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REVISED STAFF REPORT AND RECOMMENDATION**ON CONSISTENCY DETERMINATION**

Consistency Determination No.:	CD-072-06
Staff:	CLT/DLL-SF
File Date:	9/8/2006
60 th Day:	11/7/2006
75 th Day:	11/22/2006
Extension Granted Until:	3/22/2007
Commission Meeting:	3/16/2007

FEDERAL AGENCY: National Oceanic and Atmospheric Administration

**PROJECT
LOCATION:**

139.7 square nautical miles (nm²) of the 1,252 nm² Channel Islands Marine Sanctuary, primarily between three and six nautical miles offshore of the northeast, southeast and southwest corners of Santa Cruz Island, the south side of Santa Rosa Island, the northeast corner of San Miguel Island, the north side of Anacapa Island, the southwest corner of Santa Barbara Island and the north, west and south sides of Richardson Rock

**PROJECT
DESCRIPTION:**

Designate 138 nm² of marine reserves and 1.7 nm² of marine conservation areas, primarily within the federal waters of the Channel Islands National Marine Sanctuary

**SUBSTANTIVE
FILE DOCUMENTS:**

See page 24

EXECUTIVE SUMMARY

The National Oceanic and Atmospheric Administration (NOAA), through its National Marine Sanctuary Program (NMSP), has submitted a consistency determination for both the expansion of existing marine reserves and marine conservation areas, and the creation of a new marine reserve within the Channel Islands National Marine Sanctuary (CINMS or Sanctuary). These are collectively known as “marine protected areas” (MPA).

The proposed designation of 139.7 nm² of MPAs is the second and final phase of the two-phased Channel Islands Marine Reserve Process that began in 1999 through a collaboration of federal and State agencies, including Coastal Commission staff, regional fishery groups and conservation interests. The first phase of this process resulted in the demarcation of MPAs within the State waters portion of the CINMS by the California Department of Fish and Game (DFG) and was concluded in October 2002 when the Fish and Game Commission (FGC) approved the designation of 10 marine reserves and two marine conservation areas. These 12 MPAs encompass approximately 102.1 nm² of the Sanctuary’s state waters around the islands of Anacapa, Santa Cruz, San Miguel, Santa Barbara, and Santa Rosa. With the addition of the proposed MPAs, the combined 241.8 nm² mile MPA network will include 11 marine reserves and two marine conservation areas (See Exhibit 1 and Exhibit 2).

The wealth of marine resources in the CINMS is well documented. The natural resources found in the Sanctuary constitute some of the most significant natural marine assets in the United States. In evaluating the potential impacts of the proposed 138 nm² miles of additional marine reserves and 1.7 nm² of additional marine conservation areas on the physical and biological environment, cultural/historical resources, and human uses of the CINMS, the NMSP has determined that:

...the proposed action is expected to benefit marine resources by enhancing natural biodiversity and ecosystem structure within the CINMS. By enhancing marine resources the proposed action would likely help commercial and recreational fishing in the long term. Short term adverse effects on commercial and recreational fishing would be minor and largely restricted to areas within the CINMS where commercial and recreational fishing is already prohibited by State of California regulations and NOAA fishing regulations... In addition, other recreational uses of the CINMS such as wildlife viewing would be enhanced in the long term through increased abundance of wildlife in the CINMS.

