

**Department of Fish and Game evaluation of the goals and objectives of MPA proposals  
in the North Central Coast Region  
*April 17, 2008***

The Marine Life Protection Act (MLPA) directs that marine protected areas (MPA) have clearly identified objectives, as these are critical factors influencing design, regulations, and monitoring. The overall network of state marine reserves (SMR), state marine conservation areas (SMCA), and state marine parks (SMP) must work toward achieving the goals of the MLPA. Individual MPAs should support the attainment of individually identified objectives that, when taken together, help fulfill the network's objectives. For example, an MPA that strives to protect biodiversity may be best located in an area with a variety of habitat types and may prohibit all take, while another that seeks to enhance recreational opportunity may be best cited near coastal access points and may allow limited fishing. Monitoring programs are also critically influenced by MPA objectives, as these programs must be designed to evaluate whether or not an MPA is meeting its individual intent.

The North Central Coast Regional Stakeholder Group (NCCRSG) crafted regional goals and objectives for MPAs in the North Central Coast (attached) and considered them in designing individual MPAs. The purpose of this document is to evaluate the appropriateness and compatibility of proposed MPAs with their stated objectives, and with the intent of the MLPA. Table 1 below summarizes proposed MPAs with problematic goals and objectives. Following the table, narrative explanation of each issue is provided for each MPA.

The majority (approximately 75%) of proposed MPAs with problematic objectives had only minor issues that may be easily resolved by deleting the specific objective. The most common minor issues were; application of objectives to individual MPAs that are more appropriately applied at the region-wide or network scale, and; application of objectives to an inappropriate MPA designation.

In some cases, a single type of allowed take conflicted with at least one objective or conflicted with the stakeholders' narrative rationale for establishing the MPA. This made it questionable whether the intended objectives could be achieved. It is suggested that these problems may be resolved by either disallowing the allowed take in question, or by modifying the objectives (Table 1, yellow fill).

A small number of proposed MPAs allow virtually every allowed take that exists currently (Table 1, grey fill), and thus do not to meet the intent of the MLPA to improve the existing array of MPAs and design them based on sound scientific guidelines. As noted in a Department of Fish and Game memo to the NCCRSG on March 13, 2008<sup>1</sup>, the Department opposes proposed MPAs of this nature. Suggested remedies are to either significantly reduce the array of allowed take, or to eliminate the proposed MPA.

It is also important to note that in some cases, proposed MPAs may help achieve objectives that were not identified in the Stakeholders' narratives. These objectives may be added to MPAs selected to move forward, but the Department has not done so in this document.

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<sup>1</sup> Ugoretz, J. DFG Memo. Department guidance for final MPA proposal development. March 13, 2008.

**Table 1.** Summary of proposed MPAs with problematic goals and objectives. Rows with **yellow fill** denote proposed MPAs for which a single allowed take conflicts with one or more objectives, or conflicts with the narrative rationale for establishing the MPA. Rows with **grey fill** denote proposed MPAs which permit virtually every allowed take that exists without the MPA and thus do not meet the intent of the MLPA to improve the existing array of MPAs and design them based on sound scientific guidelines. Goals and objectives in this document are referred to by their individual Goal and Objective numbers (e.g. Goal 1, Objective 3 = G1-O3).

Area	(Proposal) MPA	Type of Goals and Objectives Concern				Options to Remedy
		Conflicts with specified allowed take	Not appropriate for type of MPA	Not applicable at scale of individual MPA	Other Concern	
Point Arena	(1-3) Point Arena SMR		G2-O4	G4-O2, G6		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(1-3) Point Arena SMCA		G1-O1, G1-O5	G4-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2-XA) Point Arena SMR	G1-O4		G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2-XA) Point Arena SMCA	G1-O4	G1-O1, G1-O5	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objective, or</li> <li>Delete G1-O1, G1-O5, G4-O2, G5-O2, G6-O1, G6-O2, and disallow take of pelagic finfish</li> </ul>
	(4) Point Arena SMR, Sea Lion Cove SMCA			G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(4) Point Arena SMCA		G1-O1, G1-O5	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
Saunders Reef	(1-3) Saunder's Reef SMCA	G1-O2, G1-O3		G4-O2, G5-O2	G5-O3	<ul style="list-style-type: none"> <li>Eliminate MPA, or</li> <li>Delete G4-O2, G5-O2, G5-O3 and reduce allowed take</li> </ul>
	(4) Saunders Reef SMCA			G4-O2, G5-O2		<ul style="list-style-type: none"> <li>Eliminate MPA, or</li> <li>Delete all problematic goals/objectives</li> </ul>
Del Mar Landing	(1-3) Del Mar Landing SMP				G3-O2	<ul style="list-style-type: none"> <li>Eliminate MPA, or</li> <li>Reduce allowed take.</li> </ul>
	(4) Del Mar Landing SMR			G5-O2		<ul style="list-style-type: none"> <li>Eliminate MPA, or</li> <li>Delete all problematic goals/objectives</li> </ul>
Rocky Point to Horseshoe Point / Black Point / Stewart's Point	(1-3) Rocky Point to Horseshoe Point SMR			G4-O2, G6		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2-XA) Black Point SMCA	G1-O4	G1-O1, G1-O5	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives, or</li> <li>Delete G1-O1, G1-O5, G4-O2, G5-O2, G6-O1, G6-O2 and disallow take of pelagic finfish</li> </ul>
	(2-XA) Black Point SMR	G1-O4		G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>

