

APPENDIX A

Marine Protected Areas in the Integrated Preferred Alternative

This section provides a discussion of each MPA identified in the Integrated Preferred Alternative; it highlights the source(s) for each MPA design, the purpose, and the rationale for any BRTF modifications to boundaries or regulations relative to stakeholder proposals. In addition, key ecological and socioeconomic considerations are described to provide additional rationale for the recommendation for these MPAs.

Point Arena State Marine Reserve and Point Arena State Marine Conservation Area

Source of Individual MPAs: Proposal 1-3 (near-consensus design among the three proposals)

Key Purpose: This MPA cluster is the northern-most component of the "backbone" of the MPA proposal and is designed to meet the minimum science size guidelines at 11.1 square miles.

Boundary or Regulation Modifications: Boundaries and proposed regulations were directly taken from the Point Arena State Marine Reserve/ State Marine Conservation Area cluster in Proposal 1-3; no modifications were made.

Ecological Considerations: Point Arena is the site of a major and persistent upwelling center and includes varied and unique habitat, with a complex of pinnacles, wash rocks, caverns, undercut and vertical rock walls, honeycomb formations, cobbles, deep sand and bull kelp stands. There was broad consensus among proponents of all three stakeholder proposals to site a high level of protection MPA that meets at least the minimum size guidelines at the northern tip of the study region. The eastern boundary of the state marine conservation area is purposefully placed at 123 46' W longitude to maintain a high level of protection, while allowing salmon trolling in waters greater than 50 meter depth.

Socioeconomic Considerations: The Point Arena MPA design, taken from Proposal 1-3, was the smallest of the three options proposed and had the lowest estimated annual net economic impact for Point Arena (12.8%), according to Ecotrust data (*Summary of potential impacts on commercial and recreational fisheries in the North Central Coast Study Region* report, May 13, 2008, Table 18); this result is in large part due to the fact that this MPA design was developed with significant local input from the Port of Point Arena and locally-based NCCRSR members. The MPA design leaves crabbing and shore-fishing opportunities along Manchester Beach unaffected and allows angling in the mouth of the Garcia River to continue.

Sea Lion Cove State Marine Conservation Area

Source of Individual MPA: Proposal 4

Key Purpose: This state marine conservation area would establish a locally-supported heritage site and provide protection to red abalone populations that have experienced localized decline since the area became accessible to the public. This MPA would also protect the intertidal community, including plants, algae, and invertebrates, while preserving shore-based and boat fishing activities and avoiding the area in and around Arena Cove, which is commercially important to the port of Point Arena.

Boundary or Regulation Modifications: Boundaries and proposed regulations were directly taken from the Sea Lion Cove State Marine Conservation Area in Proposal 4; no modifications were made.

Ecological Considerations: With its small island and accessible and flat intertidal bench, Sea Lion Cove is a unique site on the Point Arena coast. Public access to Sea Lion Cove from shore opened in 2004 when the privately held Stornetta Lands were purchased and transferred to the U.S. Bureau of Land Management (BLM). Surveys conducted in the area before its opening found a broader range of sizes and greater abundance of abalone and other invertebrates than at nearby fished areas. According to information provided by BLM, since Stornetta opened to public access there has been very high visitor use, a significant decline of 79% in abalone populations, problems with enforcement, and trampling of resources. BLM submitted a letter supporting greater protection for intertidal resources in Sea Lion Cove, which is included in the IPA as an SMCA.

Socioeconomic Considerations: Sea Lion Cove is important to the recreational abalone user group, who will be displaced to other locations. As a marine protected area, Sea Lion Cove may be utilized to enhance public education and non-consumptive outdoor experiences.

Saunders Reef State Marine Conservation Area

Source of Individual MPA: The shape of this MPA was taken from Proposal 1-3 and Proposal 4, with the proposed regulations from Proposal 4. One boundary was slightly modified as per a recommendation by the California Department of Parks and Recreation.

Key Purpose: Saunders Reef is an important and iconic rocky reef feature in the study region and warrants additional protections, in part due to the high restoration potential for nearshore finfish, which have been heavily fished there in the past.