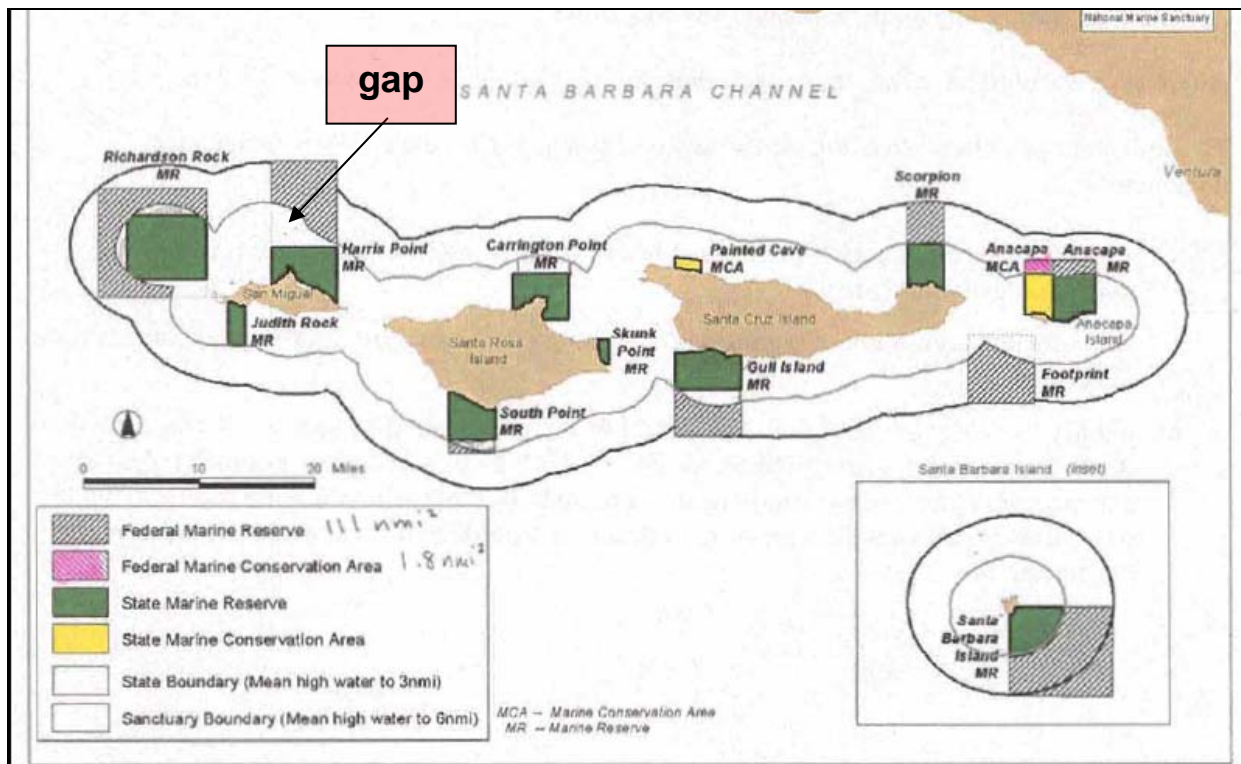
The addition of new MPAs within the CINMS will enhance and further protect the Sanctuary’s marine resources and will not adversely affect the recreational and public access opportunities that currently exist within the Sanctuary. The designation of MPAs will result in restricted commercial and recreational fishing access to about 11% of Sanctuary waters (an estimated 1.18% reduction in the annual value of commercial catch within the CINMS). However, the closure of these areas is expected to be offset by enhanced fishing opportunities throughout the rest of the Sanctuary due to the increase in fish stocks that will result from the habitat and fishery

protection provided by the MPAs. Accordingly, the NMSP has determined that the proposed project will result in short term and less than significant adverse impacts to commercial and recreational fishing activities.

The NMSP revised its proposal to include Alternative 1c because of concerns expressed by the Resources Agency that the new MPAs overlap the State MPAs, resulting in unnecessary duplication. The Resources Agency supports only Alternative 1c, in which the new MPAs do not overlap the existing MPAs (see Exhibit 11).

Alternative 1c provides comparable protection to Alternative 1a with one exception: the state MPAs do not conform to the contours of the 3-mile limit, rather, they were drawn with right angles to ease enforcement. Thus if the proposed MPAs are limited to federal waters this creates gaps of unprotected waters between the state and federal MPAs (see Figure 1 below).

Figure 1 Alternative 1c



Source: DEIS for Consideration of Marine Reserves and Marine Conservation Areas

The Resources Agency indicates it will address this concern at some future date, and the NSMP expresses the preference that these “gaps” be protected. The best way to achieve the mutual goals of all agencies and guarantee the integrity of the combined MPAs as contemplated, is to add a condition to proposed Alternative 1c to provide for the NMSP’s assumption of these “gaps” until such time as the Department of Fish and Game expands its MPAs or otherwise assures the adjacent state and federal MPAs are indeed coterminous.