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		Conflicts with specified allowed take	Not appropriate for type of MPA	Not applicable at scale of individual MPA	Other Concern	
	(4) Stewart's Point SMR			G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
Salt Point & Gerstle Cove	(1-3) Gerstle Cove SMR			G4-O2, G5-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(4) Salt Point SMP			G5-O2	G5-O3	<ul style="list-style-type: none"> <li>Eliminate MPA, or</li> <li>Delete all problematic goals/objectives</li> </ul>
	(4) Gerstle Cove SMR			G4-O2, G5-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
Russian River	(1-3) Russian River SMCA		G1-O5	G4-O2, G5-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(1-3) Russian River SMR			G4-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2-XA) Russian River SMCA	G2-O1				<ul style="list-style-type: none"> <li>Address through other regulatory measure or prohibit hook and line take where bycatch is a concern</li> </ul>
	(4) Russian River SMCA			G5-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
Bodega Head	(4) Russian River SMR			G5-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(1-3) Bodega Head SMR		G2-O4	G4-O2, G6		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(1-3) Bodega Head SMCA	G1-O4	G1-O1, G1-O5	G4-O2, G6		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives, or</li> <li>Delete G1-O1, G1-O5, G, G4-O2, G6, and disallow take of Dungeness crab.</li> </ul>
	(2-XA) Bodega Head SMR			G4-O2, G5-O2, G6-O1, G6-O2	G1-O4	<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2-XA) Bodega Head SMCA	G1-O4	G1-O1, G1-O5	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives, or</li> <li>Delete G1-O1, G1-O5, G4-O2, G5-O2, G6-O1, G6-O2 and disallow take of pelagic finfish</li> </ul>
	(4) Bodega SMR			G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
Estero Americano & Estero de San Antonio	(4) Bodega SMCA		G1-O1, G1-O5	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(1-3) Estero Americano SMR		G2-O4	G4-O2, G5-O2, G6-O1, G6-O2	G5-O1	<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(1-3) Estero de San Antonio SMR		G2-O4	G4-O2, G5-O2, G6	G5-O1	<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
Tomales Bay	(4) Estero de San Antonio SMR			G4-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(4) Tomales Bay SMR			G4-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
Point Reyes	(1-3) Point Reyes SMR		G2-O4	G4-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>

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		Conflicts with specified allowed take	Not appropriate for type of MPA	Not applicable at scale of individual MPA	Other Concern	
	(1-3) Point Reyes SMCA	G1-O4	G1-O1	G4-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives, or</li> <li>Delete G1-O1, G4-O2, G6-O1, G6-O2, and disallow take of Dungeness crab</li> </ul>
	(2XA) Point Reyes Headlands SMR			G4-O2, G5-O2 G6-O1, G6-O2	G1-O4	<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2XA) Point Reyes Headlands SMCA	G1-O4	G1-O1, G1-O5	G4-O2, G5-O2 G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> <li>Disallow take of pelagic finfish</li> </ul>
	(4) Point Reyes SMR			G4-O2, G5-O2 G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(4) Point Reyes SMCA	G1-O4	G1-O1, G1-O5	G4-O2, G5-O2 G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives, or</li> <li>Delete G1-O1, G1-O5, G4-O2, G5-O2, G6-O1, G6-O2, and disallow take of Dungeness crab.</li> </ul>
Drakes Estero / Estero de Limantour	(1-3) Drakes and Limantour Estero SMR			G4-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(1-3) Drakes Estero SMCA		G1-O1, G1-O5, G1-O4	G4-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2-XA) Drakes Estero SMCA		G1-O1			<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(4) Drakes Estero SMCA		G1-O1, G1-O4			<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
Double Point / Duxbury	(1-3) Double Point SMCA	G2-O2, G3-O3				<ul style="list-style-type: none"> <li>Eliminate MPA, or</li> <li>Reduce allowed take</li> </ul>
	(1-3) Duxbury Reef SMCA			G4-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2-XA) Duxbury SMP	G1-O1, G1-O3				<ul style="list-style-type: none"> <li>Eliminate MPA, or</li> <li>Reduce allowed take</li> </ul>
	(4) Double Point SMCA			G4-O2, G5-O2 G6		<ul style="list-style-type: none"> <li>Eliminate MPA, or</li> <li>Delete all problematic goals/objectives and reduce allowed take</li> </ul>
	(4) Duxbury SMCA	G2-O2, G2-O4		G4-O2, G5-O2		<ul style="list-style-type: none"> <li>Eliminate MPA, or</li> <li>Delete G4-O2, G5-O2 and reduce allowed take</li> </ul>
	(4) Agate Beach Intertidal SMCA		G1-O1	G4-O2, G5-O2		<ul style="list-style-type: none"> <li>Eliminate MPA, or</li> <li>Delete G1-O1, G4-O2, G5-O2 and reduce allowed take</li> </ul>
Fitzgerald / Montara / Devil's Slide / Pillar Point	(1-3) Montara SMCA	G1-O3, G1-O4	G1-O1, G1-O5	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Eliminate MPA replacing it with a different proposal, or</li> <li>Delete G4-O2, G5-O2, G6-O1, G6-O2 and reduce allowed take.</li> </ul>
	(1-3) Fitzgerald SMR		G2-O4	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2-XA) Montara SMR			G4-O2, G5-O2, G6-O1, G6-O2	G1-O4	<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>

