;
36º 33.65' N. lat. 121º 58.50' W. long.;
36º 33.10' N. lat. 121º 58.50' W. long.;
36º 33.10' N. lat. 121º 57.60' W. long.; and
36º 33.65' N. lat. 121º 57.60' W. long.;

Examples of species likely to benefit: nearshore rockfishes, lingcod, cabezon, kelp greenling, surfperches, giant kelp, bull kelp, sponges, hydrocorals.

Summary of Objectives: Provide for complete protection in an area of complex hard bottom habitat, including kelp beds and pinnacles, that is close to port and frequently used by nonconsumptive divers. The primary purpose of this area would be to protect a unique pinnacle area that is accessible to divers for nonconsumptive uses while maintaining similar habitats nearby as open fishing areas.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
The Department's proposed SMR is smaller than that of Package 3R and also does not extend to shore, but does include the highest-priority pinnacles desired for protection by the nonconsumptive dive community. These changes were made in response to concerns about potential negative impacts from two user groups; kayak anglers and local commercial nearshore fishermen. Neither of these groups were well represented in the central coast stakeholder group process. Both groups access this area from Stillwater Cove in Carmel Bay. The combination of proposed MPAs from Monterey Harbor to Yankee Point (a straight line distance of about 17 miles) effectively eliminates all commercial nearshore fishing except in the small area from Pt. Joe to Pescadero Point. Closing the shoreline in this area would effectively eliminate all opportunity for the small boat fishery.

As stated before, the Department believes that this package proposal in general provides a significant increase in the amount of kelp forest habitat protected within SMRs and frequented by nonconsumptive divers within three proposed SMRs: Hopkins, Carmel Pinnacles, and Pt. Lobos.

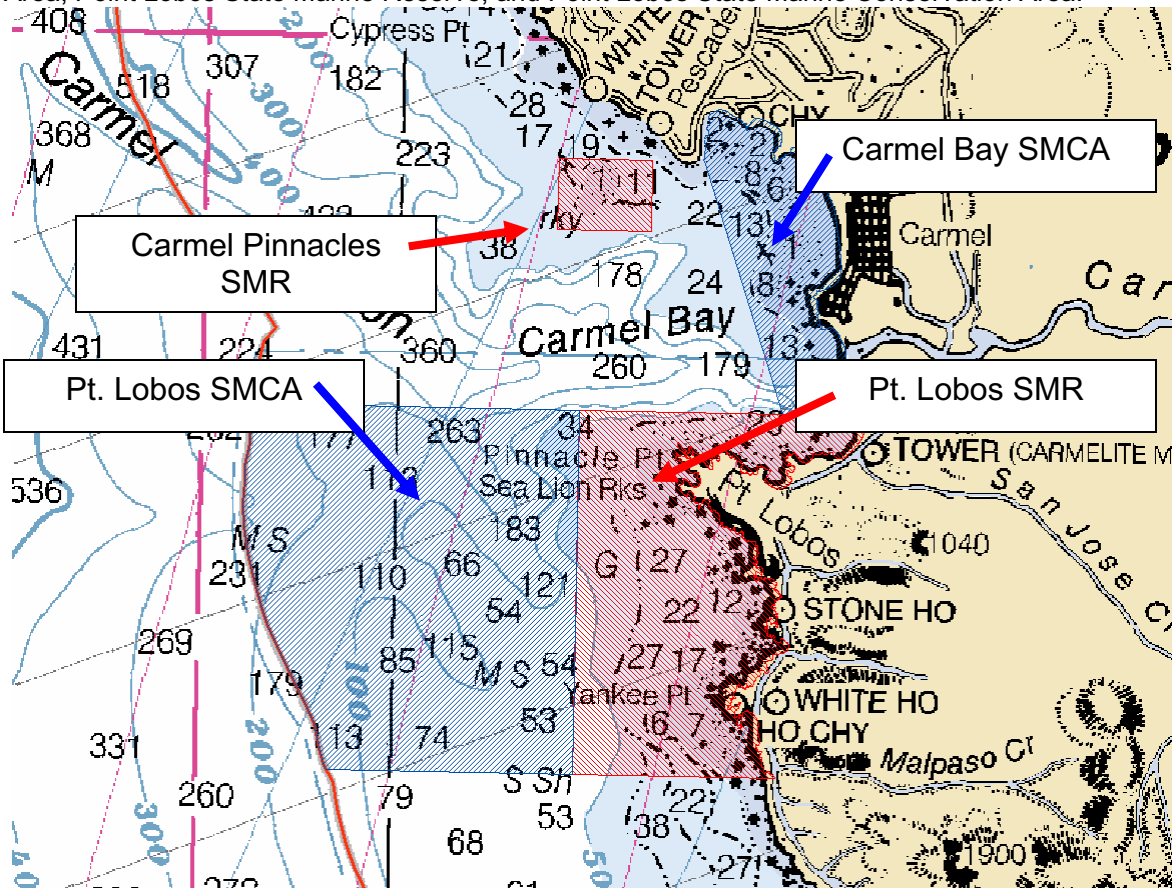
Detailed Objectives (with reference to regional goal and objective):
Protect communities associated with high-relief rocky reef habitat (including pinnacles), bull kelp and giant kelp forests, and hydrocorals, in close proximity to each other. (Goal 1, Objective 2)

Enhance non-consumptive recreational scuba diving experience at traditional dive site formerly open to fishing. (Goal 3, Objective 1)

Replicate pinnacle habitat found within Point Lobos State Marine Reserve. (Goal 3, Objective 2)

Protect pinnacle habitat, with dense rockfish populations, sponges, and hydrocorals, within a state marine reserve. (Goal 4, Objective 1)

Figure 5. Carmel Pinnacles State Marine Conservation Area, Carmel Bay State Marine Conservation Area, Point Lobos State Marine Reserve, and Point Lobos State Marine Conservation Area.



Proposed MPA: Carmel Bay State Marine Conservation Area
Area (sq. mi.): 2.12
Along-shore span (mi): 3.5
Depth range (ft): 0-471

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom, submarine canyon head, kelp bed.

Proposed regulations: Take of all living marine resources is prohibited except the recreational take of finfish and the commercial take of giant kelp (*Macrocystis pyrifera*) by hand. Any individual licensed commercial kelp harvester may take no more than 27 tons of kelp from the portion of Administrative Kelp Bed 219 within the Pacific Grove State Marine Conservation Area in any calendar month.

Boundaries: This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed (Figure 5):
36º 33.65' N. lat. 121º 57.10' W. long.;
36º 31.70' N. lat. 121º 56.30' W. long.; and
36º 31.70' N. lat. 121º 55.55' W. long.

Examples of species likely to benefit: invertebrates, including squid.

Summary of Objectives: Continue to provide existing level of protection in an area of diverse shallow habitat characterized by traditional recreational uses.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
No changes from Package 3R other than minor clarification of the proposed regulations.

Detailed Objectives (with reference to regional goal and objective):
Allow continued recreational harvest of finfish and commercial harvest of kelp by hand in an area of historic recreational use value near Monterey harbor while protecting invertebrates. (Goal 2, Objective 3)

Maintain an existing state marine conservation area located near the population center of Monterey Peninsula that is accessible for recreational opportunities, both consumptive and non-consumptive. (Goal 3, Objective 1)

Maintain an existing state marine conservation area that includes a Moss Landing Marine Laboratories long-term monitoring site. (Goal 3, Objective 3)

Allow for the comparison of a recreational fishing area adjacent to a no-take area (Goal 3, Objective 3)

Maintain the general size and shape of the existing state marine conservation area so it will not result in any additional negative socio-economic impact. (Goal 5, Objective 1)

Proposed MPA: Point Lobos State Marine Reserve
Area (sq. mi.): 5.36
Along-shore span (mi): 4.7
Depth range (ft): 0-408

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom, pinnacles, kelp bed.

Proposed regulations: No take. Access restricted in some areas due to existing Point Lobos State Park regulations but these restrictions will not apply to areas outside the existing Pt. Lobos State Park boundaries.

Boundaries: This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed (Figure 5):
36º 31.70' N. lat. 121º 55.55' W. long.;
36º 31.70' N. lat. 121º 58.25' W. long.;
36º 28.88' N. lat. 121º 58.25' W. long.; and
36º 28.88' N. lat. 121º 56.30' W. long.

Examples of species likely to benefit: nearshore rockfishes, lingcod, cabezon, kelp greenling, surfperches, giant kelp, bull kelp, squid, sponges, hydrocorals, cormorants, pelicans, southern sea otter, harbor seal.

Summary of Objectives: Provide for increased complete protection through the expansion of an existing state marine reserve in shallow hard and soft bottom habitats in an area close to population centers and used by nonconsumptive divers. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
The only proposed change is a slight expansion of the southern boundary in order to incorporate the majority of Yankee Point Reef and to use an easily recognizable reference point, the bridge at Malpaso Creek. The area has also been expanded slightly offshore to use a more easily identified longitude line. Any additional impacts to the commercial nearshore or recreational rockfish fisheries by this minor expansion should be minimal.