Boundary or Regulation Modifications: The proposed regulations were taken from Proposal 4 as they were deemed more enforceable than those in proposal 1-3 based on California Department of Fish and Game feasibility analysis. The shape is similar to both proposals 1-3 and 4 but the boundary was modified to move the northern boundary south 0.1 mile based on input from the California Department of Parks and Recreation not to split Schooner Gulch State Beach.

Ecological Considerations: This MPA protects a large expanse of rocky reef habitat in the heart of the largest bull kelp forest in the northern part of the study region.

Socioeconomic Considerations: This state marine conservation area would allow commercial sea urchin (important as the largest value fishery landed at the port of Point Arena) and recreational and commercial salmon fishing. The southern boundary is at Sail Rock, a visible and well known landmark that leaves open rockfish fishing spots to the south that are popular with fishermen from Anchor Bay; it also leaves open the expanse of rocky habitat south of Arena Cove.

Other Information: Saunders Reef is designated as an area of special biological significance (no discharges allowed) and as a critical coastal area. Saunders Reef is adjacent to Schooner Gulch State Beach and will benefit from the management and enforcement resources of the California Department of Parks and Recreation. In addition, the California Department of Parks and Recreation has identified Saunders Reef in its

underwater parks master plan as a desired addition for over two decades because of its high productivity and its unique underwater features

Del Mar State Marine Reserve

Source of Individual MPA: Proposal 4

Key Purpose: This small heritage site has broad local input and support for maintaining an existing MPA at the northern end of The Sea Ranch.

Boundary or Regulation Modifications: Boundaries and proposed regulations were directly taken from Proposal 4.

Ecological Considerations: This state marine reserve increases protection of local marine species and habitats in a locally important area with an existing MPA. In addition, there is a PISCO intertidal monitoring site at Del Mar Point.

Socioeconomic Considerations: A state marine reserve at Del Mar does not appear to have significant socioeconomic impacts.

Other Information: Del Mar Landing is a State Water Resources Control Board designated area of special biological significance and has been designated a critical coastal area by the California Coastal Commission.

Stewart's Point State Marine Reserve, Salt Point State Marine Park and Gerstle Cove State Marine Reserve

Source of Individual MPAs: Proposal 4 for Stewart's Point State Marine Reserve and Salt Point State Marine Park, with boundaries modified as per recommendation from the California Department of Parks and Recreation. For Gerstle Cove State Marine Reserve, there was consensus on design in all stakeholder proposals.

Key Purpose: The Stewart's Point State Marine Reserve provides very high protection in the preferred size range, contributes to this proposal's "backbone" of marine reserves, and extends offshore to the state waters line to protect a full range of habitats. The Salt Point State Marine Park and Gerstle Cove State Marine Reserve enhance consumptive and non-consumptive recreational opportunities in an area of high visitor use.

Boundary or Regulation Modifications: The BRTF modified the Proposal 4 boundaries for Stewart's Point State Marine Reserve and Salt Point State Marine Park based on input from the California Department of Parks and Recreation. The southern boundary of the Stewart's Point State Marine Reserve (which is also the northern boundary of the Salt Point State Marine Park) was moved north 0.7 miles to allow greater area where abalone harvest is permitted, while still designating a state marine reserve adjacent to state park lands. The proposed regulations for these two MPAs come directly from Proposal 4. Gerstle Cove State Marine Reserve's boundaries and proposed regulations are consistent with all three stakeholder proposals.

Ecological Considerations: At Horseshoe Point, the rocky structure drops sharply to the 50-meter depth level and beyond, resulting in one of the steepest nearshore areas in the study region. The Stewart's Point State Marine Reserve, a preferred-size MPA (25.22 mi²), includes some of that steep depth gradient, and provides a very high level of protection for bull kelp forests, rocky intertidal, and complex rocky reef habitat. Gerstle Cove's MPA offers a very high level of protection to intertidal habitat and enhances biodiversity protection of an existing MPA.