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		Conflicts with specified allowed take	Not appropriate for type of MPA	Not applicable at scale of individual MPA	Other Concern	
	(2-XA) Pillar Point SMCA	G1-O4	G1-O1, G1-O5	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives, or</li> <li>Delete G4-O2, G5-O2, G6-O1, G6-O2, and disallow take of pelagic finfish</li> </ul>
	(4) Devil's Slide SMCA			G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(4) Fitzgerald SMR			G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
San Gregorio	(4) San Gregorio SMR			G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
Farallon Islands	(1-3) North Farallon Islands SMR		G2-O4	G4-O2, G5-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(1-3) SE Farallon Islands SMR		G2-O4	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(1-3) SE Farallon Islands SMCA		G1-O1, G1-O5	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2-XA) North Farallon SMR			G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2-XA) SE Farallon SMR			G4-O2, G5-O2, G6-O1, G6-O2	G1-O4	<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(2-XA) SE Farallon SMCA	G1-O4	G1-O1, G1-O5	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives, or</li> <li>Delete G1-O1, G1-O5, G4-O2, G5-O2, G6-O1, G6-O2, and disallow take of pelagic finfish.</li> </ul>
	(4) North Farallon SMR			G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(4) SE Farallon SMR			G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>
	(4) SE Farallon SMCA		G1-O1, G1-O5	G4-O2, G5-O2, G6-O1, G6-O2		<ul style="list-style-type: none"> <li>Delete all problematic goals/objectives</li> </ul>

## POINT ARENA

### **Proposal 1-3:**

(Point Arena SMR)

- G2-O4 (protect species and habitats while allowing harvest through use of a SMCA or SMP) may apply to an SMCA or SMP, but is not appropriate for an SMR.
- Goal 6 and its objectives, and G4-O2 are appropriately applied at the network scale, and should not apply to individual MPAs.

(Point Arena SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take.
- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.
- G4-O2 is appropriately applied at the network scale, and should not apply to individual MPAs.

### **Proposal 2XA**

(Point Arena SMR)

- Narrative rationale for selection of G1-O4 (to protect pelagic finfish that serve as prey for other fish, birds and mammals) is not likely to be achieved. As noted in the Master plan, pelagic species have a high tendency to move and are unlikely to benefit from MPAs. They are also not included in the list of species likely to benefit (Master Plan, Appendix G).
- The following goals/objectives apply at the network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

(Point Arena SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take.
- Narrative rationale for selecting G1-O4 (to protect pelagic finfish that serve as prey for other fish, birds and mammals) is not supported by allowed take of pelagic finfish in this MPA.
- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.
- The following goals/objectives apply at the network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

### **Proposal 4**

(Point Arena SMR and Sea Lion Cove SMCA)

- The following goals/objectives apply at the network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2

(Point Arena SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take or aquaculture.
- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.
- The following goals/objectives apply at the network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2

## SAUNDERS REEF

### **Proposal 1-3**

(Saunders Reef SMCA)

- Wide array of allowed take in this MPA makes it unlikely that G1-O2 and G1-O3 can be met, and is inconsistent with the intent of the MLPA to improve the existing array of MPAs and design them based on sound scientific guidelines.
- G4-O2 and G5-O2 apply at the network scale and are not appropriately applied to individual MPAs.
- MPA does not address SAT size and spacing guidelines due to its moderate-low level of protection, and does not meet G5-O3 (effectively use scientific guidelines in California MLPA Master Plan for Marine Protected Areas)

### **Proposal 4**

(Saunders Reef SMCA)

- MPA does not address SAT size and spacing guidelines due to its moderate-low level of protection
- G4-O2 and G5-O2 apply at the network scale and are not appropriately applied to individual MPAs.