As conditioned to allow for the possible implementation of Alternative 1c in order to provide protection for certain “gaps” between the existing State MPAs and the proposed MPAs, the long-term, beneficial effects of the MPAs on fish stocks ensure that the project conforms to the marine resources, public access, and commercial and recreational fishing policies (Sections 30210, 30214, 30220, 30230, 30231, 30234.5) of the Coastal Act.

STAFF SUMMARY AND RECOMMENDATION

1.0 Background

Initially designated in 1980, the Sanctuary consists of approximately 1,252 nm² of coastal and ocean waters, and their underlying submerged lands, off the southern coast of California. The Sanctuary boundary begins at the Mean High Water Line (MHWL) and extends seaward to a distance of approximately six nm from the following islands and offshore rocks: San Miguel Island, Santa Cruz Island, Santa Rosa Island, Anacapa Island, Santa Barbara Island, Richardson Rock and Castle Rock.

The Sanctuary’s primary objective is to conserve, protect, and enhance the biodiversity, ecological integrity, and cultural legacy of marine resources surrounding the Channel Islands for current and future generations. The Sanctuary’s diversity and richness of marine life and habitats, its unique and productive oceanographic processes and ecosystems, and its culturally significant resources make it a prime area for conservation. Seven specific goals of the Sanctuary, derived from the overarching mission of the NMSP and the policies of the National Marine Sanctuaries Act (NMSA) reflect this objective:

- 1) *Protect the natural habitats, ecological systems and biological communities of all living resources inhabiting these areas, and the area’s cultural and archaeological resources, for future generations;*
- 2) *Enhance public awareness, understanding, and appreciation of the marine environment and the natural, historical, cultural and archaeological resources of the National Marine Sanctuary System;*
- 3) *Where appropriate, restore and enhance natural habitats, populations and ecological systems;*
- 4) *Provide comprehensive and coordinated conservation and management of these marine areas, as well as the activities affecting them in a manner complementing existing regulatory authorities;*
- 5) *Create models and incentives for ways to conserve and manage these areas, including the application of innovative management techniques;*
- 6) *Allow to the extent compatible with the primary objective of resources protection, public and private uses of the resources; and*

1) Cooperate with national and international programs encouraging conservation of marine resources.

Pursuant to the provisions of the NMSA, 16 U.S.C. 1431(a)(3) and 16 U.S.C. 1431(b)(3), the National Marine Sanctuary Program (NMSP) is to achieve its primary objective of protecting national marine sanctuary resources through the coordinated and comprehensive management of special areas of the marine environment and the maintenance, protection, restoration and enhancement of the natural biological communities, natural habitats, populations and ecological processes that exist within the sanctuaries.

In recent years, marine resources in the Southern California Bight (SBC) have declined due to resource extraction, global warming effects and a variety of other factors. This decline has prompted the DFG and NOAA to initiate a two phased process of creating a network of marine reserves and marine conservation areas within the CINMS. The first phase of this process resulted in the demarcation of marine protected areas within the state waters portion of the CINMS by the California Department of Fish and Game, and was concluded in October of 2002 when the Fish and Game Commission approved the designation of ten marine reserves and two marine conservation areas. These 12 marine protected areas encompass approximately 102.1 nm² of the Sanctuary's state waters around the islands of Anacapa, Santa Cruz, San Miguel, Santa Barbara, and Santa Rosa. The initial establishment of MPAs was determined by Commission staff and the DFG to constitute a "wildlife and fishery management program" under Section 30411(a) of the Coastal Act. This section recognizes that the DFG and the Fish and Game Commission are the principal state agencies responsible for the establishment of wildlife and fishery programs and that "the [Coastal] Commission shall not establish or impose any controls with respect thereto that duplicate or exceed regulatory controls established by these agencies...." Accordingly, no coastal development permit was required for the establishment of MPAs by the DFG. As a federal action by the NMSP however, the currently proposed second phase of the Channel Islands Marine Reserve Process, the expansion and addition of MPAs into the federal waters of the Sanctuary, is subject to the federal consistency review requirements of section 307(c)(1) of the Coastal Zone Management Act (CZMA; 16 USC §1456(c)(1)) and its implementing regulations (15 CFR Part 930, Subpart C). The purpose of the Commission's review is to ensure that the proposed marine reserves are consistent with the State's federally-certified Coastal Management Program.