Socioeconomic Considerations: The Stewart's Point State Marine Reserve will close one "expert" abalone diving site to consumptive use (at Horseshoe Cove) and will enhance non-consumptive dive opportunities at an area with particularly high ecological and observation value. This MPA configuration leaves access points at Salt Point and Stump Beach, as well as half of the Fisk Mill Cove, open to recreational fishing and abalone diving. No MPA is proposed in the heavily used area from Salt Point to the Fort Ross Reef. In supporting a state marine reserve at this site, the California Department of Parks and Recreation noted its intent to balance its responsibilities to both consumptive and non-consumptive users.

Russian River State Marine Reserve and Russian River State Marine Conservation Area

Source of Individual MPAs: Proposal 1-3, though there were very similar designs in all three stakeholder proposals.

Key Purpose: This MPA cluster protects estuarine habitat and anadromous species that aggregate at the mouth of the Russian River.

Boundary or Regulation Modifications: The boundaries and proposed regulations come directly from Proposal 1-3 with no modifications, although all three NCCRSR proposals have identical boundaries.

Ecological Considerations: One important ecological goal is to protect Coho and Chinook salmon and steelhead populations that aggregate near the river mouth while it is closed and blocks entry to upstream waters for spawning. These salmonid populations are vulnerable to fishing pressure that targets them at the river mouth; and other management protections have proven unsuccessful at the mouth of the Russian River, where area-based management is more likely to be successful.

Socioeconomic Considerations: The state marine conservation area allows for commercial and recreational take of Dungeness crab and recreational take of surf smelt, which should reduce economic impacts to fisheries in this area.

Bodega Head State Marine Reserve and Bodega Head State Marine Conservation Area

Source of Individual MPAs: Proposal 2-XA

Key Purpose: This MPA complex is part of the "backbone" of the MPA proposal and provides a moderate-high protection MPA cluster that meets the preferred size guidelines. The proposal expands the existing Bodega State Marine Reserve that is important for scientific research, and the "stacked" north/south design of the MPA cluster could facilitate research study design.

Boundary or Regulation Modifications: The boundaries and proposed regulations are taken directly from Proposal 2-XA, with no modifications.

Ecological Considerations: The state marine reserve includes extensive high wave exposure rocky intertidal and offshore habitat off Bodega Head. The state marine conservation area encompasses a high-energy environment of sand and flat rock extending to the state waters line at the south that, by local accounts of fishermen and scientists, is seasonally swept with sand.

Socioeconomic Considerations: The MPA cluster preserves shore angling opportunities near Salmon Creek, and allows access to a highly structured rocky reef to the north. The proposed regulations in the state marine conservation area allow for many

of the important recreational and commercial fishing activities to continue, including take of salmon and Dungeness crab. The MPA cluster design reflects the input of local Bodega Bay fishermen and had the least socioeconomic impacts to the local port.

Estero Americano and Estero de San Antonio State Marine Recreational Management Areas

Source of Individual MPAs: Proposals 1-3, 2-XA and 4, with proposed designation and regulations from Proposal 2-XA.

Key Purpose: Protects estuarine habitat and unique esteros in the middle of the study region.

Boundary or Regulation Modifications: The boundaries and proposed regulations come directly from Proposal 2-XA with no modifications, although all three NCCRSR proposals have the same boundaries for these two state marine recreational management areas. The state marine recreational management area designation is consistent with California Department of Fish and Game guidance for areas with existing waterfowl hunting.

Ecological Considerations: The esteros are a relatively unique type of estuary along the coast and include important estuarine habitats and areas for shorebirds and migratory waterfowl.

Socioeconomic Considerations: Other than waterfowl hunting, there are few consumptive activities that take place in these esteros.

Point Reyes State Marine Reserve and Point Reyes State Marine Conservation Area

Source of Individual MPAs: Proposals 1-3, 2-XA and 4, with regulations from Proposal 1-3.

Key Purpose: This MPA complex comprises part of the "backbone" of the MPA proposal for size and spacing guidelines, with moderate high protection in the preferred size range for important habitats and features on the Point Reyes peninsula.