Detailed Objectives (with reference to regional goal and objective):
Protect area of high species diversity characteristic of the granitic shallow hard bottom habitat within the central coast, and maintain species diversity and abundance as demonstrated by monitoring indicator species. (Goal 1, Objective 1)

Protect a mosaic of sandy and rocky intertidal, kelp bed, shallow rocky reef, shallow sandy bottom, and submarine canyon head habitats in close proximity to each other. (Goal 1, Objective 2)

Protect natural age and size structure of invertebrate and fish species associated with sandy and rocky intertidal, kelp bed, shallow rocky reef, shallow sandy bottom, and submarine canyon head habitat. (Goal 1, Objective 3)

Protect natural trophic structure and food webs, including forage species such as squid and coastal pelagic finfish that serve as prey for other fish, marine birds, and marine mammals. (Goal 1, Objective 4)

Protect ecosystem structure and functions associated with submarine canyon head, rocky reef, and kelp forest communities. (Goal 1, Objective 5)

Help protect listed marine bird and marine mammal species by protecting forage base. (Goal 2, Objective 1)

Protect larval sources and enhance reproductive capacity of invertebrates and nearshore finfish with limited movement patterns. (Goal 2, Objective 2)

Provide an opportunity for comparative study of rocky reef and pinnacle habitats by leaving open to fishing the reef at Yankee Point, but protecting similar habitat in the northern portion of the state marine reserve. (Goal 3, Objective 1)

Enhance extensive educational and interpretive facilities, including visitor center and docent program, through expansion of an existing state marine reserve. (Goal 3, Objective 1)

Enhance Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) monitoring program (which has existing replicate monitoring sites inside and outside the state marine reserve) through expansion of the existing state marine reserve. (Goal 3, Objective 2)

Replicate pinnacles habitat found in Carmel Pinnacles State Marine Reserve. (Goal 3, Objective 2)

Enhance existing local high school monitoring program through expansion of the state marine reserve. (Goal 3, Objective 3)

Protect and enhance recreational diving experience by expanding protection of existing state marine reserve to better ensure protection of large fish. (Goal 3, Objective 4)

Protect head of Carmel Submarine Canyon and pinnacle habitats within a state marine reserve. (Goal 4, Objective 1)

Protect rocky intertidal, kelp bed, shallow rocky reef, and shallow soft bottom habitats within a state marine reserve, and increase protection of high-value pinnacle habitat by expansion of existing reserve to the south. (Goal 4, Objective 2)

Minimize negative socio-economic impacts by expanding the existing state marine reserve rather than establishing a new one, by considering existing spot prawn fishery, and by leaving Yankee Point Reef open to fishing. (Goal 5, Objective 1)

Optimize positive socio-economic benefits by improving protection in area that has particularly high non-consumptive use patterns, including scuba diving and wildlife watching. (Goal 5, Objective 1)

Establish a marine protected area complex (along with Point Lobos State Marine Conservation Area) that meets Master Plan Framework scientific guidelines for minimum shoreline extent and offshore extent. (Goal 5, Objective 3)

Proposed MPA: Point Lobos State Marine Conservation Area
Area (sq. mi.): 8.85
Along-shore span (mi): 3.2
Depth range (ft): 268-1858

Primary habitat types: shallow and deep hard bottom, shallow and deep soft bottom, shallow and deep submarine canyon.

Proposed regulations: Take of all living marine resources is prohibited except commercial and recreational take of salmon (*Oncorhynchus spp.*), albacore (*Thunnus alalunga*), and spot prawn (*Pandalus platyceros*).

Boundaries: This area is bounded by the state water line offshore and straight lines connecting the following points in the order listed unless otherwise stated (Figure 5):
36º 31.70' N. lat. 121º 58.25' W. long.;
36º 31.70' N. lat. 122º 01.30' W. long.; thence southward along the state water line to
36º 28.88' N. lat. 122º 01.37' W. long.;
36º 28.88' N. lat. 121º 58.25' W. long.; and
36º 31.70' N. lat. 121º 58.25' W. long.

Examples of species likely to benefit: shelf and slope rockfishes, lingcod, sponges, hydrocorals, cormorants, pelicans, southern sea otter, harbor seal.

Summary of Objectives: Provide for increased protection of benthic finfishes in a diverse area containing shallow and deep, and hard and soft habitats, while minimizing impact to rockfish fisheries, through the incorporation of part of the Rockfish Conservation Area into the MPA, and salmon and spot prawn fisheries. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
The only proposed change is a slight expansion of the southern boundary to coincide with the proposed Pt. Lobos SMR and a slight offshore expansion of the SMR boundary. Any additional impacts to the commercial or recreational rockfish fisheries should be minimal.

Detailed Objectives (with reference to regional goal and objective):
Protect area with shallow hard and soft bottom, deep hard and soft bottom, and shallow and deep submarine canyon habitats across a wide depth range and in close proximity to each other. (Goal 1, Objective 2)

Help protect populations of overfished rockfish (including bocaccio, canary and yelloweye) and help protect forage species (including coastal pelagic finfish) for listed marine birds. (Goal 2, Objective 1)

Enhance reproductive capacity of benthic fish species by prohibiting fishing for them in deep water. (Goal 2, Objective 2)

Enhance reproductive capacity of benthic fish species by only allowing fishing for selected pelagic finfishes and spot prawn (by trap), where bycatch of benthic fishes is minimal. (Goal 2, Objective 2)

Allow harvest of some species (salmon, albacore, and spot prawn) while providing buffer for improved protection of Point Lobos State Marine Reserve in deeper water. (Goal 2, Objective 3)

Provide an opportunity for comparative studies in Soquel Canyon and Portuguese Ledge State Marine Conservation Areas which have similar habitats and have experienced fishing for rockfish. (Goal 3, Objective 1)

Provide (fished) replicate deepwater hard bottom, soft bottom and submarine canyon habitat for Portuguese Ledge and Big Creek State Marine Reserves. (Goal 3, Objective 2)

Minimize negative socio-economic impacts by allowing fishing for salmon, albacore and spot prawn, and by incorporating a portion of the Rockfish Conservation Area (closed to groundfish take) and Essential Fish Habitat trawl closure. (Goal 5, Objective 1)

Establish a marine protected area complex (along with Point Lobos State Marine Reserve) that meets Master Plan Framework scientific guidelines for minimum shoreline extent and offshore extent. (Goal 5, Objective 3)

Proposed MPA: Point Sur State Marine Reserve
Area (sq. mi.): 9.92
Along-shore span (mi): 4.5
Depth range (ft): 0-181

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom, kelp bed, canyon head.

Proposed regulations: No take.

Boundaries: This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed (Figure 6):
36º 20.60' N. lat. 121º 53.60' W. long.;
36º 20.60' N. lat. 121º 55.75' W. long.;
36º 18.26' N. lat. 121º 55.75' W. long.;
36º 15.50' N. lat. 121º 53.75' W. long.; and
36º 17.43' N. lat. 121º 52.58' W. long.;

Examples of species likely to benefit: nearshore and shelf rockfishes, lingcod, cabezon, kelp greenling, surfperches, giant kelp, bull kelp, squid, Dungeness crab, murres, guillemots, cormorants, petrels, auklets.

Summary of Objectives: Provide for complete protection of a diverse area containing shallow hard and soft habitats, kelp beds, and associated fish and invertebrate species while minimizing impact to shelf rockfish fisheries through the incorporation of part of the Rockfish Conservation Area into the MPA. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
A significant change to this proposed SMR was made in response to concerns over potential negative impacts to the commercial nearshore and recreational rockfish fisheries. The area from False Sur south to Cooper Point has been identified as critical to the nearshore commercial fishery and is also used by CPFVs when weather permits. Shifting this area northward also provides for more appropriate spacing between this MPA and the area to the south at Big Creek.

Additionally, this location provides a unique opportunity where both the northern and southern portions of a major headland could be included in a single MPA, while reducing impacts to fisheries from Package 3R.

The Department is proposing an SMR that extends both north and south of Pt. Sur and still meets the minimum science guidelines for alongshore span and preferred guideline for combined size. While this includes less of the largest persistent kelp bed within the central coast, it incorporates a wider variety of nearshore habitats.

The diagonal extent of the southern boundary is designed to include submarine canyon head habitat within an SMR while avoiding impacts to the nearshore fishery to the south. The Department feels this boundary, though not ideal, will be enforceable as most users in the area are commercial fishermen familiar with waypoint defined boundaries.

Detailed Objectives (with reference to regional goal and objective):
Protect area of particularly high species diversity associated with upwelling cell in lee of headland, as well as area immediately north of a headland, and maintain species diversity and abundance as demonstrated by monitoring indicator species. (Goal 1, Objective 1)

Protect upwelling cell and an area in the lee of a headland with unique oceanographic conditions, an area north of the headland, and diverse and high quality habitats in close proximity to each other, including a portion of the most extensive rocky reef and largest and most persistent kelp forest along the central coast. (Goal 1, Objective 2)

Protect natural age and size structure of invertebrate and fish species associated with sandy beach, rocky intertidal, kelp bed, shallow rocky reef, and shallow sandy bottom habitat. (Goal 1, Objective 3)

Protect natural trophic structure and food webs, including forage species such as juvenile rockfish, squid, and coastal pelagic finfish that serve as prey for other fish, marine birds, and marine mammals. (Goal 1, Objective 4)

Provide protection to an area that contains a persistent upwelling plume and generally southerly flow, well-suited to provide larval dispersal to other areas. (Goal 1, Objective 5)

Help protect populations of overfished rockfish species including bocaccio, yelloweye, and canary. (Goal 2, Objective 1)

Protect forage base for listed marine birds and marine mammals as well as overfished rockfish species. (Goal 2, Objective 1)

Protect larval sources and enhance reproductive capacity of shelf species including rockfishes. (Goal 2, Objective 2)

Establish a marine protected area near a terrestrial state park where an adjacent PISCO subtidal monitoring site exists. (Goal 3, Objective 1)

Replicate submarine canyon head habitat found in the Soquel Canyon and Point Lobos State Marine Conservation Areas and Point Lobos State Marine Reserve. (Goal 3, Objective 2)

