

# Key Outcomes Memorandum

**Date:** July 19, 2007

**To:** Members, MLPA North Central Coast Regional Stakeholder Group

**From:** Scott McCreary and Eric Poncelet, CONCUR, Inc.

**Re:** Key Outcomes Memorandum – July 10-11, 2007 Meeting

**cc:** MLPA Initiative Staff and California Department of Fish and Game MLPA Staff

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## Executive Summary – Key Outcomes

On July 10-11, 2007, the Marine Life Protection Act (MLPA) Initiative North Central Coast Regional Stakeholder Group (NCCRSR) participated in its second meeting in Pacifica, CA. **Key outcomes** from the meeting are as follows:

- NCCRSR members discussed and revised a set of provisional regional goals and objectives. Then, the NCCRSR took action and unanimously agreed to forward the revised goals and objectives to the MLPA Science Advisory Team (SAT) for their review and consideration of the measurability of the objectives as worded.
- The NCCRSR will consider this SAT advice, make final revisions, and adopt the regional goals and objectives at its August 22-23, 2007 meeting.
- I-Team staff summarized comments received on the draft regional profile to date. NCCRSR members provided additional comments and input.
- SAT members and California Department of Fish and Game (DFG) staff provided informational briefings on the topics of marine ecosystems and habitats, invertebrate harvest and mariculture, seabirds and marine mammals, and commercial fisheries.
- NCCRSR members worked with SAT members in a joint fact-finding breakout session activity to follow up on additional details from the informational briefings and to compile input on these topics to the subregional summary sections of the draft regional profile.
- I-Team staff presented guidance to inform the development of alternative marine protected area (MPA) proposals.
- The I-Team presented a preliminary evaluation of existing north central coast MPAs. The I-Team will forward this analysis to the SAT for review at the SAT's August 14 meeting.
- I-Team staff provided updates on several additional information gathering efforts, including: socioeconomic analysis of commercial fishing, consumptive recreational fishing use, and non-consumptive use in the study region.
- NCCRSR members received an introduction to the Internet Map Site (IMS), where data layers are accessible for viewing ([www.marinemap.org/mlpa](http://www.marinemap.org/mlpa)).
- I-Team staff announced the appointment of eleven new NCCRSR members (one new primary and ten new alternates).

Key next steps are listed in section III below.

## I. Meeting Participants and Materials

Twenty-two NCCRSG primary members and sixteen alternate members participated in the meeting.

MLPA Science Advisory Team members participating in the meeting included: Sarah Allen, Mark Carr, Caroline Hermans, Gerry McChesney, Steve Morgan, Karina Nielsen, and Astrid Scholz.

MLPA Initiative and California Department of Fish and Game (DFG) staff—collectively known as the “I-Team”—staffed the meeting.

Meeting materials may be found on the MLPA website at:  
[http://www.dfg.ca.gov/mrd/mlpa/meeting\\_071007.html](http://www.dfg.ca.gov/mrd/mlpa/meeting_071007.html)

## II. Key Outcomes

### A. Provisional Regional Goals and Objectives Discussed and Revised; Agreement to Forward to MLPA SAT for Review and Consideration

#### 1. Purpose of goals and objectives

I-Team staff provided an overview of the purpose of goals and objectives in MPA design and development. Key points include:

- The overall MPA network should lead toward achieving the MLPA’s goals.
- Each MPA will have objectives that work toward portions of the MLPA’s goals.
- Objectives are needed to develop monitoring plans.
- Goals and objectives guide the adaptive management process.
- Goals and objectives will help when developing proposals and selecting indicators.