2.0 Project Description

As phase two of the process described above, the NMSP is currently proposing to add an additional 138 nm² of marine reserves and 1.7 nm² of marine conservation areas to the existing network of 102.1 nm² of MPAs. The resulting combined 242.3 nm² MPA network will be comprised of 11 marine reserves and two marine conservation areas, as detailed in Exhibits 1 and 2. This combined network represents the preferred system of MPAs that was developed by the DFG and the NMSP in 2001 based upon extensive public participation and the expertise of the CINMS Marine Reserves Working Group ("MRWG"), a stakeholder based community group comprised of 17 members representing State and federal agencies,

conservation interests, consumptive recreational and commercial groups, the public at large and the California Sea Grant program.

As described above, the Fish and Game Commission and the DFG established the portions of these MPAs within State waters in 2003 with State marine zoning regulations. The original proposal, in the form of the preferred Alternative 1a, would have completed the Channel Islands marine protected area network by extending the MPAs into federal waters and overlaying the existing State MPAs. As initially proposed, the boundaries and corresponding regulations of the proposed MPAs would apply from the MHWL of the Channel Islands to the seaward boundaries of the proposed zones, often including both State and Federal waters (see Exhibit 1). At the request of the Commission staff, and for the reasons discussed on page 3, NOAA has included Alternative 1c for consideration as well in this consistency determination. Alternative 1c would designate the new MPAs with landward boundaries beginning at federal waters (3 nm from shore), thereby eliminating any State waters from within the boundaries of the new MPAs.

In addition, to properly implement the creation of the proposed MPAs, the NMSP will need to amend several aspects of the CINMS designation document. As described in the project EIS, these amendments include provisions to:

- a. *allow for the regulation of fishing and other extractive activities in marine reserves and marine conservation areas;*
- b. *allow for the regulation of possession of fishing gear in marine reserves and marine conservation areas; and*
- c. *modify the outer boundary of the CIMNS to accommodate the proposed Harris Point, Gull Island, Footprint and Santa Barbara Island marine reserves, which were drawn with straight lines of latitude and longitude and, as a result, extend slightly outside the current Sanctuary boundary¹.*

The proposed MPAs include two levels of restrictions: marine reserves allow no extractive activities, while marine conservation areas allow limited extraction.

- *In a marine reserve it would be unlawful to harvest, remove, take, injure, destroy, possess², collect, move, or cause the loss of any living or dead organism, historical resource, or other Sanctuary resource, or attempt any of these activities. It would also be unlawful to possess fishing gear on board a vessel unless such gear is stowed and not available for immediate use.*
- *In the marine conservation area, it would be unlawful to harvest, remove, take or injure, destroy, possess³, collect, move, or cause the loss of any living or dead organism, historical resource, or other Sanctuary resource, or attempt any of these activities, except*

¹ With respect to the modification of the Sanctuary's outer boundary as described above, this provision will result in an increase in the total size of the CINMS from 1,243 square nm to 1,268 square nm, an increase of 25 square nm.

² Vessels will be allowed to transit through, or be at anchor in, a marine reserve with legal catch onboard provided that fishing gear is stowed and not available for immediate use.

³ Vessels will be allowed to transit through, or be at anchor in, a marine conservation area with legal catch onboard provided that fishing gear is stowed and not available for immediate use.

that certain commercial and recreational fishing for lobster⁴ and recreational fishing for pelagic finfish⁵ are allowed. It would also be unlawful to possess fishing gear on board a vessel, except legal fishing gear used to fish for lobster or pelagic finfish, unless such gear is stowed and not available for immediate use.

3.0 Federal Agency’s Consistency Determination

NOAA has determined the project consistent to the maximum extent practicable with the California Coastal Management Program.