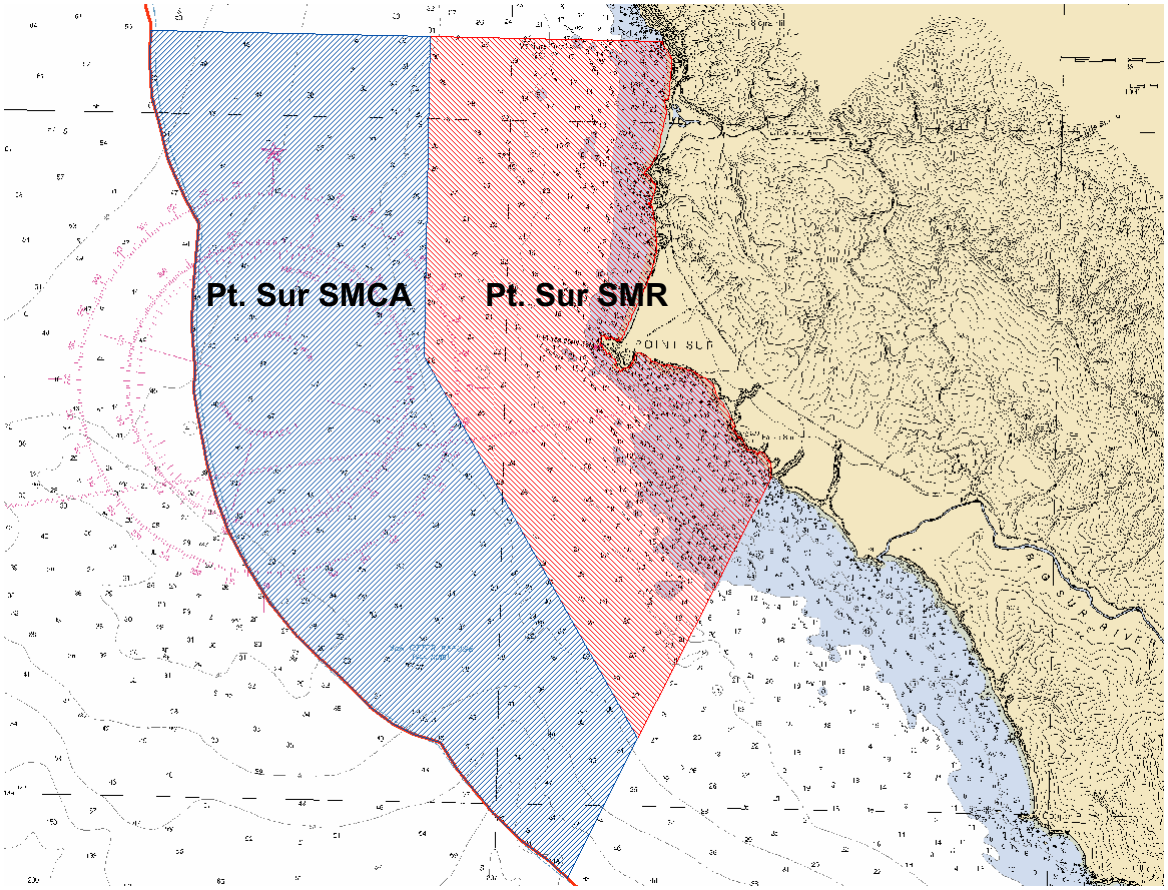
Protect submarine canyon head within a state marine reserve. (Goal 4, Objective 1)

Protect shallow hard and soft bottom, and shallow canyon habitat within a state marine reserve, including an area of broad continental shelf within a larger area of primarily narrow continental shelf. (Goal 4, Objective 2)

Minimize negative socio-economic impacts by incorporating a portion of the Rockfish Conservation Area (closed to groundfish take), and considering existing squid fishing grounds. (Goal 5, Objective 1)

Establish a marine protected area complex (along with Big Sur State Marine Conservation Area) that meets preferred Master Plan Framework scientific guidelines for size. (Goal 5, Objective 3)

Figure 6. Pt. Sur State Marine Reserve and Pt. Sur State Marine Conservation Area.



Proposed MPA: Point Sur State Marine Conservation Area
Area (sq. mi.): 14.14
Along-shore span (mi): 6.4
Depth range (ft): 165-700

Primary habitat types: shallow hard and soft bottom.

Proposed regulations: Take of all living marine resources is prohibited except commercial and recreational take of salmon (*Onchorhynchus spp.*) and albacore (*Thunnus alalunga*).

Boundaries: This area is bounded by the state water line offshore and straight lines connecting the following points in the order listed unless otherwise stated (Figure 6):
36º 20.60' N. lat. 121º 55.75' W. long.;
36º 20.60' N. lat. 121º 58.25' W. long.; thence southward along the state water line to
36º 14.45' N. lat. 121º 54.37' W. long.;
36º 15.50' N. lat. 121º 53.75' W. long.; and
36º 20.60' N. lat. 121º 55.75' W. long.

Examples of species likely to benefit: nearshore and shelf rockfishes, lingcod, cabezon, kelp greenling, surfperches, giant kelp, squid, Dungeness crab, spot prawn, murres, cormorants, southern sea otter.

Summary of Objectives: Provide for increased protection of a diverse area containing shallow hard and soft habitats, kelp beds, and associated fish and invertebrate species while minimizing impact to shelf rockfish fisheries, through the incorporation of part of the Rockfish Conservation Area into the MPA, and to the salmon fishery. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region. In addition, unique habitats in federal waters are adjacent to this area and may be connected if appropriate in future processes.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
A significant change to the proposed SMR adjacent to this SMCA was made in response to concerns over potential negative impacts to the commercial nearshore and recreational rockfish fisheries. The area from False Sur south to Cooper Point has been identified as critical to the nearshore commercial fishery and is also used by CPFVs when weather permits.

In order to coincide with the Department's proposed SMR in this area, the proposed SMCA also extends both north and south of Pt. Sur and meets the minimum science guidelines for alongshore span and preferred guidelines for total area. The diagonal extent of the southern boundary is designed to capture submarine canyon head habitat within an SMR. Shifting this area northward also provides for more appropriate spacing between this MPA and the area to the south at Big Creek.

Detailed Objectives (with reference to regional goal and objective):
Protect area of high species diversity associated with shallow hard and soft bottom habitats where the continental shelf is relatively broad. (Goal 1, Objective 1)

Protect shallow hard soft bottom habitat in an area where the continental shelf is relatively broad. (Goal 1, Objective 2)

Protect natural age and size structure of invertebrate and fish species associated with shallow rocky reef and soft bottom habitat. (Goal 1, Objective 3)

Protect natural trophic structure and food webs, including forage species such as juvenile rockfish, squid, and coastal pelagic finfish that serve as prey for other fish, marine birds, and marine mammals. (Goal 1, Objective 4)

Provide protection to an area that contains a persistent upwelling plume and generally southerly flow, well-suited to provide larval dispersal to other areas. (Goal 1, Objective 5)

Help maintain populations of overfished rockfish species including bocaccio, yelloweye, and canary. (Goal 2, Objective 1)

Protect forage base for listed marine birds and marine mammals as well as overfished rockfish species. (Goal 2, Objective 1)

Protect larval sources and enhance reproductive capacity of benthic shelf species including rockfishes. (Goal 2, Objective 2)

Minimize negative socio-economic impacts by incorporating a portion of the Rockfish Conservation Area (closed to groundfish take), and by allowing the harvest of salmon and albacore. (Goal 5, Objective 1)

Establish a marine protected area complex (along with Big Sur State Marine Reserve) that meets preferred Master Plan Framework scientific guidelines for size. (Goal 5, Objective 3)

Proposed MPA: Big Creek State Marine Conservation Area
Area (sq. mi.): 10.11
Along-shore span (mi): 2.5
Depth range (ft): 0-1964

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom, deep hard and soft bottom, shallow and deep submarine canyon, pinnacles, kelp bed.

Proposed regulations: Take of all living marine resources is prohibited except the commercial and recreational take of salmon (*Onchorhynchus spp.*), albacore (*Thunnus alalunga*), and spot prawn (*Pandalus platyceros*) west of a straight line connecting the following two points (approximately 25 fathoms):
36° 07.20' N. lat. 121° 39.00' W. long.; and
36° 05.20' N. lat. 121° 38.00' W. long.

Boundaries: This area is bounded by the state water line offshore and straight lines connecting the following points in the order listed unless otherwise stated (Figure 7):
36º 07.20' N. lat. 121º 38.00' W. long.;
36º 07.20' N. lat. 121º 42.90' W. long.; thence southward along the state water line to
36º 05.20' N. lat. 121º 41.24' W. long.; and
36º 05.20' N. lat. 121º 37.10' W. long.

Examples of species likely to benefit: nearshore, shelf, and slope rockfishes, lingcod, cabezon, kelp greenling, surfperches, squid, giant kelp, murres, cormorants, southern sea otter.

Summary of Objectives: Provide for increased protection of a diverse area containing shallow and deep, and hard and soft habitats, kelp beds, submarine canyons, and associated fish and invertebrate species while minimizing impact to shelf rockfish fisheries, through the incorporation of part of the Rockfish Conservation Area into the MPA, and to the spot prawn and salmon fisheries. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R: Package 3R proposed a single large SMR which included the existing Big Creek SMR and extended north toward the existing Julia Pfeifer Burns SMCA. The Department is proposing a SMR/SMCA complex in this area, with the SMCA portion in the north allowing only spot prawn and salmon fishing. This will reduce potential negative impacts to the spot prawn fishery in this area compared to that from Package 3R and allows for spot prawn and salmon fishing in historically fished areas everywhere from the edge of the Big Creek SMR northward to Pt. Sur. Salmon Fishing is also allowed through the Pt. Sur area to the northern extent of the region and spot prawn is also allowed from the northern extent of the Pt. Sur area to and beyond Monterey Bay.