## DEL MAR LANDING

### **Proposal 1-3**

(Del Mar Landing SMP)

- Narrative rationale for selecting G3-O2 (keeping SMP as a heritage site) is not supported by the wide array of allowed take (recreational finfish) in this very small, nearshore SMP. MPA provides little protection, and is inconsistent with the intent of the MLPA to improve the existing array of MPAs and design them based on sound scientific guidelines.

### **Proposal 4**

(Del Mar Landing SMR)

- Narrative rationale suggests maintaining an existing MPA “valued by the community”, however changes this existing MPA to no longer allow take.
- G5-O2 applies at the network scale and is not appropriately applied to individual MPAs.

## BLACK POINT / STEWART'S POINT / ROCKY POINT TO HORSESHOE POINT

### **Proposal 1-3**

(Rocky Point to Horseshoe Point SMR)

- Goal 6 and its objectives, and G4-O2 are appropriately applied at the scale of the entire regional network, and do not apply on an individual MPA basis.

### **Proposal 2XA**

(Black Point SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take.
- Narrative rationale for selection of G1-O4 (to protect pelagic finfish that serve as prey for other fish, birds and mammals) is not supported by allowed take of pelagic finfish in this MPA.
- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.
- The following goals/objectives apply at the network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

(Black Point SMR)

- Narrative rationale for selection of G1-O4 (protect pelagic finfish that serve as prey for other fish, birds and mammals) is not likely to be achieved. As noted in the Master Plan, pelagic species have a high tendency to move and are unlikely to benefit from MPAs. They are also not included in the list of species likely to benefit (Master Plan, Appendix G).
- The following goals/objectives apply at the network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

### **Proposal 4**

(Stewart's Point SMR)

- The following goals/objectives apply at the network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

## SALT POINT & GERSTLE COVE

### **Proposal 1-3**

(Gerstle Cove SMR)

- The following goals/objectives apply at the network scale, are not appropriately applied to individual MPAs: G4-O2, G5-O2

### **Proposal 4**

(Salt Point SMP)

- MPA does not meet SAT size and spacing evaluation guidelines (G5-O3) due to its small size, and moderate level of protection.
- G5-O2 applies at the network scale, and is not appropriately applied to an individual MPA.

(Gerstle Cove SMR)

- The following goals/objectives apply at the network scale, are not appropriately applied to individual MPAs: G4-O2, G5-O2

## **RUSSIAN RIVER**

### **Proposal 1-3**

(Russian River SMR)

- G4-O2 applies at the entire network scale, are not appropriately applied to individual MPAs.

(Russian River SMCA)

- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.
- G5-O2 and G4-O2 apply at the entire network scale, are not appropriately applied to individual MPAs.

### **Proposal 2-XA**

(Russian River SMCA)

- Since the proposed SMCA allows commercial and recreational take of all species other than Chinook salmon, the narrative goals to protect Chinook salmon may be better addressed through existing regulation (Section 27.75, Title 14), external to the MLPA process. Section 27.75 closes salmon fishing in areas around the mouths of other Northern California rivers. Conflicts with G1-O3.

### **Proposal 4**

(Russian River Estuary SMR and Russian River SMCA)

- G5-O2 applies at the entire network scale, and is not appropriately applied to individual MPAs.

## **BODEGA HEAD**

### **Proposal 1-3**

(Bodega Head SMR)

- G2-O4 (protect species and habitats while allowing harvest through use of a SMCA or SMP) may apply to an SMCA or SMP, but is not appropriate for an SMR.
- Goal 6 and its objectives, and G4-O2 are appropriately applied at the network scale, and are not appropriately applied to individual MPAs

(Bodega Head SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take.
- G1-O4 (protect natural trophic structure and food webs) is unlikely to be met due to allowed fishing of a species likely to benefit if protected by an MPA (Dungeness crab).

- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.
- G4-O2, and goal 6 and its objectives are appropriately applied at the network scale, and are not appropriately applied to individual MPAs.

### **Proposal 2-XA**

(Bodega Head SMR)

- Narrative rationale for selection of G1-O4 (to protect pelagic finfish that serve as prey for other fish, birds and mammals) is not likely to be achieved. As noted in the Master plan, pelagic species have a high tendency to move and are unlikely to benefit from MPAs. They are also not included in the list of species likely to benefit (Master Plan, Appendix G).
- The following objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

(Bodega Head SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take.
- Narrative rationale for selection of G1-O4 (to protect pelagic finfish that serve as prey for other fish, birds and mammals) is not supported by allowed take of pelagic finfish in this MPA.
- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

### **Proposal 4**

(Bodega SMR)

- The following objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

(Bodega SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take or aquaculture.
- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.
- The following objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

## ESTERO AMERICANO & ESTERO DE SAN ANTONIO

### Proposal 1-3

(Estero Americano SMR)

- G2-O4 (protect species and habitats while allowing harvest through use of a SMCA or SMP) may apply to an SMCA or SMP, but is not appropriate for an SMR.
- G5-O1 is not appropriately applied to this SMR. Due to the limited number and type of users in this area, neither positive nor negative socioeconomic impacts are likely, whether or not an SMR is established here.
- The following objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

(Estero de San Antonio SMR)

- G2-O4 (protect species and habitats while allowing harvest through use of a SMCA or SMP) may apply to an SMCA or SMP, but is not appropriate for an SMR.
- G5-O1 is not appropriately applied to this SMR. Due to the limited number and type of users in this area, neither positive nor negative socioeconomic impacts are likely, whether or not an SMR is established here.
- The following objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

### Proposal 4

(Estero de San Antonio SMR)

- G4-O2 applies at the network scale, and is not appropriately applied to an individual MPA.