4.0 Staff Recommendation

The staff recommends that the Commission adopt the following motion:

MOTION: I move that the Commission **conditionally concur** with consistency determination CD-072-06 that the project described therein, if modified in accordance with the condition below, would be **fully consistent, and thus consistent to the maximum extent practicable, with the enforceable policies of the California Coastal Management Program (“CCMP”)**.

STAFF RECOMMENDATION:

Staff recommends a **YES** vote on the motion. Passage of this motion will result in an agreement with the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

RESOLUTION TO CONCUR WITH CONSISTENCY DETERMINATION:

The Commission hereby **conditionally concurs** with consistency determination CD-072-06 by NOAA on the grounds that, if modified as described in the Commission’s conditional concurrence, the project would be fully consistent, and thus consistent to the maximum extent practicable, with the policies of Chapter 3 of the Coastal Act.

CONDITION:

1. In the event NOAA elects not to implement Alternative 1a, NOAA will implement Alternative 1c, with the following additional provisions: until such time as the Resources Agency and the Fish and Game Commission designate the areas in between the existing

⁴ Commercial and recreational fishing for lobster is permitted within the Anacapa Marine Conservation Area and recreational fishing for lobster is permitted within the Painted Caves Marine Conservation Area.

⁵ Pelagic finfish are defined as: northern anchovy, barracudas, billfishes, dolphinfish, Pacific herring, jack mackerel, Pacific mackerel, salmon, Pacific sardine, blue shark, salmon shark, shortfin mako shark, thresher shark, swordfish, tunas and yellowtail.

State-designated MPAs and the 3 mile limit (i.e., the “gaps” between the existing state MPAs and the federal MPAs depicted in Alternative 1c [and shown on Exhibit 9]), or the Fish and Game Commission/DFG and NOAA enter into an interagency agreement that establishes MPA protection for these “gap” areas, NOAA will expand Alternative 1c to include in its MPA designation these “gaps” between the outer boundaries of the existing state MPAs and the State-federal waters boundary (3nm from shore).

Conditional Concurrence

15 CFR § 930.4 provides, in part, that:

(a) Federal agencies, ... agencies should cooperate with State agencies to develop conditions that, if agreed to during the State agency’s consistency review period and included in a Federal agency’s final decision under Subpart C ... would allow the State agency to concur with the federal action. If instead a State agency issues a conditional concurrence:

(1) The State agency shall include in its concurrence letter the conditions which must be satisfied, an explanation of why the conditions are necessary to ensure consistency with specific enforceable policies of the management program, and an identification of the specific enforceable policies. The State agency’s concurrence letter shall also inform the parties that if the requirements of paragraphs (a)(1) through (3) of the section are not met, then all parties shall treat the State agency’s conditional concurrence letter as an objection pursuant to the applicable Subpart...

(2) The Federal agency (for Subpart C) ... shall modify the applicable plan [or] project proposal, ... pursuant to the State agency’s conditions. The Federal agency ... shall immediately notify the State agency if the State agency’s conditions are not acceptable; and ...

(b) If the requirements of paragraphs (a)(1) through (3) of this section are not met, then all parties shall treat the State agency’s conditional concurrence as an objection pursuant to the applicable Subpart.

15 CFR § 930.34 (d) and (e) elaborate, providing that:

(d) ... At the end of the ... [statutory time] period the Federal agency shall not proceed with the activity over a State agency’s objection unless: (1) the Federal agency has concluded that under the “consistent to the maximum extent practicable” standard described in section 930.32 consistency with the enforceable policies of the management program is prohibited by existing law applicable to the Federal agency and the Federal agency has clearly described, in writing, to the State agency the legal impediments to full consistency (See §§930.32(a) and 930.39(a)), or (2) the Federal agency has concluded that its proposed action is fully consistent with the enforceable policies of the management program, though the State agency objects.

(e) If a Federal agency decides to proceed with a Federal agency activity that is objected to by a State agency, or to follow an alternative suggested by the State agency, the Federal agency shall notify the State agency of its decision to proceed before the project commences.