The northern boundary of this SMCA has been shifted to the south in order to allow continued fishing by small boat nearshore fishermen (a group not included in the stakeholder process) in the area north of Lime Creek. The shift to the south also provides a more appropriate spacing between this MPA and the area to the north at Pt. Sur. The Department also made other minor boundary revisions to make use of more recognizable landmarks.

This is the most appropriate location to include an SMR that extends offshore given the remoteness of the location and relatively low level of uses.

Detailed Objectives (with reference to regional goal and objective):
Protect area of high species diversity associated with shallow and deep water habitats, including submarine canyon. (Goal 1, Objective 1)

Protect sandy beach, rocky intertidal, shallow hard and soft bottom, surfgrass and kelp beds, deep hard and soft bottom, and shallow and deep submarine canyon habitat in close proximity to each other. (Goal 1, Objective 2)

Protect natural age and size structure of fish and most invertebrate species associated with sandy and rocky intertidal, surfgrass and kelp beds, shallow and deep rocky reef, shallow and deep sandy bottom, and shallow and deep submarine canyon habitat. (Goal 1, Objective 3)

Help maintain populations of overfished rockfish species including bocaccio, yelloweye, and canary. (Goal 2, Objective 1)

Protect forage base for listed marine birds and marine mammals as well as overfished rockfish species. (Goal 2, Objective 1)

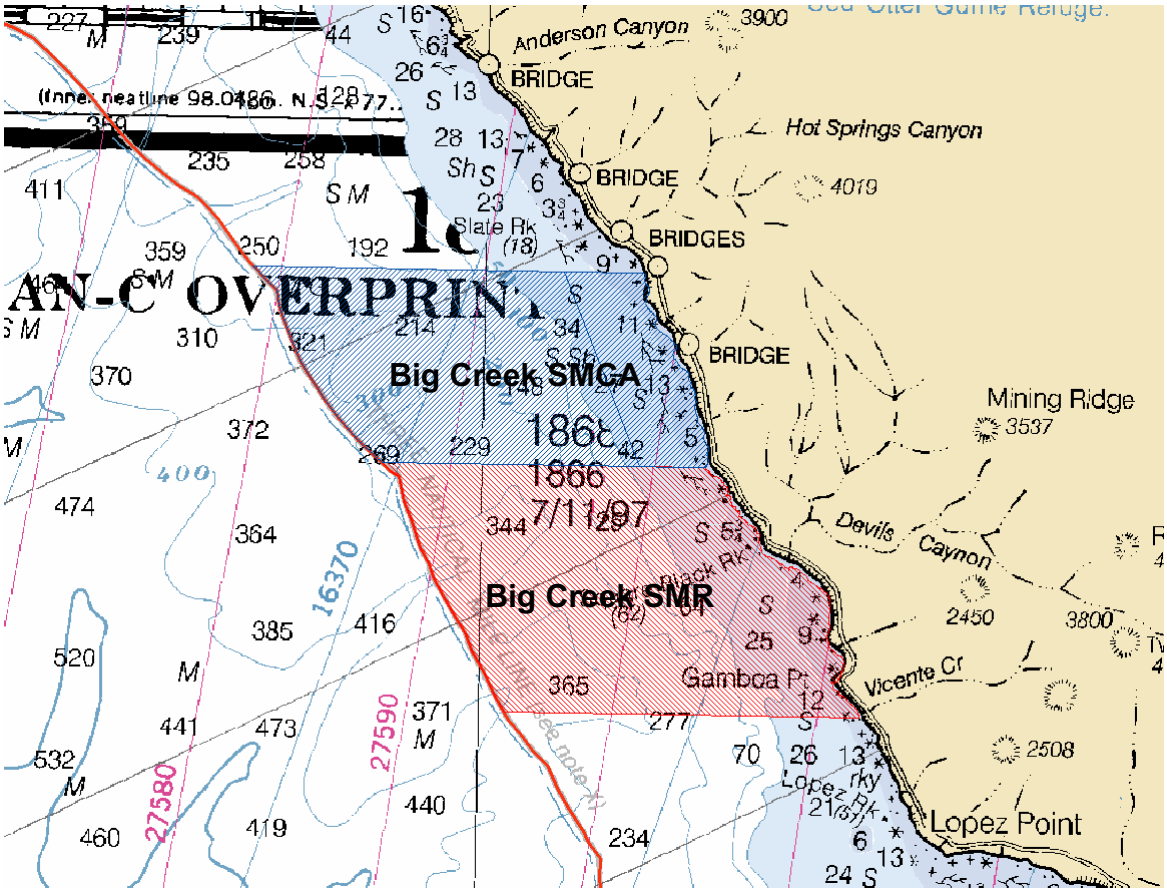
Protect larval sources and enhance reproductive capacity of deepwater species including rockfishes. (Goal 2, Objective 2)

Provide opportunities afforded by a nearby terrestrial reserve, managed by the University of California, to link classroom curricula. (Goal 3, Objective 3)

Provide opportunities for collaborative research projects involving commercial fishermen, including a possible study on the impact of salmon fishing. (Goal 3, Objective 3)

Minimize negative socio-economic impacts by incorporating a portion of the Rockfish Conservation Area (closed to groundfish take), and by allowing the harvest of spot prawn. (Goal 5, Objective 1)

Figure 7. Big Creek State Marine Reserve and Big Creek State Marine Conservation Area



Proposed MPA: Big Creek State Marine Reserve
Area (sq. mi.): 12.35
Along-shore span (mi): 3.3
Depth range (ft): 0-2393

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom, deep hard and soft bottom, shallow and deep submarine canyon, pinnacles, kelp bed.

Proposed regulations: No take.

Boundaries: This area is bounded by the state water line offshore and straight lines connecting the following points in the order listed unless otherwise stated (Figure 7):
36º 05.20' N. lat. 121º 37.10' W. long.;
36º 05.20' N. lat. 121º 41.24' W. long.; thence southward along the state water line to
36º 02.65' N. lat. 121º 39.70' W. long.; and
36º 02.65' N. lat. 121º 35.15' W. long.

Examples of species likely to benefit: nearshore, shelf, and slope rockfishes, lingcod, cabezon, kelp greenling, surfperches, spot prawn, squid, giant kelp, murres, cormorants, southern sea otter.

Summary of Objectives: Provide for increased complete protection, through expansion of an existing state marine reserve, of a diverse area containing shallow and deep, and hard and soft habitats, kelp beds, submarine canyons, and associated fish and invertebrate species while minimizing impact to shelf rockfish fisheries through the incorporation of part of the Rockfish Conservation Area into the MPA. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
See Big Creek SMR above.

Detailed Objectives (with reference to regional goal and objective):
Protect area of high species diversity associated with shallow and deep water habitats, including submarine canyon. (Goal 1, Objective 1)

Protect sandy beach, rocky intertidal, shallow hard and soft bottom, surfgrass and kelp beds, deep hard and soft bottom, and shallow and deep submarine canyon habitat in close proximity to each other. (Goal 1, Objective 2)

Protect natural age and size structure of invertebrate and fish species associated with sandy and rocky intertidal, surfgrass and kelp beds, shallow and deep rocky reef, shallow and deep sandy bottom, and shallow and deep submarine canyon habitat. (Goal 1, Objective 3)

Protect natural trophic structure and food webs, including forage species such as juvenile rockfish, squid, and coastal pelagic finfish that serve as prey for other fish, marine birds, and marine mammals. (Goal 1, Objective 4)

Protect full range of ecosystem functions in an area between upwelling zones. (Goal 1, Objective 5)

Help maintain populations of overfished rockfish species including bocaccio, yelloweye, and canary. (Goal 2, Objective 1)

Protect forage base for listed marine birds and marine mammals as well as overfished rockfish species. (Goal 2, Objective 1)

Protect larval sources and enhance reproductive capacity of deepwater species including rockfishes. (Goal 2, Objective 2)

Expand existing state marine reserve adjacent to a terrestrial reserve run by the University of California, which provides research and educational opportunities and existing baseline data inside and outside of the state marine reserve. (Goal 3, Objective 1)

Provide opportunities afforded by an adjacent terrestrial reserve, managed by the University of California, to link classroom curricula. (Goal 3, Objective 3)

Provide opportunities for collaborative research projects involving commercial fishermen, including a possible study on the impact of salmon fishing. (Goal 3, Objective 3)

Replicate within a state marine reserve the shallow habitat found in Point Lobos and Point Sur State Marine Reserves. (Goal 4, Objective 2)

Minimize negative socio-economic impacts by incorporating a portion of the Rockfish Conservation Area (closed to groundfish take). (Goal 5, Objective 1)

Establish a state marine reserve that meets Master Plan Framework scientific guidelines for size. (Goal 5, Objective 3)

Proposed MPA: Piedras Blancas State Marine Reserve
Area (sq. mi.): 10.4
Along-shore span (mi): 6.4
Depth range (ft): 0-157

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom, kelp bed.

Proposed regulations: No take.

Boundaries: This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed (Figure 8):
35º 42.85' N. lat. 121º 18.95' W. long.;
35º 42.85' N. lat. 121º 21.00' W. long.;
35º 39.15' N. lat. 121º 18.50' W. long.; and
35º 39.15' N. lat. 121º 14.45' W. long.

Examples of species likely to benefit: nearshore and shelf rockfishes, lingcod, cabezon, kelp greenling, surfperches, spot prawn, squid, giant kelp, murres, cormorants, pelicans, guillemots, southern sea otter.

Summary of Objectives: Provide for complete protection of a diverse area containing shallow hard and soft habitats, kelp beds, pinnacles, and associated fish and invertebrate species in an area receiving increased public visitation due to marine mammal viewing opportunities. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
In response to concerns about potential negative impacts to the commercial nearshore fishery, the Department has revised the Package 3R proposal by moving the northern boundary southward. The area from approximately 1 mile north of the point north to San Carpoforo Creek is considered to be critical to the nearshore fishery; while some potential impacts to the fishery remain, this revision should reduce them. The Department also made minor boundary revisions to make use of more recognizable landmarks.