#### 2. NCCRSG comments on the adopted central coast regional goals and objectives

NCCRSG members offered a variety of comments on the adopted central coast regional goals and objectives. These comments were focused on adding clarity and specificity to the goals and objectives and making them more measurable and specific to the north central coast study region. Key comments included:

- NCCRSG members requested that the SAT review and comment on the relative measurability of the various proposed objectives. I-Team staff committed to agendize this topic at the SAT’s next meeting (August 14, 2007).
- Include a statement in the introductory section that acknowledges that MPAs are one of several tools for managing marine resources.
- Reference the sources and definitions of key terms such as “natural diversity” and “natural abundance.”
- Expand goal 2, objective 2 to address protection of larval source areas and/or protection of breeding, rearing, and foraging areas.
- Expand objectives under goal 3 to include reference to educational and cultural uses (both consumptive and non-consumptive).

- Consider ways of expanding the original goal 3, objective 4 (on consumptive recreational uses) to allow for other means to protect and enhance recreational experiences beyond improving size and age structure of marine populations. The SAT will be asked to help draft this language.
- Revise goal 6, objective 1 to indicate that this is part of an adaptive management process.
- Create a new design consideration in the MPA design process focused on incorporating existing public coastal access points.
- Create a new design consideration to address the benefits and drawbacks of siting MPAs near to or remote from public access.
- Create a new design consideration that incorporates consideration of impacts of climate change, distributional shifts in marine species, and community alterations.

### **3. NCCRSR agreed to forward revised NCC goals and objectives to SAT for review**

Following NCCRSR deliberations on day one, the I-Team digested and synthesized the NCCRSR's comments on the draft north central coast regional goals and objectives and prepared a revised draft. On day two, NCCRSR members reviewed and refined the regional goals and objectives further and agreed unanimously to forward these "provisional regional goals and objectives" to the SAT for review of their measurability. The revised provisional regional goals and objectives are attached in a separate document as Attachment 1.

This revised version of the Regional Goals and Objectives can also be used as a tool by NCCRSR members to brief their respective constituents and to elicit any essential additional feedback prior to NCCRSR adoption in August.

## **B. NCCRSR Provided Input to Draft Regional Profile**

### **1. Comments and clarifications**

I-Team staff summarized the comments on the draft regional profile received from NCCRSR members and the general public through June 20, 2007. NCCRSR members then offered additional comments on the draft regional profile. Some members requested additional clarity, while others offered new information or suggested corrections. Among these comments and clarifications were the following:

- NCCRSR members asked to be informed of changes to the regional profile and the geodatabase. It is important that the NCCRSR work from the most current scientific information.
- Bathymetric data from Dr. Rick Kvitek's research will be incorporated to the document once this information is available (expected in August timeframe). NCCRSR members requested that any changes to the current bathymetric data be highlighted.
- Streamline the document to include only information relevant to MPA development.
- Incorporate additional information on specific species (e.g., crab and bat rays) being fished off of piers.
- The regional profile would benefit from a clear definition of "agriculture" that specifies the associated resource uses.

- Clarify the term “active fishermen,” as there are many fishermen who have permits but do not currently fish. This distinction could be described in the subregional summaries.
- Refine the working definition of “estuaries” and be explicit about which ones were included in the region and why.
- Expand the description of the regional and global importance of the north coast study region as part of the California Current large marine ecosystem
- The I-Team clarified that the SAT is intending to develop a list of depleted species and a revised list of species likely to benefit specifically for the north central coast study region.

I-Team staff will incorporate these comments into the next revision of the document, which is expected in the September 2007 timeframe.

## **2. Joint fact-finding breakout session activity to inform subregional summaries**

NCCRSG members participated with SAT members in a joint fact-finding breakout session. The purpose of the activity was to provide additional information to the subregional summaries section of the Regional Profile. NCCRSG members participated in one of three breakout groups focused respectively on the topics of: 1) marine ecosystems and habitats, 2) invertebrate harvest and mariculture, and 3) seabirds and marine mammals.

In the breakout groups, SAT members shared their knowledge on the important and unique features of each subregion relative to the topic area in focus. NCCRSG members participated by asking clarifying questions and sharing their own knowledge of the study region. I-Team staff took detailed notes from the breakout group discussions and will use these to inform the subregional summaries.

