

September 6, 2005

From: Michael DeLapa, Central Coast Project Manager, MLPA Initiative
To: Central Coast Regional Stakeholder Group (CCRSG)
Re: MLPA Initiative Staff recommendations regarding TBD Bin items

Purpose of Memo

This memo seeks to accomplish the following:

- Describe issues that members of the CCRSG have raised and have not been fully addressed;
- Analyze the relevance of these issues to implementation of the MLPA and the MPF;
- Provide an initial staff recommendation to the CCRSG regarding each issue.

Outstanding CCRSG Concerns

Stakeholders have raised a wide range of issues regarding marine resource use in the course of discussing possible regional goals and objectives. In a September 1 memorandum, staff suggested a process for determining how to treat these issues.

Five issues raised at the August CCRSG meeting are in the TBD bin:

1. Addressing the effect of impaired water quality on MPAs.
2. Addressing the impacts of top-end predators on MPAs (including the effects on the size, abundance, and biodiversity of marine life caused by pinnipeds).
3. Addressing the risks to public safety from MPA design proposals.
4. Restoring clam populations.
5. Considering the potential impact of desalination plants as related to the design of MPAs.

These analyses include a description of the issue, its relation to the Marine Life Protection Act (MLPA) and the Master Plan Framework (MPF) as well as other relevant law, and a staff recommendation. These recommendations include design or implementation considerations, recommendations to responsible agencies, and identification of sources for additional information.

Water Quality

Description of Issue: Chemical pollution and eutrophication can alter the abundance and biodiversity of wildlife in coastal environments, especially bays and estuaries. The presence of pollution and the degree of its impact on water quality, habitats, and marine wildlife varies markedly along the state's coastline.

Because water pollution may affect marine species of concern or desirable human uses in an area, the presence and impacts of water pollution should be considered in siting and implementing MPAs. Where MPAs are located in polluted areas, efforts should be made to improve water quality.

Relation to the MLPA and MPF and Other Relevant Law: The MLPA specifically mentions water pollution three times. In its findings and declarations (Section 2851[c]), the Act notes that

“coastal development, water pollution, and other human activities threaten the health of marine habitat and the biological diversity found in California’s ocean waters. New technologies and demands have encouraged the expansion of fishing and other activities to formerly inaccessible marine areas that once recharged nearby fisheries. As a result, ecosystems throughout the state’s ocean waters are being altered, often at a rapid rate.”

The Act also requires that members of the Master Plan Team should have certain types of expertise, including water quality (Section 2855[b] [2]). Finally, at Section 2855(c)(2), the Act requires that local communities be consulted regarding a number of matters, including “water pollution in the state’s waters.”

The Master Plan Framework provides several opportunities for the evaluation of the impact of water quality, specifically in Activity 1.3.7, and Activity 2.5.4. In the latter activity, “[t]he regional stakeholder group and science advisory sub-team recommend measures that may be taken by other authorities to mitigate the effects of activities other than fishing that adversely impact the resources of the potential alternative regional MPA(s).”

On page 58, the MPF says that a regional profile “should discuss whether any such non-fishing activities are significantly affecting wildlife or habitats of concern in a potential MPA site.” If the effects “present a clear threat to resources of concern,” the profile should identify governmental and non-governmental efforts to mitigate those threats. At that point, the only action the MPF calls for is as follows: “If warranted, a proposal for an MPA may include recommendations to appropriate agencies for reducing impacts of activities that are likely to prevent an MPA from achieving its goals and objectives.” These recommendations should be forwarded to the California Ocean Protection Council.

Among the six types of Marine Managed Areas described in the Marine Managed Areas Improvement Act (MMAIA), state water quality protection areas (SWQPAs) are “designated to protect marine species or biological communities from an undesirable alteration in natural water quality...” (Public Resources Code Section 36700[f]). These areas include “areas of biological significance” or ASBSs, which

are established by the State Water Resources Control Board in the California Ocean Plan. Within SWQPAs waste discharges are prohibited or limited. In the central coast region, there are seven ASBSs: Ano Nuevo Point and Island, Point Lobos Ecological Reserve, Julia Pfeiffer Burns Underwater Park, Pacific Grove Marine Gardens Fish Refuge, Hopkins Marine Life Refuge, the ocean area around the mouth of Salmon Creek, and Carmel Bay. Individuals may nominate areas for designation as ASBS. Criteria include areas be "intrinsically valuable or have recognized value to man for scientific study, commercial use, recreational use, or esthetic reasons." Areas proposed for ASBS designation should be such that they would benefit from protection beyond that offered by standard waste discharge restrictions and other measures.

Other federal and state programs promote water quality through regulatory actions, grants, and public education. The California Coastal Commission, for instance, operates the California Critical Coastal Areas program of coordination for efforts to protect coastal watershed from polluted runoff. Areas currently identified for the program include the San Lorenzo River, Soquel Lagoon, Watsonville Slough, Elkhorn Slough, Old Salinas River, Pacific Grove Marine Gardens, and San Luis Obispo Creek.