5.0 Findings and Declarations

The Commission finds and declares as follows:

5.1 Marine Resources/ Water Quality.

The Coastal Act provides:

***Section 30230:** Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that would sustain the biological productivity of coastal waters and that would maintain healthy populations of marine organisms adequate for long-term commercial, recreational, scientific and educational purposes.*

***Section 30231:** The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The proposed project has the potential to adversely affect the marine resources of the CINMS by increasing commercial and recreational fishing at the edges of the protected areas. At the same time, the project has the potential to enhance and restore the marine resources and biological productivity of the CINMS.

Biological Value of the CINMS

NOAA designated the CINMS in 1980 in recognition of the unique marine environment of the SCB around the Channel Islands. The Sanctuary encompasses approximately 1,252 nm² of coastal and offshore waters, including San Miguel Island, Santa Cruz Island, Santa Rosa Island, Anacapa Island, Santa Barbara Island, Richardson Rock, and Castle Rock, offshore of Santa Barbara and Ventura Counties (Exhibit 1). As the NMSP states in the project EIS, the Sanctuary supports a rich and diverse range of marine life and habitats, unique and productive oceanographic processes and ecosystems, and culturally significant resources such as hundreds of shipwrecks and submerged Chumash cultural artifacts, and that:

The physical, biological and cultural characteristics of the Sanctuary combined provide outstanding opportunities for scientific research, education, recreation, and commerce. Examples of these include commercial and recreational fisheries, marine wildlife viewing, sailing, boating, kayaking and other recreational activities, marine shipping, and nearby offshore oil and gas development.

The Channel Islands and surrounding ecosystems are unique and highly valued, as demonstrated by several national and international designations. In 1980 the United States designated both the Channel Islands Marine Sanctuary and Channel Islands National Park. In addition, the United Nations Educational, Scientific and Cultural Organization's *Man and the Biosphere Program* designated the Sanctuary as an International Biosphere Reserve in 1986.

Over 195 species of birds are known to use the water, shore or island habitats within the Sanctuary, and its location along the Pacific Flyway, a major migratory route for birds, makes it an important stopover during both north and south migrations. This migration route, as well as the high diversity of habitats located within the Sanctuary, contribute to its high species diversity and allow it to provide important habitat for eight seabirds with special status designations under federal or State law.

Additionally, the Sanctuary's location within the SCB, an area characterized by the confluence of cold southward moving currents and warm northward moving currents and the corresponding junction of the Oregonian and Californian Biogeographic Provinces, makes it an extremely productive marine region and a vital feeding and breeding ground for marine mammals. Over 27 species of whales and dolphins frequent the Sanctuary waters on an annual basis, including rare blue, humpback and sei whales, and at least 33 species of cetaceans have been reported within the Sanctuary region. Similarly, the area is home to a wide variety of seals and sea lions, including some of the rarest species in the Western Pacific, Guadalupe fur seals, Stellar sea lions and ribbon seals.

The abundance and diversity of fish and invertebrates is also a remarkable feature of the Sanctuary. There are roughly 481 species of fish known to inhabit the Sanctuary and estimates of the invertebrate diversity are typically in excess of 5,000 species. This tremendous diversity is due to two major factors: an abundance of powerful upwelling zones (circulation patterns in which deep, cold, nutrient-laden water moves towards the surface) in and around the Sanctuary, and to a wide range of distinct marine habitats. Kelp forests, eelgrass beds, sandy and rocky intertidal and subtidal zones, rocky reefs, and deep-water benthic habitats are a few of the many different environments included within the Sanctuary's borders.

An integral part of both the current proposal and the Fish and Game Commission's initial designation of MPAs is the recognized need for marine resource protection as described in the CINMS Marine Reserves Working Group's consensus-based problem statement:

The urbanization of southern California has significantly increased the number of people visiting the coastal zone and using its resources. This has increased human demands on

the ocean, including commercial and recreational fishing, as well as wildlife viewing and other activities. A burgeoning coastal population has also greatly increased the use of our coastal waters as receiving areas for human, industrial, and agricultural wastes. In addition, new technologies have increased the efficiency, effectiveness, and yield of sport and commercial fisheries. Concurrently there have been wide scale natural phenomena such as El Nino weather patterns, oceanographic regime shifts, and dramatic fluctuations in pinniped populations.