This breakout session was an early opportunity for NCCRSG members to contribute knowledge and information to the subregional summaries. Additional joint-fact finding opportunities will be scheduled for future NCCRSG meetings.

## **3. Next steps: Ongoing comments and work team activity**

Comments on the draft regional profile are still being accepted. I-Team staff is particularly interested in input regarding the subregional summaries. Staff will incorporate comments received into the next revision of the document, which is expected in the September 2007 timeframe.

The NCCRSG agreed to convene a work team to continue progress on the draft regional profile and to serve as a review committee. This work team will meet in the August time frame at a date/time and location to be determined. Participation via teleconference will be possible although in-person participation is encouraged. The work team’s purpose will be to confirm the revisions to the draft regional profile and oversee continued development of the subregional summaries.

Work team participants include: Ed Tavasieff, Paul Pierce, Bill Bernard, Karen Reyna (or Irina Kogan), Bob Breen, Samantha Murray, and Fred Smith.

### C. Informational Briefings Presented

SAT members and I-Team staff provided informational briefings on four key topics:

- 1) Marine ecosystems and habitats (Dr. Mark Carr, UCSC)
- 2) Invertebrate harvest and mariculture (Pete Kalvass and John Ugoretz, DFG)
- 3) Seabirds and marine mammals (Gerry McChesney, USFWS, and Dr. Sarah Allen, NPS)
- 4) Commercial fisheries (Susan Ashcraft, DFG, with input from several NCCRSG members)

Following each presentation, NCCRSG members offered additional detail or made clarifying comments. Key comments included the following:

- SAT member Mark Carr confirmed that humans are considered part of “ecosystems” for the purpose of analyzing ecosystem structure and function.
- NCCRSG members requested that I-Team staff provide additional information on the implications of the status of the Stornetta Ranch for invertebrate harvest in the study region.
- NCCRSG members asked for additional information on diseases caused from introduced species.
- NCCRSG members asked about trends in the populations of various species of marine mammals in the study region.
- NCCRSG members noted that a small wetfish fishery still exists in the north central coast study region.
- I-Team staff clarified that MPAs are not intended to be used to restrict out of state boats from fishing in the study region. This issue is more appropriately addressed by the California Fish and Game Commission or the Pacific Fisheries Management Council.

I-Team staff indicated that additional informational briefings would be presented on other substantive topics (e.g., oceanography, seafloor mapping, MPA connectivity, recreational uses) at subsequent NCCRSG meetings.

### D. Guidance for MPA Development

#### 1. Key sources of guidance

I-Team staff presented an overview of key guidance informing the MPA development process. Key sources of guidance included the following:

- a. Guidance from the MLPA. I-Team staff encouraged NCCRSG members to review in detail the key sections of the MLPA (i.e., sections 2853, 2856(a)(2), 2857(b)-(d)).
- b. DFG feasibility guidelines. I-Team staff presented DFG’s statement of feasibility criteria. I-Team staff emphasized that DFG review of MPA proposals will be guided primarily by these criteria.
- c. MLPA SAT guidelines. I-Team staff summarized the current SAT guidelines as listed in the draft Master Plan. A more detailed presentation on the source of these guidelines will take place at the next NCCRSG meeting.

I-Team staff also presented policy guidance on the topics of: socioeconomic considerations, qualitative standards of the MLPA, fishery management in relation to the MLPA, and existing fishing regulations and statutes related to development of MPAs.