Detailed Objectives (with reference to regional goal and objective):
Protect area of particularly high species diversity including fish, invertebrates, kelp, marine birds, and marine mammals, including major rookeries containing California sea lion, northern elephant seal, harbor seal, Steller's sea lion, and northern fur seal. (Goal 1, Objective 1)

Protect extensive and high value intertidal zone which will be subject to additional visitation due to conversion from private to public ownership of land. (Goal 1, Objective 1)

Protect a mosaic of habitat types, including sandy beach with diverse cobble size, rocky intertidal, surfgrass bed, kelp forest, pinnacles, and shallow hard and soft bottom, in close proximity to each other. (Goal 1, Objective 2)

Protect natural age and size structure of species associated with sandy beach, rocky intertidal, surfgrass bed, kelp forest, pinnacles, and shallow hard and soft bottom habitat. (Goal 1, Objective 3)

Protect natural trophic structure and food webs, including forage species such as juvenile rockfish, squid, and coastal pelagic finfish that serve as prey for other fish, marine birds, and marine mammals. (Goal 1, Objective 4)

Protect forage base for marine birds and marine mammals and eliminate disturbances associated with fishing activities. (Goal 1, Objective 5)

Protect an upwelling zone where larval dispersion to other areas is likely. (Goal 1, Objective 5)

Help protect populations of overfished rockfish species including bocaccio, yelloweye, and canary. (Goal 2, Objective 1)

Protect larval sources and enhance reproductive capacity of nearshore fish and invertebrate species, including coastal pelagic finfish. (Goal 2, Objective 2)

Establish a state marine reserve adjacent to a newly expanded terrestrial state park which has high visitor rates, interpretive facilities, docent presence, and parking. (Goal 3, Objective 1)

Replicate within a state marine reserve the range of habitats found at Point Sur and Point Buchon State Marine Reserves in an area that includes a PISCO monitoring site. (Goal 3, Objective 2)

Enhance classroom component of research and monitoring as related to the Friends of the Elephant Seal organization. (Goal 3, Objective 3)

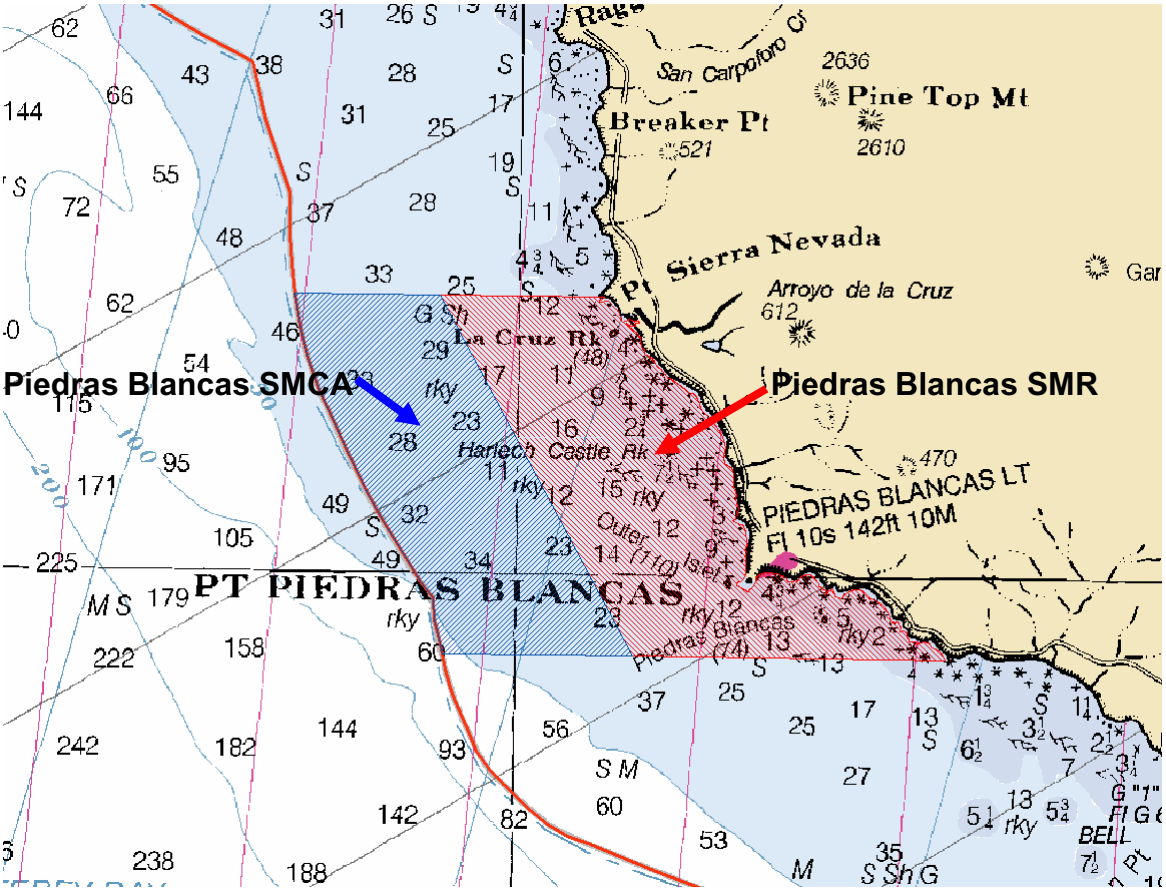
Include pinnacle habitat within a state marine reserve. (Goal 4, Objective 1)

Protect and replicate sandy beach, rocky intertidal, surfgrass bed, kelp forest, pinnacles, and shallow hard and soft bottom habitat. (Goal 4, Objective 2)

Increase positive socio-economic benefits by protecting an area with exceptionally high natural heritage values, including education, wildlife viewing, and tourism. (Goal 5, Objective 1)

Establish a marine protected area complex (along with Piedras Blancas State Marine Conservation Area) that meets Master Plan Framework scientific guidelines for size. (Goal 5, Objective 3)

Figure 8. Piedras Blancas State Marine Reserve and Piedras Blancas State Marine Conservation Area



Proposed MPA: Piedras Blancas State Marine Conservation Area
Area (sq. mi.): 8.76
Along-shore span (mi): 4.9
Depth range (ft): 94-337

Primary habitat types: shallow hard and soft bottom.

Proposed regulations: Take of all living marine resources is prohibited except commercial and recreational take of salmon (*Onchorhynchus spp.*) and albacore (*Thunnus alalunga*).

Boundaries: This area is bounded by the state water line offshore and straight lines connecting the following points in the order listed unless otherwise stated (Figure 8):
35º 42.85' N. lat. 121º 21.00' W. long.;
35º 42.85' N. lat. 121º 22.85' W. long.; thence southward along the state water line to
35º 39.15' N. lat. 121º 20.90' W. long.; and
35º 39.15' N. lat. 121º 18.50' W. long.

Examples of species likely to benefit: nearshore and shelf rockfishes, lingcod, cabezon, kelp greenling, surfperches, giant kelp, squid, Dungeness crab, murres, cormorants, southern sea otter.

Summary of Objectives: Provide for increased protection of a diverse area containing shallow hard and soft habitats, kelp beds, pinnacles, and associated fish and invertebrate species in an area receiving increased public visitation due to marine mammal viewing opportunities, while minimizing impact to the salmon fishery. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
In response to concerns about potential negative impacts to the commercial nearshore fishery, the Department revised the Package 3 SMR proposal by moving the northern boundary southward. In order to correspond with the revision to the proposed SMR, the northern and southern boundaries of the proposed SMCA were also revised.

Detailed Objectives (with reference to regional goal and objective):
Protect benthic areas with high species diversity and maintain benthic species diversity and abundance, consistent with natural fluctuations, of populations in shallow hard and soft bottom. (Goal 1, Objective 1)

Protect area with shallow hard and soft bottom in close proximity to each other. (Goal 1, Objective 2)

Protect natural age and size structure of invertebrate and fish species associated with shallow rocky reef and soft bottom habitat. (Goal 1, Objective 3)

Protect offshore forage base for seabird and marine mammal populations. (Goal 1, Objective 5)

Help maintain populations of overfished rockfish species including bocaccio, yelloweye, and canary. (Goal 2, Objective 1)

Protect larval sources and enhance reproductive capacity of benthic shelf species including rockfishes. (Goal 2, Objective 2)

Establish a marine protected area complex (along with Piedras Blancas State Marine Reserve) that meets preferred Master Plan Framework scientific guidelines for size. (Goal 5, Objective 3)

Deleted from Package 3R: Cambria State Marine Park

Explanation of and Rationale for changes to proposed MPA from Package 3R:
The Department is proposing to delete this MPA for several reasons;
1. This MPA causes unnecessary potential negative impact to the commercial nearshore fishery given that the proposed Cambria SMR and the nearby proposed Pt. Piedras Blancas SMR encompass similar habitats and already reduce the commercial fishing opportunities in the area.
2. This MPA is not needed to contribute to the size and spacing guidelines of the Master Plan Framework.
3. Recreational angling will still be allowed in this area, though commercial fishing will also occur.

Proposed MPA: Cambria State Marine Reserve
Area (sq. mi.): 3.23
Along-shore span (mi): 3.1
Depth range (ft): 0-137

Primary habitat types: sandy beach, rocky intertidal, surfgrass, shallow hard and soft bottom, kelp bed.

Proposed regulations: Take of all living marine resources is prohibited.

Boundaries: This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed (Figure 9):
35º 32.50' N. lat. 121º 05.60' W. long.;
35º 32.50' N. lat. 121º 07.00' W. long.;
35º 30.50' N. lat. 121º 05.00' W. long.; and
35º 30.50' N. lat. 121º 03.40' W. long.