Boundary or Regulation Modifications: The boundaries and proposed regulations come directly from Proposal 1-3 with no modifications, although all three NCCRSR proposals reached a consensus design on the boundaries for this MPA cluster.

Ecological Considerations: Point Reyes is a major geographic feature on the coast and is an area with high marine diversity and numerous seabird and marine mammal breeding sites. There is extensive intertidal and near-shore rocky and sandy habitat. There is a larval retention zone in Drakes Bay just south of Point Reyes that results from this major headland's location downstream of the Point Arena upwelling system.

Socioeconomic Considerations: The MPA cluster was designed with iterative rounds of input from fishermen from Bodega and Bolinas ports for which the Point Reyes area is particularly important for both commercial and recreational fishing. The state marine reserve was designed to be relatively small to protect the near-shore and intertidal environment, while allow some fishing activities offshore. The state marine conservation area design allows for some continued fishing opportunities (salmon and crab) while minimizing impact to halibut, squid, and rockfish fisheries, and leaving open the heavily used area north of the headland to Tomales Bluff.

Estero de Limantour State Marine Reserve and Drakes Estero State Marine Conservation Area

Source of Individual MPAs: Proposals 1-3, 2-XA and 4, with regulations from Proposal 1-3 (all proposals had converged on a similar design).

Key Purpose: These MPAs protect a large portion of estuarine habitat within the southern part of the study region.

Boundary or Regulation Modifications: The boundaries come directly from all three proposals, with no modifications. The proposed regulations come from Proposal 1-3, but the state marine conservation area language was modified in reference to the existing mariculture lease at this site.

Ecological Considerations: Drakes Estero and Estero Limantour are connected estuarine habitats of high ecological value on the Point Reyes peninsula. They include important eelgrass beds, tidal mud flats, coastal marsh, and open water habitats. The state marine reserve is also sited in an important nursery area for Dungeness crab and numerous rock- and flatfish. The estuaries are important for migratory waterfowl, shorebirds, and as haulout sites for harbor seals.

Socioeconomic Considerations: While the stakeholders generally preferred a state marine reserve designation for the entire estuary, accommodating the existing mariculture lease required an additional state marine conservation area designation in part of the area. Some recreational clamming occurs in this area and was accommodated in the proposed regulations.

Duxbury State Marine Park

Source of Individual MPA: Proposal 2-XA

Key Purpose: Provide continued protection for intertidal invertebrates, while minimizing socioeconomic impacts to near-shore recreational and commercial fisheries focused on Duxbury Reef.

Boundary or Regulation Modifications: The boundaries and proposed regulations come directly from Proposal 2-XA, with no modifications.

Ecological Considerations: Duxbury reef and rocky intertidal are important rocky habitats in an area with relatively little rock substrata. The intertidal area is accessible to the public and has been well-studied. While the near-shore reef is also ecologically important, the socioeconomic considerations outweighed inclusion in a MPA.

Socioeconomic Considerations: Duxbury reef is a large near-shore reef that is an important fishing area for boats from San Francisco and Bolinas; it's the closest large reef to San Francisco. Allowing shore fishing for finfish preserves an accessible safe fishing spot for small boats. Since the MPA does not extend offshore to include much of Duxbury Reef, this intertidal MPA would not impact offshore consumptive activities.

Montara State Marine Reserve and Pillar Point State Marine Conservation Area

Source of Individual MPAs: Proposal 2-XA, with significant modification to boundaries based on input from the California Department of Parks and Recreation and stakeholders.

Key Purpose: This MPA complex serves as the southern component of the "backbone" of MPAs in the north central coast, providing moderate-high protection in the preferred size range and a link to the Ano Nuevo MPA complex in the MLPA Central Coast Study

Region. There was strong community support for an expanded Fitzgerald State Marine Reserve in this area. The north-south “stacked” design should facilitate scientific study of these MPAs.