## 2. Comments and clarifications

NCCRSG members posed clarifying questions regarding the guidance presented. Key questions and clarifications included the following:

- I-Team staff clarified that the SAT is planning to consider the existing SAT guidelines at their August 14, 2007 meeting. They will review the existing guidelines in light of current modeling information and the presence of offshore islands in the north central coast study region.
- I-Team staff clarified that “doughnut zones” are acceptable for islands (e.g., the Farallon Islands), but depth contour boundaries should still be avoided.
- I-Team staff confirmed that, in cases where state marine parks (SMPs) are proposed, DFG and California State Parks have established a process where these MPAs will begin as State Marine Conservation Areas and then be converted to State Marine Parks.
- NCCRSG members requested guidance on the possibility of establishing “no disturbance” MPAs. NCCRSG members also asked if critical distances associated with vessel transit should be treated as a design consideration. I-Team staff responded that while MPAs in general do not prohibit access or transit, these restrictions are possible. Examples were given from existing MPAs (e.g., Big Creek State Marine Reserve, and Bodega State Marine Reserve) where anchoring is prohibited.
- NCCRSG members asked whether “seasonal MPAs” could be established. I-Team staff responded that seasonal restrictions are most appropriately handled by fishery management regulations and can be addressed as “special closure” designations, such as the brown pelican fledgling area at Anacapa Island.
- NCCRSG members asked whether MPA regulations can contain bag limits. I-Team staff responded that “reduced bag limits” can be specified in MPAs, although creating a regulatory regime with variable bag limits presents a complication for enforcement staff.
- I-Team staff noted that central coast MPAs may contribute to north central coast regional replication, and that this will be discussed at next NCCRSG meeting.
- I-Team staff will provide the adopted regulations for the central coast process to serve as models for the NCC study region.
- I-Team staff clarified that adaptive management review of MPAs by the Fish and Game Commission will take place approximately every 5 years. Adaptive management will also depend on the objectives of individual MPAs. For example, the objective of rebuilding stocks will be achieved sooner than the objective of protecting habitat (more long term). Federal agency representatives on the NCCRSG reiterated their commitment to assisting in the adaptive management process.

## E. Preliminary Evaluation of North Central Coast MPAs

The I-Team presented its preliminary evaluation of existing north central coast MPAs. The I-Team will forward this preliminary analysis to the SAT for its review at its August 14 meeting.

NCCRSG members asked a few clarifying questions. Key I-Team clarifications included the following:

- NCCRSG members will have several options available to them as they craft proposals for new MPAs. These range from the option of improving the existing MPAs or entirely replacing all MPAs them with other MPAs.
- State Parks cannot change the regulations for state marine parks (SMPs) adopted by the Fish and Game Commission. However, State Parks can promulgate “park rules” that may impact allowable activities within park boundaries. A State Parks representative further clarified that it is in the interest of State Parks to maintain the status quo regarding access.

## **F. Updates on Other Information Gathering Efforts**

I-Team staff provided updates on several additional information gathering efforts:

### **1. Socioeconomic analysis of commercial fishing in the north central coast study region**

Ecotrust has been contracted to conduct surveys of commercial fishing interests to capture spatially explicit socioeconomic information. A presentation of the draft data set will made to the NCCRSG at its August 22-23, 2007 meeting. Appropriate data will be made available for use through the mapping tools.

### **2. Consumptive recreational data**

The California Recreational Fisheries Survey (CRFS) database is currently undergoing revisions. These revisions will not be completed before December 2007. The changes affect estimates of effort (and thus projected landings) for several modes of fishing. Survey data including spatial data are based on actual samples and not on expansions, and therefore are not affected. The database is publicly available and can be queried on-line.

### **3. Non-consumptive use data**

The I-Team has distributed a “request for proposals” to collect spatial data for non-consumptive uses and is considering a proposal from the National MPA center.

## **G. Introduction to the Internet Map Service (IMS)**

I-Team staff presented an introduction to the IMS. NCCRSG members may access the IMS at: [www.marinemap.org/mlpa](http://www.marinemap.org/mlpa). NCCRSG members may request assistance from DFG offices or I-Team GIS staff to access the IMS. They may also request a DVD with the data layers (along with the Arc reader program).

NCCRSG members requested that they be informed of major changes to the IMS. They also requested that important meta-data be incorporated into the data layers when appropriate.