Examples of species likely to benefit: nearshore rockfish, squid, mussels, turban snails, limpets

Summary of Objectives: Provide for a high level of protection of a diverse area containing shallow hard and soft habitats, kelp beds, pinnacles, and associated fish and invertebrate species adjacent to an existing land based preserve and research facility.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
The Department is proposing shifting the proposed reserve southward so that its northern boundary is south of the town of Cambria and aligned with the northern edge of the Ken Norris Rancho Marino UC Reserve and an easily recognizable landmark. This shift also provides the maximum area between the reserve and the reserve at Piedras Blancas and reduces the potential impact to the commercial nearshore fishery. The southern boundary has been shifted to match and easily recognizable point on shore.

As requested by the Blue Ribbon Task Force, the Department has considered the existing kelp lease in the area that will be prohibited by the reserve designation (see footnote 1). The Department proposal includes approximately 0.5 square miles of kelp canopy in the MPA, compared to 1.8 square miles in the total lease. This area is also at the far northern edge of the lease and far from the primary access port (Morro Bay) for the lease holder.

Detailed Objectives (with reference to regional goal and objective):
Protect area of particularly high species diversity including fish, invertebrates, kelp, marine birds, and marine mammals, including major rookeries containing California sea lion, northern elephant seal, harbor seal, Steller's sea lion, and northern fur seal. (Goal 1, Objective 1)

Protect a mosaic of habitat types, including sandy beach with diverse cobble size, rocky intertidal, surfgrass bed, kelp forest, pinnacles, and shallow hard and soft bottom, in close proximity to each other. (Goal 1, Objective 2)

Protect natural age and size structure of species associated with sandy beach, rocky intertidal, surfgrass bed, kelp forest, pinnacles, and shallow hard and soft bottom habitat. (Goal 1, Objective 3)

Protect natural trophic structure and food webs, including forage species such as juvenile rockfish, squid, and coastal pelagic finfish that serve as prey for other fish, marine birds, and marine mammals. (Goal 1, Objective 4)

Protect larval sources and enhance reproductive capacity of nearshore fish and invertebrate species, including coastal pelagic finfish. (Goal 2, Objective 2)

Provide protection to nearshore shelf rockfish species, cabezon, and kelp greenling through the prohibition of commercial and recreational fishing. (Goal 2, Objective 3)

Replicate within a state marine reserve the range of shallow habitats found at Point Sur and Point Buchon State Marine Reserves. (Goal 3, Objective 2)

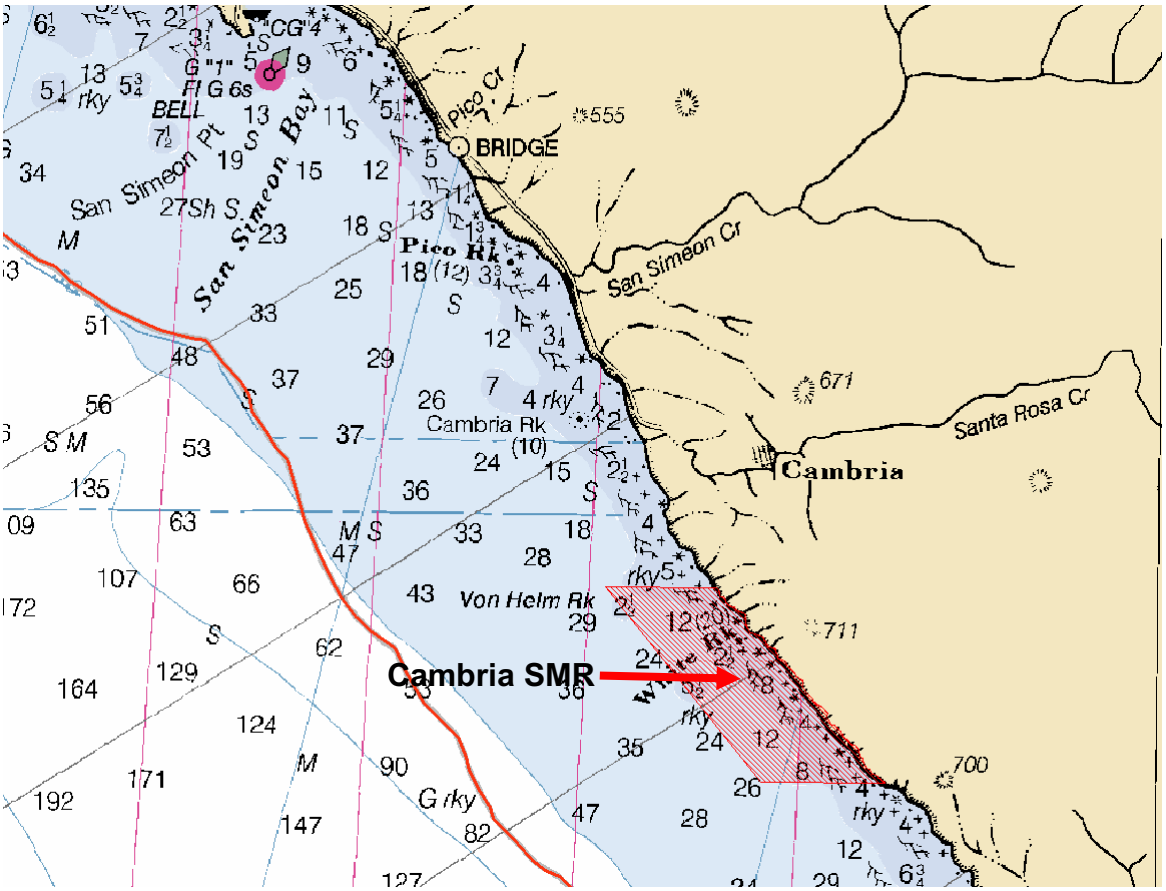
Provide research benefits from existing subtidal and intertidal monitoring sites in this area. (Goal 3, Objective 2)

Include pinnacle habitat within a state marine reserve. (Goal 4, Objective 1)

Protect and replicate sandy beach, rocky intertidal, surfgrass bed, kelp forest, pinnacles, and shallow hard and soft bottom habitat. (Goal 4, Objective 2)

Increase positive socio-economic benefits by protecting an area with exceptionally high natural heritage values, including education, wildlife viewing, and tourism. (Goal 5, Objective 1)

Figure 9. Cambria State Marine Reserve



Deleted from Package 3R: Estero Bluff State Marine Park

Explanation of and Rationale for changes to proposed MPA from Package 3R:
The Department is proposing to delete this for several reasons;
1. This MPA in effect makes no change in the degree of protection as the area is only used recreationally.
2. This MPA is not needed to contribute to the size and spacing guidelines of the Master Plan Framework.

Deleted from Package 3R: Morro Bay State Marine Conservation Area

Explanation of and Rationale for changes to proposed MPA from Package 3R:
This area was combined with the proposed Morro Bay State Marine Recreational management area in order to ensure waterfowl hunting was allowed in all areas it currently occurs.

Proposed MPA: Morro Bay East State Marine Reserve
Area (sq. mi.): 0.3
Along-shore span (mi): 1.4
Depth range (ft): 0-10

Primary habitat types: coastal marsh, tidal flats, estuary.

Proposed regulations: No take

Boundaries: This area includes the area below mean high tide line within Morro Bay east longitude 120º 50.340' W. (Figure 10):

Examples of species likely to benefit: surfperches, leopard shark, starry flounder, worms, pelicans, scoters.

Summary of Objectives: Provide for complete protection in a portion of one of the few estuarine areas of the central coast. This area is within an existing State Park lease where current Park rules prohibit take of living resources.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
A minor boundary adjustment was made to use a recognizable shoreline landmark.

Detailed Objectives (with reference to regional goal and objective):
Protect estuarine area with high marine bird diversity. (Goal 1, Objective 1)

Protect area with diversity of estuarine habitats, including open channels and mud flats, in close proximity to each other. (Goal 1, Objective 2)

Protect natural age, size structure, and genetic diversity of fish and invertebrate species, especially elasmobranches and flatfishes, characteristic of largest estuarine system within the central coast. (Goal 1, Objective 3)

Protect natural structure and food web of estuarine system, including invertebrate forage base for marine birds. (Goal 1, Objective 4)

Help protect listed marine birds and southern sea otter by protecting feeding area. (Goal 2, Objective 1)

Enhance reproductive capacity of invertebrate and fish estuarine species by prohibiting take in important nursery area. (Goal 2, Objective 2)