## TOMALES BAY SMR (PROPOSAL 4 ONLY)

### Proposal 4

- G4-O2 applies at the network scale, and is not appropriately applied to an individual MPA.

## POINT REYES

### Proposal 1-3

(Point Reyes SMR)

- G2-O4 (protect species and habitats while allowing harvest through use of a SMCA or SMP) may apply to an SMCA or SMP, but is not appropriate for an SMR.
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G6-O1, G6-O2

(Point Reyes SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take.

- G1-O4 (protect natural trophic structure and food webs) is unlikely to be met due to allowed fishing of a species likely to benefit if protected by an MPA (Dungeness crab).
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G6-O1, G6-O2

### **Proposal 2XA**

(Pt. Reyes Headlands SMR)

- Narrative rationale for selecting G1-O4 (to protect pelagic finfish that serve as prey for other fish, birds and mammals) may not be achievable unless MPA cluster is large enough to encompass the range of movement of forage species (Master Plan, Appendix G).
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

(Pt. Reyes Headlands SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take.
- Narrative rationale for selecting G1-O4 (protect pelagic finfish that serve as prey for other fish, birds and mammals) is not supported by allowed take of pelagic finfish in this MPA.
- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

### **Proposal 4**

(Point Reyes SMR)

- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

(Point Reyes SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take or aquaculture.
- G1-O4 (protect natural trophic structure and food webs) is unlikely to be met due to allowed fishing of a species likely to benefit if protected by an MPA (Dungeness crab).
- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

## **DRAKES ESTERO / LIMANTOUR ESTERO**

### **Proposal 1-3**

(Drakes and Limantour Estero SMR)

- The following objective applies at the entire network scale, and is not appropriately applied to individual MPAs: G4-O2

(Drakes Estero SMCA)

- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take or aquaculture.
- G1-O4 (protect natural trophic structure and food webs) is unlikely to be met due to existence of mariculture activities within this MPA.
- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take or aquaculture.
- The following objective applies at the entire network scale, and is not appropriately applied to individual MPAs: G4-O2

### **Proposal 2XA**

(Drakes Estero SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take or aquaculture.

### **Proposal 4**

(Drakes Estero SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take or mariculture.
- G1-O4 (protect natural trophic structure and food webs) is unlikely to be met due to existence of mariculture activities within this MPA.

## **DOUBLE POINT / DUXBURY**

### **Proposal 1-3**

(Double Point SMCA)

- Narrative rational for choosing G2-O2 (protecting demersal species and habitats) is not supported by allowance of activities which impact benthic species and communities (mooching, halibut fishing, croaker fishing). MPA is inconsistent with the intent of the MLPA to improve the existing array of MPAs and design them based on sound scientific guidelines.
- Wide array of take allowed in this MPA and lack of comparative adjacent areas under comparatively restrictive take regulations, make MPA unlikely to meet G3-O3 (facilitate scientific studies, serve as replicate or control area).

(Duxbury Reef SMCA)

- The following objective applies at the entire network scale, and is not appropriately applied to individual MPAs: G4-O2

### **Proposal 2XA**

#### **(Duxbury SMP)**

- Small size and wide array of take allowed in this intertidal SMP (all finfish and abalone) provides minimal protection. It is unlikely that G1-O1 (protect diversity and abundance consistent with natural fluctuations) and G1-O3 (protect natural age and size structure) can be met, and is inconsistent with the intent of the MLPA to improve the existing array of MPAs and design them based on sound scientific guidelines.

### **Proposal 4**

#### **(Double Point SMCA)**

- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

#### **(Duxbury SMCA)**

- Narrative goal of protecting shale reef and sand communities is not supported by allowance of activities that impact demersal species (halibut fishing, crab fishing, recreational shore fishing) that are otherwise most likely to benefit from the MPA if such activities were not allowed. Wide array of allowed take makes it unlikely that G2-O2 and G2-O4 will be achieved.
- The following objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2 and G5-O2

#### **(Agate Beach Intertidal SMCA)**

- Small size and wide array of take allowed in this intertidal SMCA (all finfish and Dungeness crab) provides minimal protection. Goal G1-O1 (protect diversity and abundance consistent with natural fluctuations) will not be met, and MPA is inconsistent with the intent of the MLPA to improve the existing array of MPAs and design them based on sound scientific guidelines.
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2 and G5-O2

## **FITZGERALD / MONTARA / DEVIL'S SLIDE / PILLAR POINT**

### **Proposal 1-3**

#### **(Montara SMCA)**

- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take or mariculture.
- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take or mariculture.
- Narrative objective of protecting rocky reef and sand areas is not supported by allowance of activities which impact benthic species and communities (halibut fishing, crab fishing). Wide array of take allowed in this MPA make it unlikely that MPA will achieve G1-O3 (protect natural size and age structure) and G1-O4 (protect natural trophic structure and food webs). MPA is inconsistent with the intent of the MLPA to improve the existing array of MPAs and design them based on sound scientific guidelines.

- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2.

(Fitzgerald SMR)

- G2-O4 (protect species and habitats while allowing harvest through use of a SMCA or SMP) may apply to an SMCA or SMP, but is not appropriate for an SMR.
- The following objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2.

**Proposal 2-XA**

(Montara SMR)

- Narrative rationale for selection of G1-O4 (to protect pelagic finfish that serve as prey for other fish, birds and mammals) is not likely to be achieved. As noted in the Master plan, pelagic species have a high tendency to move and are unlikely to benefit from MPAs. They are also not included in the list of species likely to benefit (Master Plan, Appendix G).
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2.

(Pillar Point SMCA)

- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2.
- Goal G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take.
- Narrative rationale for selecting G1-O4 (protect pelagic finfish that serve as prey for other fish, birds and mammals) is not supported by allowed take of pelagic finfish in this MPA.
- Objective G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.

**Proposal 4**

(Devil's Slide SMCA and Fitzgerald SMR)

- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2.

**SAN GREGORIO (PROPOSAL 4 ONLY)**

**Proposal 4**

(San Gregorio SMR)

- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G5-O2, G6-O1, and G6-O2.

## FARALLON ISLANDS

### **Proposal 1-3**

(North Farallon Islands SMR)

- G2-O4 (protect species and habitats while allowing harvest through use of a SMCA or SMP) may apply to an SMCA or SMP, but is not appropriate for an SMR.
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2 and G5-O2

(Southeast Farallon Islands SMR)

- G2-O4 (protect species and habitats while allowing harvest through use of a SMCA or SMP) may apply to an SMCA or SMP, but is not appropriate for an SMR.
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2.

(Southeast Farallon Islands SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take.
- G1-O5 (protect ecosystems from human induced disturbance) is not appropriate for MPAs that allow take.
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2.

### **Proposal 2XA**

(North Farallon SMR)

- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

(Southeast Farallon SMR).

- Narrative rationale for selection of G1-O4 (to protect pelagic finfish that serve as prey for other fish, birds and mammals) is not likely to be achieved. As noted in the Master plan, pelagic species have a high tendency to move and are unlikely to benefit from MPAs. They are also not included in the list of species likely to benefit (Master Plan, Appendix G).
- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2.

(Southeast Farallon SMCA)

- G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take or aquaculture.
- Narrative rationale for selecting G1-O4 (protect pelagic finfish that serve as prey for other fish, birds and mammals) is not supported by allowed take of pelagic finfish in this MPA.
- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.

- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2.

**Proposal 4**

(North Farallon SMR)

- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, G6-O2

(Southeast Farallon SMR)

- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2.

(Southeast Farallon SMCA)

- The following goals/objectives apply at the entire network scale, and are not appropriately applied to individual MPAs: G4-O2, G5-O2, G6-O1, and G6-O2.
- Goal G1-O1 (protect diversity and abundance consistent with natural fluctuations) is not compatible with MPAs that allow take or aquaculture.
- G1-O5 (protect ecosystems from human induced disturbance) is not compatible with MPAs that allow take.

## Attachment

### **California MLPA North Central Coast Project North Central Coast Regional Goals and Objectives**

*Adopted by the North Central Coast Regional Stakeholder Group on October 16, 2007*

*Adopted by the Blue Ribbon Task Force on November 19, 2007*

## Introduction

The members of the North Central Coast Regional Stakeholder Group (NCCRSG) agree that regional goals, objectives, and design and implementation considerations are all very important in the development of an effective system of marine protected areas (MPAs) that have stakeholder support. Regional goals are statements of what the regional MPAs are ultimately trying to achieve (Pomeroy et al. 2004)<sup>2</sup>. The regional goals are largely taken directly from the Marine Life Protection Act (MLPA) itself. Regional objectives are more specific measurable statements of what MPAs may accomplish to attain a related goal (Pomeroy et al. 2004). The NCCRSG recognizes that MPAs are one among a suite of tools to manage marine resources.