## H. Update on NCCRSG Membership

I-Team staff announced that nearly a dozen new members had been appointed to the NCCRSG since the May NCCRSG meeting. This includes a new primary member representing tribal interests as well as ten new alternate members representing a variety of other stakeholder interests and perspectives. The I-Team distributed an updated NCCRSG roster to group members.

## I. Public comment

The meeting included designated public comment periods on both day one and day two. Several members of the public provided comments. One spoke to the need for more DFG funding for enforcement and for more outreach concerning the consequences of poaching in the NCC study region. Several addressed the potential benefits of designating Fitzgerald marine reserve as a state marine reserve.

The I-Team announced that Elizabeth Pope-Smith (DFG) will be on point to respond to questions raised by the public that cannot be addressed during the public comment period.

## J. Objectives for NCCRSG Meeting #2

The next NCCRSG meeting is scheduled for August 22-23, 2007 in the northern part of the study region (location to be determined). The main objectives for the meeting are to:

- Consider SAT feedback and adopt regional goals and objectives
- Continue joint fact-finding and development of the regional profile
- Present informational briefings (potential topics include: oceanography, seafloor mapping results, water quality, SAT guidelines and MPA connectivity, and recreational consumptive use)
- Provide information and tutorial on the decision-support tool
- Initiate the process for designing MPA proposals

## III. Recap of Next Steps

### A. Key next steps for NCCRSG members

1. Continue to familiarize yourselves with the guidance for MPA development presented in the MLPA and the draft Master Plan. (For next NCCRSG meeting)
2. Convene a work team (consisting of Ed Tavasieff, Paul Pierce, Bill Bernard, Karen Reyna (or Irina Kogan), Bob Breen, Samantha Murray, and Fred Smith) to review revisions to draft regional profile. A provisional meeting date will be set in August.

### B. Key next steps for I-Team staff

1. Incorporate revisions reflecting the day two deliberations on the “provisional regional goals and objectives,” and forward it to the SAT for review at the next SAT meeting. (August 14, 2007)
2. Agendize SAT discussion of existing SAT guidance for MPA development. Focus on particularities of north central coast study region (e.g., existence of off-shore islands) and any recent modeling developments. (August 14, 2007)



3. Incorporate NCCRSO comments on the regional profile into the next iteration of the document. This includes input from the joint fact-finding breakout session activity on the subregional summaries. (Ongoing; revision by early September 2007)
4. Prepare a presentation on the implications of the adopted central coast MPAs for the north central coast study region. This includes implications for replication in the north central coast study region. (For next NCCRSO meeting)

## **Attachments**

1. Draft Provisional North Central Coast Regional Goals and Objectives, revised July 19, 2007 based on NCCRSO discussions at July 10-11, 2007 meeting (to be forwarded to the MLPA SAT for consideration at the SAT's August 14, 2007 SAT meeting).

**California MLPA North Central Coast Regional Stakeholder Group**  
**Draft Provisional Regional Goals and Objectives for**  
**Review by the MLPA SAT at its August 14, 2007 Meeting**  
*Revised July 19, 2007*

*The text below reflects revisions made at the NCCRSG's July 10-11, 2007 meeting. At the meeting, the NCCRSG unanimously agreed to forward the revised goals and objectives to the SAT for their review and consideration of the measurability of the objectives as worded.*

[General comment: As per the NCCRSG request, the I-Team asked the SAT to review and comment on the relative measurability of the various proposed objectives. Within the monitoring plan for the Central Coast MPAs, there is a review of indicators based on the adopted objectives. Some of the adopted objectives are more easily measured than others. See pages 147-155 of the draft Master Plan.]

### ***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>1</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 ~~must be~~MPAs ~~may~~ accomplished 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.

[Comment: the I-Team does not believe it is necessary to list everything that the MLPA is not supposed to address.]