Boundary or Regulation Modifications: The boundaries and proposed regulations for Montara State Marine Reserve come from Proposal 2-XA, with boundary modifications made by the BRTF with stakeholder input. The northern boundary of Montara State Marine Reserve was moved south by 0.3 miles, in order to allow shorefishing from Montara State Beach and to avoid splitting the beach as recommended by the California Department of Parks and Recreation. The southern boundary of Montara State Marine Reserve was moved south to latitude 37 30.0, in order to keep the reserve within the recommended minimum size range. The Pillar Point State Marine Conservation Area northern boundary was moved south to the latitude 37 30.0 to accommodate the state marine reserve boundary change. Pillar Point State Marine Conservation Area regulations are taken directly from proposal 2-XA without change.

Ecological Considerations: The Montara State Marine Reserve would include most of the existing Fitzgerald State Marine Park, protecting these highly popular tide pools and the interconnected ecosystems out to the state waters line. The state marine reserve would include the most diverse habitats that occur in this area—shale and granite reefs, rock pinnacles and ridges, surge channels, sea grass beds, kelp forests, soft sediments, and on land, haul out sites for harbor seals and Steller sea lions.

Socioeconomic Considerations: A state marine conservation area at the southern end of the cluster allows safe access for fishing for pelagic finfish including salmon, Dungeness crab and squid north of Pillar Point Harbor. Keeping the areas above Montara State Beach and south of Pillar Point open to fishing retains many important recreational and commercial fishing opportunities.

Other Information: This MPA cluster could leverage the management, enforcement, and educational benefits of on-site San Mateo County Park Rangers and interpretive staff in a unique biological area with one of the highest visitation rates on the northern California coast.

North Farallon Islands State Marine Reserve, Southeast Farallon Island State Marine Reserve, and State Marine Conservation Area

Source of MPAs: Proposals 1-3, 2-XA and 4, with regulations from Proposal 1-3 (all proposals converged on the similar design).

Key Purpose: The Farallons MPA clusters provide preferred sized clusters with a very high and high level of protection, respectively, for an iconic natural heritage area that has national and global significance for its marine mammal and seabird populations and breeding areas.

Boundary or Regulation Modifications: The boundaries and proposed regulations come directly from Proposal 1-3 with no modifications, although all three NCCRSR proposals have identical boundaries for these MPAs.

Ecological Considerations: These MPAs were designed to protect iconic, biologically-significant offshore islands, with rocky reef, deep and shallow sand habitats. Unique intertidal, subtidal, and pelagic communities occur at the Farallons, in an area of high productivity. The proposed MPAs also protect forage fish and should enhance the

reproductive success of the many marine mammals and seabirds that nest on the islands. The proposed state marine reserves protect a significant portion of the rocky habitat around the two main island groups. The proposed state marine conservation area protects deep habitats that connect to waters off to the southwest area of Southeast Farallon Island.

Socioeconomic Considerations: The recreational and commercial fishermen who utilize the Farallon Islands were very involved in the design of the MPAs to minimize socioeconomic impact. Salmon trolling was allowed in the offshore state marine conservation area to accommodate that fishery. Special consideration was also given for anchorage and vessel safety.

MPAs Not Included in the Integrated Preferred Alternative

The MLPA Blue Ribbon Task Force notes that there were three geographies for which at least one of the NCCRSG proposals included an MPA that was not included in the Integrated Preferred Alternative. The BRTF considered each of these carefully in its deliberations, but in the end did not recommend them for inclusion in the Integrated Preferred Alternative.

Tomales Bay State Marine Reserve:

Source: Proposal 4

Rationale: While Proposal 4 included a state marine reserve at the southern end of Tomales Bay, the BRTF determined that an MPA was not needed at this site.

Duxbury State Marine Conservation Area:

Source: Proposals 1-3 and 4

Rationale: This area contains high relief rocky habitats, and it is an iconic area for consumptive users from San Francisco Bay. The BRTF considered the relevant factors and concluded that this particular MPA was not necessary at this time.