Recommendation: Impaired water quality in an area is not by itself a rationale for excluding an area as an MPA. As described below, additional analysis must be done in order to determine that siting of an MPA in such an area would be inappropriate. Staff recommends that the CCRSG address water quality concerns through a design consideration and an implementation consideration. The design consideration could read as follows:

Minimize the demonstrated effects of chronically impaired water quality on species of concern and on attaining other objectives of individual MPAs.

Addressing water quality issues in the design of MPAs will involve several steps.

- First, issues regarding water quality should be identified as early as possible, and certainly at the stage of identifying potential MPA areas. The MLPA Initiative has assembled a GIS data layer showing point source discharges into central coast ASBSs.
- Second, available information on water quality should be assembled together with other information specific to each MPA.
- Third, the potential impact of any water quality problems on resources of concern in an MPA and on achieving the goals and objectives for an MPA, should be evaluated. These impacts may include risks to human health from consumption of fish or shellfish from an area or from exposure to polluted water during recreation, or to the abundance and diversity of

- marine wildlife in an area. These impacts should be documented and not simply presumed.
- If such impacts are documented, the goals and objectives, boundaries, allowed activities for the site may be adjusted, consistent with the goals and guidelines of the Act and the MPF. The reason for such adjustments should be documented.

The implementation consideration could read as follows:

Provide recommendations to appropriate agencies for addressing activities that are or may affect resources and uses of an MPA area.

In finalizing a proposal or package of proposals for MPAs, the CCRSG could recommend that the Blue Ribbon Task Force, Department, and Commission adopt recommendations regarding maintenance and protection of water quality in specific MPAs and forward these recommendations to the appropriate local, state, or federal agency. MPA designation may provide leverage for devoting additional financial and other resources to correcting impairment to water quality in an area.

Effects of Top-end Predators

Description of Issue: Efforts to protect and rebuild marine fish and shellfish populations within marine protected areas by restricting or prohibiting fishing may be undermined by consumption of species of concern by top-end predators, chiefly marine mammals. Some stakeholders believe that the effect of such predation should be evaluated and, where possible, steps taken to address possible impacts of top end predators on MPAs.

Relation to the MLPA and MPF and Other Relevant Law: The MLPA and the MPF are silent on the impact of marine mammals and other top-end predators. Predation by marine mammals is not one of the major threats identified in the Act. Nor does the act single out particular species or groups of species. Instead, the Act focuses upon ecosystems.

Passage of the Marine Mammal Protection Act in 1972 and the Endangered Species Act in 1973 pre-empted the management authority of individual states over marine mammals and species listed under the Endangered Species Act. With few exceptions, both Acts prohibit the taking of species under their jurisdiction. Taking includes intentional and unintentional hunting, harm, harassment, or injury. Under the ESA, these prohibitions may be extended to species listed as threatened, as they have been for the southern sea otter. Exemptions to these prohibitions are very limited, generally to taking by Native

Americans for certain purposes, taking for scientific research, public display, or enhancement, or taking incidental to commercial fishing or other non-fishing activities. The regulatory requirements for the use of these exemptions are very rigorous.

Both the Endangered Species Act and the Marine Mammal Protection Act emphasize the role of marine mammals, and other species, in maintaining healthy ecosystems. Similarly, the MLPA takes an ecosystem-based approach, rather than an ecosystem management approach, which would suggest that we have the knowledge and experience to manage ecosystems through manipulation of species.

Recommendation: In its most recent response to information requests from the CCRSG, Initiative Staff provided a summary of available information on population trends and diets of California sea lions, harbor seals, and southern sea otters. While the California sea lion population continues to grow, harbor seal and southern sea otter populations have remained relatively steady. Although estimates are available for total consumption rates by California sea lions, no analysis has been conducted on the short-term or long-term impact of this consumption on populations of prey. As discussed in the response to another information request of the CCRSG (see below), it does appear that southern sea otters have had an impact on the abundance of some invertebrate populations.

The state of California does not have management authority for marine mammals or species listed under the Endangered Species Act. Staff recommends that in designing and evaluating MPAs, the CCRSG take note of the presence of marine mammals in MPA areas and, if appropriate, include the impacts of marine mammals on species of concern in recommended targets for monitoring. Like other monitoring information, this information should be used to monitor the effectiveness of an MPA and to manage it adaptively in the future.

Public Safety

Description of Issue: Concerns have been expressed that MPAs could present public safety issues by requiring fishermen displaced from an MPA to travel farther to fishing grounds. Also, MPAs sited close to populated areas and harbors could expose divers to encounters with vessels transiting through an area.

Relation to the MLPA and MPF and Other Relevant Law: The MLPA does not specifically discuss public safety. The MPF mentions safety concerns in three places. In its discussion of enforcement considerations, the MPF notes that siting MPAs close to harbors may raise safety and convenience issues by requiring fishermen to travel farther to areas open to fishing.