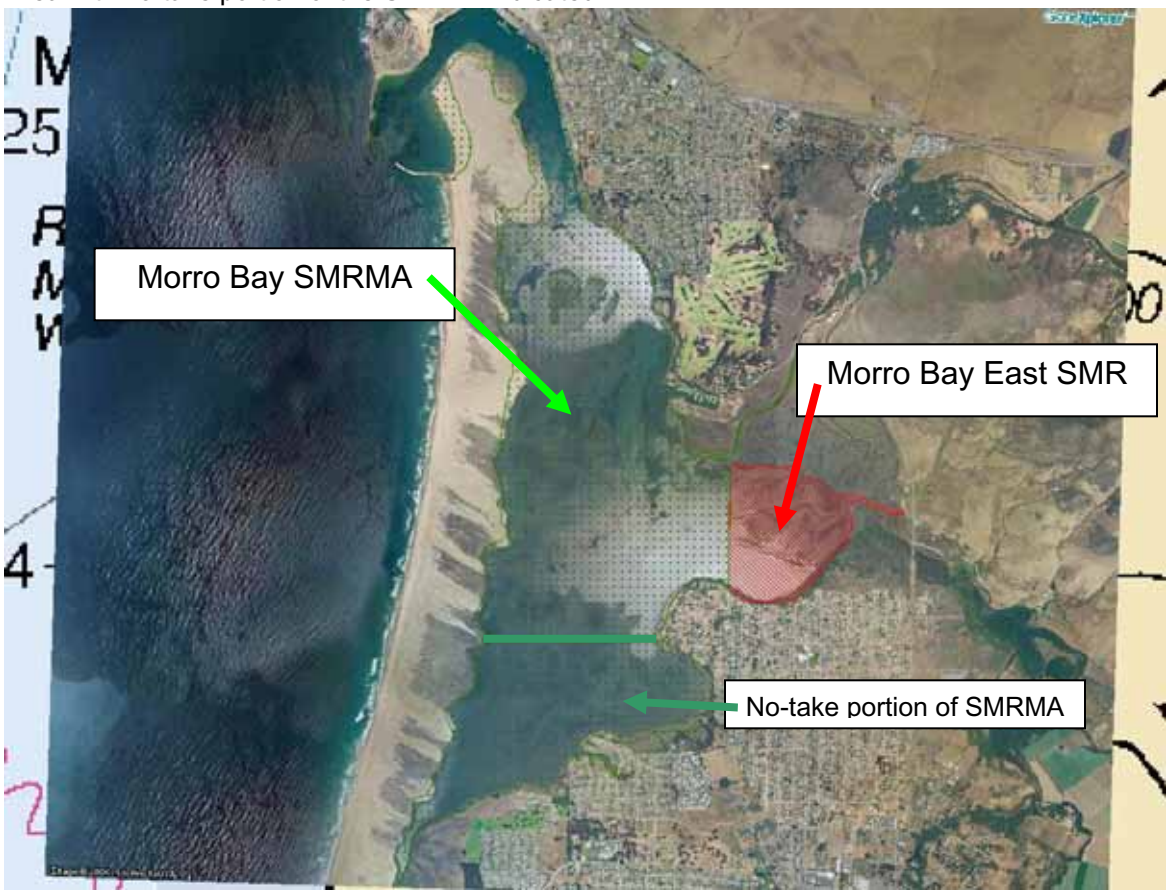
Provide educational and interpretive resources by establishing a state marine reserve adjacent to a museum, a terrestrial state park, and within the Morro Bay Estuarine Reserve. (Goal 3, Objective 1)

Protect and replicate representative central coast estuarine habitat within a state marine reserve. (Goal 3, Objective 2)

Protect estuarine habitat within a state marine reserve. (Goal 4, Objective 1)

Minimize negative socio-economic impacts by establishing a state marine reserve in an area that has received relatively little fishing effort, and where non-consumptive values such as wildlife viewing are likely to be enhanced. (Goal 5, Objective 1)

Figure 10. Morro Bay East State Marine Reserve and Morro Bay State Marine Recreational Management Area with no-take portion of the SMRMA indicated.



Proposed MPA: Morro Bay State Marine Recreational Management Area
Area (sq. mi.): 3.01
Along-shore span (mi): 9.4
Depth range (ft): 0-22

Primary habitat types: sandy beach, coastal marsh, tidal flats, eelgrass beds, estuary.

Proposed regulations: Take of all living marine resources is prohibited except recreational take of finfish and permitted aquaculture of oysters and receiving of finfish for bait purposes north of latitude 35° 19.700' N. Recreational hunting of waterfowl is permitted unless otherwise restricted by hunting regulations.

Boundaries: This area includes the area below mean high tide within Morro Bay east of the Morro Bay entrance breakwater and west of longitude 120º 50.340' W. (Figure 10):

Examples of species likely to benefit: surfperches, leopard shark, starry flounder, worms, pelicans, scoters, ghost shrimp, mud shrimp.

Summary of Objectives: Provide increased protection for one of the few estuarine areas of the central coast while allowing for the traditional use of waterfowl hunting.

Explanation of and Rationale for changes to proposed MMA from Package 3R:
The Department proposal combines both the areas and regulations found in two MPAs (an SMRMA and SMCA) from Package 3R. This change was made in recognition of the fact that the waterfowl hunting Package 3R was trying to allow actually occurs north of the SMRMA boundary in Package 3R. The Department still includes a no-take portion in the same vicinity as Package 3R's proposal.

Detailed Objectives (with reference to regional goal and objective):
Protect estuarine area with high marine bird diversity. (Goal 1, Objective 1)

Protect area with diversity of estuarine habitats, including open channels and mud flats, in close proximity to each other. (Goal 1, Objective 2)

Protect natural age, size structure, and genetic diversity of fish and invertebrate species, especially elasmobranches and flatfishes, characteristic of largest estuarine system within the central coast. (Goal 1, Objective 3)

Protect natural structure and food web of estuarine system, including invertebrate forage base for marine birds. (Goal 1, Objective 4)

Help protect listed marine birds and southern sea otter by protecting feeding area. (Goal 2, Objective 1)

Enhance reproductive capacity of invertebrate and fish estuarine species by prohibiting take in important nursery area. (Goal 2, Objective 2)

Provide educational and interpretive resources by establishing a state marine recreational management area with full protection of marine fish, invertebrate, and algae species adjacent to a museum, a terrestrial state park, and within the Morro Bay Estuarine Reserve. (Goal 3, Objective 1)

Protect estuarine habitat within a state marine recreational management area. (Goal 4, Objective 1)

Minimize negative socio-economic impacts by establishing a state marine recreational management area in a location that has experienced relatively little fishing effort but has been a traditional waterfowl hunting area. (Goal 5, Objective 1)

Proposed MPA: Point Buchon State Marine Reserve
Area (sq. mi.): 6.66
Along-shore span (mi): 2.9
Depth range (ft): 0-208

Primary habitat types: sandy beach, rocky intertidal, shallow hard and soft bottom, pinnacles, kelp bed.

Proposed regulations: No take.

Boundaries: This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed (Figure 11):
35º 15.25' N. lat. 120º 54.00' W. long.;
35º 15.25' N. lat. 120º 56.00' W. long.;
35º 11.00' N. lat. 120º 52.40' W. long.; and
35º 13.30' N. lat. 120º 52.40' W. long.

Examples of species likely to benefit: nearshore and shelf rockfishes, lingcod, cabezon, kelp greenling, surfperches, California halibut, squid, shearwaters, pelicans, southern sea otter.

Summary of Objectives: Provide for complete protection of a diverse area containing shallow hard and soft habitats, kelp beds, pinnacles, and associated fish and invertebrate species, while benefiting from additional protection due to an adjacent national security closure. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
According to California Recreational Fishery Survey data from 2005, the two most heavily used rockfish fishing areas in the Morro Bay region by small boats are the area directly offshore of, and to the north of, Pt. Buchon. High value commercial fishing blocks are also found at and north of Pt. Buchon. The Department is attempting to reduce potential negative impacts to the commercial and recreational nearshore rockfish, cabezon, and greenling fisheries by shifting the boundaries south, away from Point Buchon, but still maintaining the same overall size of the SMR/SMCA complex. Though this reduces the shoreline extent of the proposed SMR, the Department is recognizing the additional shoreline and shallow water habitats in an area that is closed to all access (including fishing) within the Diablo Canyon Nuclear Power Plant safety zone.

Detailed Objectives (with reference to regional goal and objective):
Protect area of particularly high species diversity including fish, invertebrates, kelp, marine birds, and marine mammals. (Goal 1, Objective 1)

Protect diverse habitats, including sandy beach, rocky intertidal, kelp forest, and shallow hard and soft bottom habitat, in close proximity to each other. (Goal 1, Objective 2)

Protect natural age and size structure of species associated with sandy beach, rocky intertidal, kelp forest, and shallow hard and soft bottom habitat. (Goal 1, Objective 3)

Protect natural trophic structure and food webs in area representative of shallow hard and soft bottom habitats south of Morro Bay. (Goal 1, Objective 4)

Protect full range of ecosystem functions in an area between two upwelling zones. (Goal 1, Objective 5)

Help protect populations of nearshore rockfish in an area that has traditionally received relatively high fishing effort. (Goal 2, Objective 1).

Protect larval sources and enhance reproductive capacity of nearshore fish and invertebrate species, including coastal pelagic finfish. (Goal 2, Objective 2)

Establish a state marine reserve which encompasses an existing Cooperative Research and Assessment of Nearshore Ecosystems (CRANE) monitoring site, and which includes baseline data collected for power plant impact monitoring. (Goal 3, Objective 1)