San Gregorio State Marine Reserve:

Source: Proposal 4

Rationale: Proposal 4 included a state marine reserve at San Gregorio. There are high relief rocky habitats that extend well offshore to the state waters line, and this is an important area for fishermen from Half Moon Bay. The BRTF considered the relevant factors and concluded that the Montara-Pillar Point MPA complex is adequate to address the minimum spacing guidelines at the southern end of the region.

Recommendations Regarding Existing MPAs

As required of all proposals, the Integrated Preferred Alternative makes specific recommendations for the existing MPAs in the MLPA North Central Coast Study Region. The BRTF does not propose retaining any existing MPAs within the study region in their current form without modification.

Existing MPAs included in the Integrated Preferred Alternative

There are ten existing MPAs that the BRTF included in the Integrated Preferred Alternative with modifications to current regulations and/or boundaries: Del Mar Landing State Marine Park, Salt Point State Marine Conservation Area, Gerstle Cove State Marine Conservation Area, Sonoma Coast State Marine Conservation Area, Bodega Head State Marine Reserve, Point Reyes State Marine Conservation Area, Estero de Limantour State Marine Conservation Area, Duxbury Reef State Marine Conservation Area, James V. Fitzgerald State Marine Park, and Farallon Islands State Marine Conservation Area.

Existing MPAs not included in the Integrate Preferred Alternative

The Integrated Preferred Alternative recommends entirely eliminating three existing MPAs: Manchester and Arena Rock State Marine Conservation Area, Fort Ross State Marine Conservation Area, and Tomales Bay State Marine Park.

Special Closures Included in the Integrated Preferred Alternative

The North Central Coast Regional Stakeholder Group considered various options for special closures to provide enhanced protection for sensitive populations of seabirds and/or marine mammals. The BRTF noted that the three NCCRSG proposals included similar sets of special closure options. After closely considering the respective options, the BRFT recommends designating special closures in six locations (listed below); all of these areas were included in at least one proposal generated by the NCCRSG. Selection of the special closures was also informed by input from the Gulf of the Farallones National Marine Sanctuary.

Point Reyes Special Closure

Extent: 1000 feet

Source: Proposals 1-3 and 4

Additional Information: Provides protection for large seabird and marine mammal colonies on the Point Reyes Headland. Proposed shape accounts for vessel safety and transit on western portion of headland.

Point Resistance Special Closure

Extent: 300 feet around point

Source: Proposal 2-XA

Additional Information: A 300 ft special closure allows for existing vessel traffic.

Stormy Stack Special Closure

Extent: 300 feet

Source: Proposals 1-3, 2-XA, and 4

Additional Information: All three NCCRSG proposals included a special closure design in this area.

Egg Rock (Devils Slide) Special Closure

Extent: 300 feet around island and no transit in area between rock and mainland

Source: Proposals 1-3, 2-XA, and 4, with boundary modifications

Additional Information: This area is the site of a large seabird restoration effort. A new boundary design was created during the Blue Ribbon Task Force meeting based on stakeholder and expert input, and attempts to provide protection while minimizing impacts to user-groups.

North Farallones (including Isle of St. James) Special Closure

Extent: 1000 feet around North Farallon Island. 300 feet around Isle of St. James cluster.

Source: Proposals 1-3, 2-XA and 4

Additional Information: All three NCCRSG proposals included special closures at Isle of St. James and two included special closures at North Farallon Island (though extent of the proposed special closures at North Farallon differed between proposals).

Southeast Farallon Special Closure

Extent: 300 feet year-round closure around most of Southeast Farallon excluding Fisherman's Bay and East Landing, with a seasonal closure between Fishermen's Bay and East Landing (including Shubrick) and from East Landing to southwest side of Saddle Rock from December 1 to September 14.

Source: Proposals 1-3, 2-XA and 4, with a seasonal closure modification created to reduce socioeconomic impacts.

Additional Information: All three NCCRSG proposals included special closures in this area, though they differed on the eastern side of the island. A BRTF revision to the special closures at Southeast Farallon -- designating a portion of it as a seasonal closure rather than year-round -- brings compromise and consideration for the eco-tourism operations who depend on having access to the eastern side of the Southeast Farallon Island, and access around Saddle Rock.