Design considerations are additional factors that may help fulfill provisions of the MLPA related to facilitating enforcement, encouraging public involvement, and incorporating socio-economic considerations, while meeting the act's goals and guidelines. Design considerations will be applied as the location, category (reserve, park or conservation area), size and other characteristics of potential MPAs are being developed. Design considerations are cross cutting (they apply to all MPAs) and are not necessarily measurable. MPA alternatives developed by the NCCRSG should include analysis of how the proposal addresses both regional goals and objectives and design guidelines.<sup>3</sup>

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<sup>2</sup> Pomeroy R.S., J.E. Parks, and L.M. Watson. 2004. How is your MPA doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness. IUCN, Gland, Switzerland and Cambridge, UK. xvi + 216 p. (Accessed 17 January 2004).  
<http://effectivempa.noaa.gov/guidebook/guidebook.html>.

<sup>3</sup> John Kirilin Memo, August 22, 2005.

## Regional Objectives

### **Goal 1. To protect the natural diversity and abundance<sup>4</sup> of marine life, and the structure, function, and integrity of marine ecosystems.**

1. Protect species diversity and abundance consistent with natural fluctuations by including and maintaining areas of high native species diversity and representative habitats.
2. Include areas with diverse habitat types in close proximity to each other.  
[Propose moving to a design guideline as this is about efficiency of design not adaptive management]
3. Protect natural size and age structure and genetic diversity of populations in representative habitats.
4. Protect natural trophic structure and food webs in representative habitats.
5. Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural communities from disturbances both natural and human induced.

### **Goal 2. To help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted.**

1. Help protect or rebuild populations of rare, threatened, endangered, depressed, depleted, or overfished species, where identified, and the habitats and ecosystem functions upon which they rely.<sup>5</sup>
2. Sustain or increase reproduction by species most likely to benefit from MPAs through retention of large, mature individuals<sup>6</sup>.
3. Sustain or increase reproduction by species most likely to benefit from MPAs through protection of breeding, foraging, rearing or nursery areas.
4. Protect selected species and the habitats on which they depend while allowing the commercial and/or recreational harvest of migratory, highly mobile, or other species where appropriate through the use of state marine conservation areas and state marine parks.

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<sup>4</sup> *Natural diversity* is the species richness of a community or area when protected from, or not subjected to, human-induced change (drawn from Allaby 1998 and Kelleher 1992). *Natural abundance* is the total number of individuals in a population protected from, or not subjected to, human-induced change (adapted from Department 2004 and Kelleher 1992).

<sup>5</sup> The terms “rare,” “threatened,” “endangered,” “depressed,” “depleted,” and “overfished” referenced here are designations in state and federal legislation, regulations, and fishery management plans (FMPs)—e.g., California Fish and Game Code, Marine Mammal Protection Act, Magnuson Stevens Fishery Conservation and Management Act (MSA), California Nearshore FMP, Federal Groundfish FMP). Rare, *endangered*, and *threatened* are designations under the California Endangered Species Act. *Depleted* is a designation under the federal Marine Mammal Protection Act. *Depressed* means the condition of a marine fishery that exhibits declining fish population abundance levels below those consistent with maximum sustainable yield (California Fish and Game Code, Section 90.7). *Overfished* means a population that does not produce maximum sustainable yield on a continuing basis (MSA) and in the California Nearshore FMP and federal Groundfish FMP also means a population that falls below the threshold of 30% or 25%, successively, of the estimated unfished biomass

<sup>6</sup> An increase in lifetime egg production will be an important quantitative measure of an improvement of reproduction.

**Goal 3. To improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbances, and to manage these uses in a manner consistent with protecting biodiversity.**

1. Ensure some MPAs are close to population centers, coastal access points, and/or research and education institutions and include areas of educational, recreational, and cultural use.
2. Sustain or enhance cultural, recreational, and educational experiences by improving catch rates, high scenic value, lower congestion, or increased size or abundance of species.
3. To enhance the likelihood of scientifically valid studies, replicate appropriate MPA designations, habitats or control areas (including areas open to fishing) to the extent possible.
4. Develop collaborative scientific monitoring and research projects evaluating MPAs that link with fisheries management information needs, classroom science curricula, volunteer dive programs, and fishermen, and identify participants.

**Goal 4. To protect marine natural heritage, including protection of representative and unique marine life habitats in north central California waters, for their intrinsic value.**

1. Include within MPAs the following habitat types: estuaries, the intertidal zone at the Farallon Islands, and subtidal waters (including the water column and benthic habitats) around the Farallon Islands
2. Include and replicate to the extent possible [practicable], representatives of all marine habitats identified in the MLPA or the *California MLPA Master Plan for Marine Protected Areas* across a range of depths.

**Goal 5. To ensure that north central California's MPAs have clearly defined objectives, effective management measures, and adequate enforcement, and are based on sound scientific guidelines.**

1. Minimize negative socio-economic impacts and optimize positive socio-economic impacts for all users, to the extent possible, and if consistent with the Marine Life Protection Act and its goals and guidelines.
2. For all MPAs in the region involve interested parties to help; develop objectives, a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation, and ensure that each MPA objective is linked to one or more regional objectives.
3. To the extent possible, effectively use scientific guidelines in the *California MLPA Master Plan for Marine Protected Areas*.