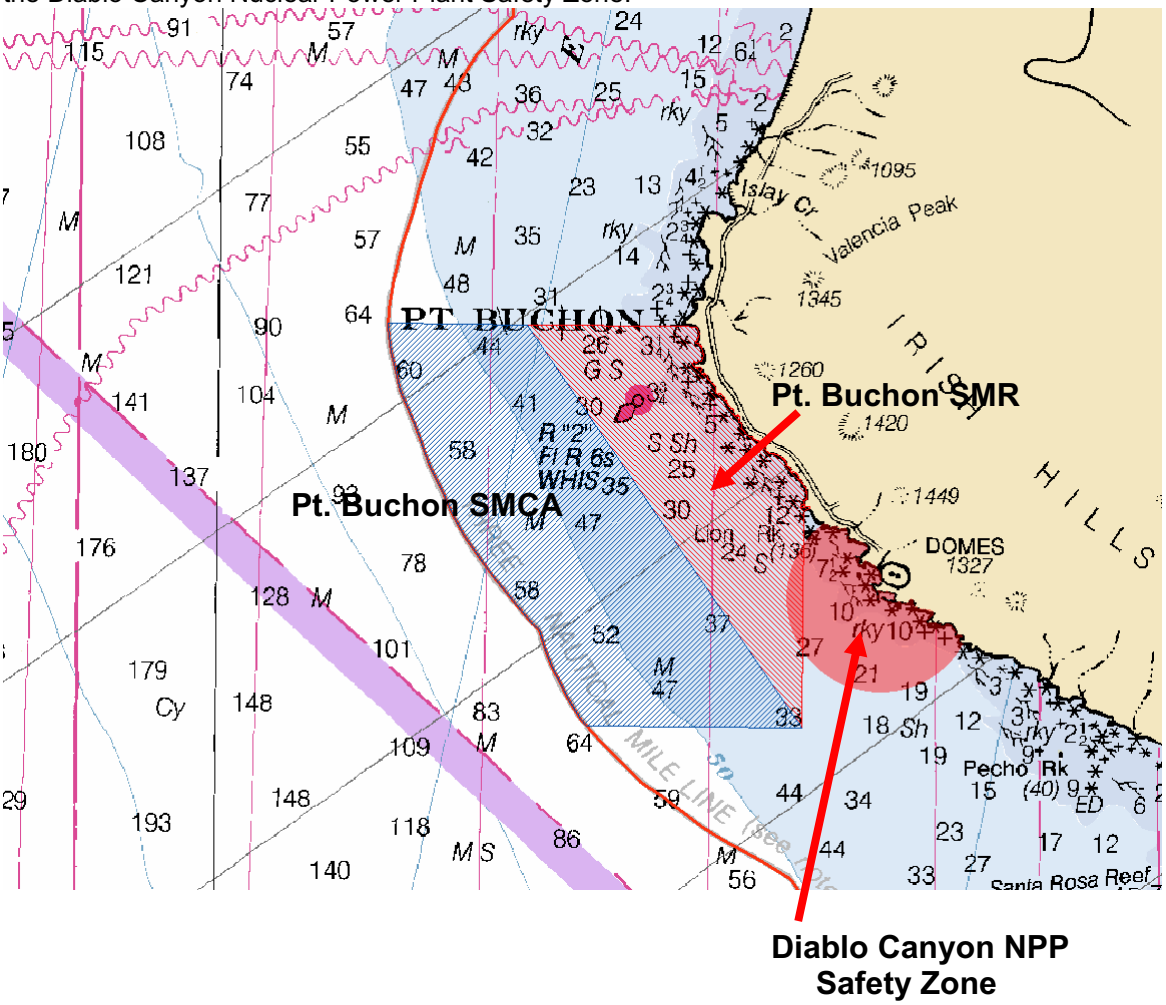
Replicate with a state marine reserve the range of habitats found at fished sites south of Diablo Canyon Nuclear Power Plant. (Goal 3, Objective 2)

Protect pinnacle habitat within a state marine reserve. (Goal 4, Objective 1)

Protect and replicate sandy beach, rocky intertidal, kelp forest, pinnacles, and shallow hard and soft bottom habitat. (Goal 4, Objective 2)

Establish a marine protected area complex (along with Point Buchon State Marine Conservation Area) that meets Master Plan Framework scientific guidelines for size. (Goal 5, Objective 3)

Figure 11. Pt. Buchon State Marine Reserve and Pt. Buchon State Marine Conservation Area including the Diablo Canyon Nuclear Power Plant Safety Zone.



Proposed MPA: Point Buchon State Marine Conservation Area
Area (sq. mi.): 11.55
Along-shore span (mi): 5.9
Depth range (ft): 191-377

Primary habitat types: shallow hard and soft bottom, deep hard and soft bottom.

Proposed regulations: Take of all living marine resources is prohibited except salmon (*Onchorhynchus spp.*) and albacore (*Thunnus alalunga*).

Boundaries: This area is bounded by the state water line offshore and straight lines connecting the following points in the order listed unless otherwise stated (Figure 11):
35º 15.25' N. lat. 120º 56.00' W. long.;
35º 15.25' N. lat. 120º 57.80' W. long.; thence southward along the state water line to
35º 11.00' N. lat. 120º 55.20' W. long.; and
35º 11.00' N. lat. 120º 52.40' W. long.;

Examples of species likely to benefit: nearshore and shelf rockfishes, lingcod, cabezon, California halibut, squid, shearwaters, pelicans.

Summary of Objectives: Provide for increased protection of a diverse area containing shallow hard and soft habitats, kelp beds, pinnacles, and associated fish and invertebrate species, while minimizing impact to the salmon fishery. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
In order to correspond with the revision to the proposed Pt. Buchon SMR, the northern and southern boundaries of the proposed SMCA were also revised.

Detailed Objectives (with reference to regional goal and objective):
Protect larval sources and enhance reproductive capacity of benthic fishes, invertebrates, and most pelagic finfish species. (Goal 2, Objective 2)

Provide additional protection for benthic species and typical forage species (squid and pelagic finfish) while allowing fishing for salmon and albacore. (Goal 2, Objective 3)

Replicate with a state marine conservation area the range of habitats found at fished sites south of Diablo Canyon Nuclear Power Plant. (Goal 3, Objective 2)

Minimize negative socio-economic impacts by incorporating a portion of the Rockfish Conservation Area (closed to groundfish take), and by allowing the harvest of salmon and albacore. (Goal 5, Objective 1)

Establish a marine protected area complex (along with Point Buchon State Marine Reserve) that meets Master Plan Framework scientific guidelines for size. (Goal 5, Objective 3)

Proposed MPA: Vandenberg State Marine Reserve
Area (sq. mi.): 32.84
Along-shore span (mi): 14.3
Depth range (ft): 0-127

Primary habitat types: sandy beach, rocky intertidal, shallow hard and soft bottom, kelp bed.

Proposed regulations: No take.

Boundaries: This area is bounded by the mean high tide line and straight lines connecting the following points in the order listed (Figure 12):
34º 44.65' N. lat. 120º 37.75' W. long.;
34º 44.65' N. lat. 120º 40.00' W. long.;
34º 33.25' N. lat. 120º 40.00' W. long.; and
34º 33.25' N. lat. 120º 37.25' W. long.

(A) Within the Vandenberg State Marine Reserve, no take of living marine resources is permitted except take incidental to the mission operations of the Vandenberg Air Force Base and approved commercial space launch operations approved by the Base Commander. Mission operations do not include take for recreational purposes by base personnel or others.

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

(C) The Department shall enter into a Memorandum of Understanding (MOU) with the Commander of Vandenberg Air Force Base for the management and administration of the Vandenberg State Marine Reserve. The MOU shall include all uses necessary and compatible with the Vandenberg Air Force Base's national defense mission and details on cooperative enforcement and monitoring.

Examples of species likely to benefit: nearshore and shelf rockfishes, lingcod, cabezon, kelp greenling, surfperches, California halibut, Dungeness crab, rock crab, squid, shearwaters, pelicans, southern sea otter.

Summary of Objectives: Provide for complete protection of a diverse area containing shallow hard and soft habitats, kelp beds, and associated fish and invertebrate, while benefiting from protection provided by an existing state marine reserve and restrictions on vessel traffic, including fishing vessels, due to the presence of Vandenberg Air Force Base. This area is important to the formation of an ecologically sound MPA network component, by linking these habitats to similar habitats in other parts of the region.

Explanation of and Rationale for changes to proposed MPA from Package 3R:
In order to take advantage of the security restrictions offshore the Vandenberg Air Force Base and limit impacts to existing uses in the immediate vicinity of Purisima point, the Department is proposing one large, continuous SMR in this area which accomplishes the following:

- Meets preferred MPA size guidelines in the Master plan Framework;
- Reduces potential negative impact to nearshore fisheries in the Purisima Point area from the SMR proposed in Package 3R by a southward shift of the northern boundary.
- Incorporates the diverse habitats in the Point Arguello area in the Package 3R proposed SMR, while not impacting the squid and lobster fisheries to a significant extent.

The Department is also proposing a single straight line for the western, offshore, boundary and the southernmost point of Pt. Arguello for the southern boundary to facilitate enforcement and ease of public recognition of the boundaries.

Detailed Objectives (with reference to regional goal and objective):
Protect area with high marine bird, marine mammal, fish, and invertebrate species diversity and abundance. (Goal 1, Objective 1)

Protect area with unique oceanographic conditions in transition zone near a biogeographical regional boundary, including sandy beach, rocky intertidal, kelp forest, and hard and soft bottom habitat, and in close proximity to each other. (Goal 1, Objective 2)

Protect natural age and size structure of Nearshore Fishery Management Plan species which occur within the central coast. (Goal 1: Objective 3)

Protect trophic structure and food web in area representative of shallow habitats south of Morro Bay. (Goal 1, Objectives 4)

Protect ecosystem structure and functions in representative shallow habitat in southern end of central coast. (Goal 1, Objective 5)

Increase ecological benefits to an area containing a mosaic of shallow hard and soft bottom habitats through the expansion of an existing state marine reserve. (Goal 1, Objective 5)

Help protect marine bird and marine mammal species of concern by protecting forage base adjacent to colonies and rookeries. (Goal 2, Objective 1)

Protect larval sources and enhance reproductive capacity of benthic fishes, invertebrates, and coastal pelagic finfish. (Goal 2, Objective 2)

Establish a state marine reserve which encompasses an existing PISCO monitoring site, a Multi-Agency Intertidal Network (MARINe) monitoring site, and a Point Reyes Bird Observatory (PRBO) study site. (Goal 3, Objective 1)

Replicate with a state marine reserve the same range of habitats found at fished sites at Point Sal. (Goal 3, Objective 2)

Protect and replicate within a state marine reserve sandy beach, rocky intertidal, and shallow hard and soft bottom habitats. (Goal 4, Objective 2)

Establish a state marine reserve that meets preferred Master Plan Framework scientific guidelines for size. (Goal 5, Objective 3)

Figure 12. Vandenberg State Marine Reserve.