Regarding the transit of fishing vessels, California Code of Regulations states that vessels may pass through MPAs with catch on board. Regarding potential diver-vessel conflicts, existing regulations require that dive boats display diver-in-the-water flags and that transiting vessels maintain a safe distance for these boats. Divers from shore should carry flat tubes with flags for ease of recognition.

Recommendation: Information on various activities developed for the design and evaluation of individual MPAs will make it possible to evaluate safety aspects of MPA location, boundaries, and restrictions. Where safety may be a concern, a variety of approaches may be employed including general and targeted public education.

Clam Populations

Description of Issue: In 1977, an MCA was established in San Luis Obispo County to establish a baseline for determining the impact of sea otters on clam populations. (After several decades of protection, the southern sea otter population was expanding into its former range.) By 1979, sea otters entered the waters off the county. In 1985, three marine conservation areas (MCAs) were established in the area to protect Pismo clams from overexploitation. Between 1990 and 1994, sea otters established themselves within these MCAs. Otter foraging on larger clams reduced the availability of legal-sized clams (minimum 4.5 inches greatest shell diameter) to recreational harvesters.

It has been suggested that efforts should be undertaken under the auspices of the MLPA to restore clam populations in these MCAs.

Relation to the MLPA and MPF and Other Relevant Law: Of the MLPA's goals, the following is most relevant to this suggestion: "[t]o help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted." The means for achieving this goal under the MLPA is the designation of MPAs. The MLPA itself does not include authority for taking actions other than restricting certain kinds of human activities. The most recent assessment of marine fisheries in California—*California's Marine Living Resources: A Status Report, 2001*—recommended that these MCAs be discontinued "because long term management of a recreational fishery in these areas is not likely to be needed."

Any proposal that might directly or indirectly affect southern sea otters falls outside state jurisdiction and would have to be reviewed under the requirements of the Endangered Species Act and the Marine Mammal Protection Act by the U.S. Fish and Wildlife Service and the Marine Mammal Commission. Among

other things, any action that may adversely affect the species or its critical habitat would be subject to review by the U.S. Fish and Wildlife Service. If the Service were to find that the proposed action was likely to jeopardize the continued existence of the species, the Service would have to identify reasonable and prudent alternatives to the action that could be taken to avoid jeopardy.

At an estimated 2,377 animals, the California population of the southern sea otter remains well below the threshold for delisting the species: 3,090 animals. Actions that inhibit recovery of the species to its target level, which is well below historical levels, would therefore be carefully scrutinized.

Like the MLPA, these Acts emphasize the conservation of functioning ecosystems and the role of listed species in those systems. As the Science Advisory Team described in their response to a CCRSG information request, sea otters are "keystone species exerting strong top-down control on their prey species." Actions that would prevent sea otters from carrying out this function would be closely scrutinized.

Current population levels of sea otters and clams do not reflect historical levels. Before their near extirpation in the 19th century by fur hunters, sea otters were far more abundant than they now are. At the same time, abalone, clam, and other similar prey populations were much smaller than they were after the removal of sea otters. It was these expanded populations that supported fisheries in much of the 20th century. The return of sea otters into some areas has contributed to decreases in these populations as sea otters resumed their role in the nearshore ecosystem.

Recommendation: Staff recommends that the CCRSG evaluate these four MCAs against the criteria that will be applied to other MPAs. Any proposals to rebuild clam populations in ways that would affect sea otters should take into account the requirements of the Marine Mammal Protection Act and the Endangered Species Act, and should be directed to responsible agencies, including the U.S. Fish and Wildlife Service.

Desalination Plants

Description of Issue: Local jurisdictions are considering installation of desalination plants along the coastline in order to meet expected needs for fresh water. Eleven desalination plants are now in operation, and as of 2004, another 12 were proposed along the coast of California. Water intakes for desalination plants may injure or kill marine organisms, depending upon their volume. The discharge of brine after desalination may have negative or positive effects.

It has been suggested that MPAs should not be allowed to stop the siting of desalination plants. It has also been suggested that MPAs should not be located where there are desalination plants.

Relation to the MLPA and MPF and Other Relevant Law: In describing the features of a preferred alternative MPA network, the MLPA states the following at Section 2857c)(4) : "Marine life reserves shall be designed, to the extent practicable, to ensure that activities that upset the natural ecological functions of the area are avoided."

At several stages in the design and evaluation of MPAs, the MPF calls for consideration of activities other than fishing, and their management.

Recommendation: Staff recommends that the CCRSG remain alert to existing or proposed desalination plants in locating and designing MPAs. Information on desalination generally and on specific projects is available through the following sources:

- the Department of Water Resources Desalination Task Force at <http://www.owue.water.ca.gov/recycle/desal/desal.cfm>
- Chapter 6 of Volume 2 of the California Water Plan Update, 2005 at <http://www.waterplan.water.ca.gov/>, and
- The California Coastal Commission's recent report "Seawater Desalination And the California Coastal Act" available at <http://www.coastal.ca.gov/pubs.html>.