***Goal 6. To ensure that the north central coast's MPAs are designed and managed, to the extent possible, as a component of a statewide network.***

1. Develop a process to inform adaptive management that includes stakeholder involvement for regional review and evaluation of management effectiveness to determine if regional MPAs are an effective component of a statewide network.
2. Develop a mechanism to coordinate with future MLPA regional stakeholder groups in other regions to ensure that the statewide MPA network meets the goals of the MLPA.

## Regional Design and Implementation Considerations

### ***Design Considerations***

The NCCRSRSG recognizes several issues that should be considered in the design and evaluation of marine protected areas. Like the “Considerations in the Design of MPAs” that appears in the *California MLPA Master Plan for Marine Protected Areas*, these considerations may apply to all MPAs and MPA proposals regardless of the specific goals and objectives for that MPA. The design considerations below will be incorporated with the goals and objectives and provided to the MLPA Master Plan Science Advisory Team, MLPA Blue Ribbon Task Force, and California Fish and Game Commission. Design considerations with long-term monitoring components will be used in developing monitoring plans and to inform the adaptive management process.

1. In evaluating the siting of MPAs, considerations shall include the needs and interests of all users.
2. Recognize relevant portions of existing state and federal fishery management areas and regulations, to the extent possible, when designing new MPAs or modifying existing ones.
3. To the extent possible, site MPAs to prevent fishing effort shifts that would result in serial depletion.
4. When crafting MPA proposals, include considerations for design found in the Nearshore Fishery Management Plan<sup>7</sup> and the draft Abalone Recovery and Management Plan.<sup>8</sup>
5. In developing MPA proposals, consider how existing state and federal programs address the goals and objectives of the MLPA and the north central coast region as well as how these proposals may coordinate with other programs.
6. To the extent possible, site MPAs adjacent to terrestrial federal, state, county, or city parks, marine laboratories, or other "eyes on the water" to facilitate management, enforcement, and monitoring.

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<sup>7</sup>Design considerations from Nearshore Fishery Management Plan:

1. Restrict take in any MPA [intended to meet the NFMP goals] so that the directed fishing or significant bycatch of the 19 NFMP species is prohibited.
2. Include some areas that have been productive fishing grounds for the 19 NFMP species in the past but are no longer heavily used by the fishery.
3. Include some areas known to enhance distribution or retain larvae of NFMP species
4. Consist of an area large enough to address biological characteristics such as movement patterns and home range. There is an expectation that some portion of NFMP stocks will spend the majority of their life cycle within the boundaries of the MPA.
5. Consist of areas that replicate various habitat types within each region including areas that exhibit representative productivity.

<sup>8</sup>Design considerations from Abalone Recovery and Management Plan:

Proposed MPA sites should satisfy at least four of the following criteria.

1. Include within MPAs suitable rocky habitat containing abundant kelp and/or foliose algae
2. Insure presence of sufficient populations to facilitate reproduction.
3. Include within MPAs suitable nursery areas, in particular crustose coralline rock habitats in shallow waters that include microhabitats of moveable rock, rock crevices, urchin spine canopy, and kelp holdfasts.
4. Include within MPAs the protected lee of major headlands that may act as collection points for water and larvae.
5. Include MPAs large enough to include large numbers of abalone and for research regarding population dynamics.
6. Include MPAs that are accessible to researchers, enforcement personnel, and others with a legitimate interest in resource protection.

7. To the extent possible, site MPAs to facilitate use of volunteers to assist in monitoring and management.
8. To the extent possible, site MPAs to take advantage of existing long-term monitoring studies.
9. To the extent possible, design MPA boundaries that facilitate ease of public recognition and ease of enforcement.
10. Consider existing public coastal access points when designing MPAs.
11. MPA design should consider the benefits and drawbacks of siting MPAs near to or remote from public access.
12. Consider the potential impacts of climate change, community alteration, and distributional shifts in marine species when designing MPAs.
13. To the extent possible, preserve the diversity of recreational, educational, commercial, and cultural uses.

### ***Implementation Considerations***

Implementation considerations arise after the design of MPAs as the California Department of Fish and Game and any other responsible agencies implement decisions of the California Fish and Game Commission and, if appropriate, the California Park and Recreation Commission, with funding from the Legislature or other sources.

1. Improve public outreach related to MPAs through the use of docents, improved signage, and production of an educational brochure for north central coast MPAs.
2. When appropriate, phase the implementation of north central coast MPAs to ensure their effective management, monitoring, and enforcement.
3. Ensure adequate funding for monitoring, management, and enforcement is available for implementing new MPAs.
4. Develop regional management and enforcement measures, including cooperative enforcement agreements, adaptive management, and jurisdictional maps, which can be effectively used, adopted statewide, and periodically reviewed.
5. Incorporate volunteer monitoring and/or cooperative research, where appropriate.