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 (~~Kirlin Memo, 8/22/05~~). Design considerations are cross cutting (they apply to all MPAs) and are not necessarily measurable (~~Kirlin Memo, 8/22/05~~). MPA alternatives developed by the NCCRSG should include analysis of how the proposal addresses both regional goals and objectives and design guidelines. (~~Kirlin Memo, 8/22/05~~).

[Reference Kirlin memo as a footnote.]

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<sup>1</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>.

## Provisional Regional Objectives

### **Goal 1. To protect the natural diversity and abundance<sup>2</sup> of marine life, and the structure, function, and integrity of marine ecosystems.**

1. ~~Protect/Include~~~~Protect~~ areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats. [Question for SAT: does the SAT have comments on the respective measurability of these alternate terms (objectives 1 and 2)?]
2. ~~Protect/Include~~~~Protect~~ areas with diverse habitat types in close proximity to each other.
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.

[Comment: The suggestion was made to include reference to “qualitative stability.” The I-Team does not see an obvious place to insert this phrase.]

[Comment: NCCRSG members requested a definition of “natural.” The master plan provides a definition of “natural diversity” and “natural abundance.” MPAs will allow us to better understand the impact of humans on natural diversity and abundance.]

### **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 and/or rebuild populations of rare, threatened, endangered, depleted, or overfished species, where identified, and the habitats and ecosystem functions upon which they rely.<sup>3</sup> [Comment: “and/or” is a good construction because some species are naturally rare and while not requiring rebuilding may require protection.]
2. ~~Protect larval sources and~~ ~~S~~sustain or increase~~restore~~ reproductive capacity of species most likely to benefit from MPAs through retention of large, mature individuals.

<sup>2</sup> Natural d~~D~~iversity 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>3</sup> [Comment: Some NCCRSG members requested that a footnote be added stating that the terms threatened, endangered, depleted, or overfished are used in reference to their standard legal definitions.]

protection of larval source areas, and/or protection of breeding, foraging and rearing areas.

3. 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.

**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 traditional educational and non-consumptive recreational and cultural use, and are accessible for recreational, educational, and study opportunities.
2. Protect or enhance cultural and recreational experiences, including collecting and recreational fishing, by ... improving size and age structure of marine populations [science team, craft something measurable - including minimal human disturbances].
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 of all ages, and identify participants.~~
4. ~~Protect or enhance recreational experience by ensuring natural size and age structure of marine populations. [Moved up to #2]~~
1. ~~Retain existing public coastal access for all resource users in a manner consistent with protecting biodiversity. [See new design consideration #10.]~~

**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, heads of submarine canyons, and pinnacles and other habitats identified by the MLPA science advisory team as unique to the north central coast study region. [Comment: the SAT will discuss this at its next meeting.]
2. Include ~~Protect~~, and replicate to the extent possible, representatives of all marine habitats identified in the MLPA or the California MLPA Master Plan for Marine Protected Areas Framework across a range of depths. [Comment: Some NCCRSG members

suggested revising objective 2 to focus on replication only at the scale of the bioregion as required by the MLPA. The SAT guidelines state that in terms of ensuring biological connectivity, allowing for research and monitoring, and protecting against unforeseen disturbances, replication is needed at a scale less than the entire bioregion.]

**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; 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 Framework.

**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 that includes stakeholder involvement for regional review and evaluation of implementation management effectiveness that includes stakeholder involvement 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.

[Comment: NCCRSG members suggested adding a new objective to address adaptive management. I-Team staff believe that adaptive management is an overarching premise of the MLPA and is not specifically addressed by a regional objective.]

## Design Considerations

In developing regional goals and objectives for the central coast, the NCCRSG recognizes identified 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 Framework*, 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 provisional 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>4</sup> and the draft Abalone Recovery and Management Plan.<sup>5</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.

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<sup>4</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>5</sup>Design considerations from draft 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.

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.
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.

### ***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.