In recognizing the scarcity of many marine organisms relative to past abundance, any of the above factors could play a role. Everyone concerned desires to better understand the effects of the individual factors and their interactions, to reverse or stop the effects of the individual factors and their interactions, to reverse or stop trends of resource decline, and to restore the integrity and resilience of impaired ecosystems.

To protect, maintain, restore, and enhance living marine resources, it is necessary to develop new management strategies that encompass an ecosystem perspective and promote collaboration between competing interests. One strategy is to develop reserves where all harvest is prohibited. Reserves provide a precautionary measure against the possible impacts of an expanding human population and management uncertainties, offer education and research opportunities, and provide reference areas to measure non-harvest impacts.

Increased Pressure on the CINMS

One issue of concern is whether prohibiting fishing within the MPAs will lead to greater fishing pressure outside of the proposed MPAs. For example, the proposed and existing MPA network comprises nearly 19 percent of the Sanctuary's waters and if the closure of these waters to fishing resulted in a shift of all existing fishing effort to the remaining 81 percent of the Sanctuary, potential increases in the relative fishing pressure on certain species and locations could occur. Similarly, potentially adverse marine resource impacts could also arise if fishing effort were attracted to the edges of marine reserves and conservation areas to take advantage of potential increases in catch or catch per unit effort. Either of these types of congestion could lead to negative population and habitat impacts outside MPA boundaries.

Each of the scenarios presented above are addressed in detail by the DFG in its 2002 Environmental Document for the designation of MPAs within the Sanctuary's State waters. In its discussion, the DFG cites several comprehensive reviews of marine reserve impacts and argues that typically, the increased production within reserve boundaries is more than adequate to counter the increased fishing intensity outside MPAs. For example, the DFG notes that:

Solely using increases in biomass, which underestimates increases in total production, existing reserves worldwide show a four fold increase (a factor of 4.00) in average production. These empirical data suggest that enhanced production within reserves can more than compensate for the effects of congestion outside for reserve areas [because]

as the number and biomass of individuals increase within reserves, many species would move out of reserves into fishing grounds, enhancing stocks in fished areas through spillover of adults and export of larvae.

...

Displaced or concentrated fishing effort at the edges of reserves also could impact habitat quality around reserves. If concentrated fishing at the edges of reserves reduces habitat quality, one would expect a corresponding decrease in abundance and diversity of species adjacent to reserves. As indicated above, this trend is not observed at the edges of reserves, which consistently support higher abundance and diversity of fishes and invertebrates than other sites distant from reserves. No published data on existing MPAs have shown negative environmental impacts.

Enhance and Restore Marine Resources and Biological Productivity

The overall effect of marine protected areas on marine organisms has been, and continues to be a matter of rigorous scientific research, spanning composition, abundance, diversity, age structure and size. Recent studies and monitoring programs exploring the ecological impacts of MPAs demonstrate substantial increase in the biomass, abundance, body size, and diversity of focal species within marine protected areas. Specific research conducted in the Channel Islands indicates that some species demonstrate similar trends, including: cowcod, bocaccio, kelp bass, California sheephead, spiny lobster, warty sea cucumber and red urchin. Overall, there is abundant evidence to suggest that protecting marine areas from extractive activities leads to rapid increases in abundance, size, biomass, and diversity of targeted animals. The project EIS for the currently proposed expansion of the CINMS MPA network cites a review of 56 studies of 80 reserves in a variety of locations around the world that were protected from at least one form of fishing. The results of this comprehensive review demonstrate that across all reserves, abundance (measured as density of organisms) approximately doubled, biomass (the weight of all organisms combined) increased 2.5 times, average body size (a principal contributor to reproductive potential) increased by roughly 30% and the number of species in each sample also increased by 30%. As such, NOAA expects the proposed expansion of marine reserves and marine conservation areas within the CINMS to have positive ecological impacts by protecting (from fishing and other forms of take) marine habitats and species, and their ecological interactions and processes.

The currently proposed expansion of the CINMS marine protected area network will provide protection for areas of particular ecological importance and for habitats and habitat types that are not adequately represented within the existing network of State marine reserves and State marine conservation areas. The proposed expanded MPA network includes protected areas within each of the Southern California Bight's biogeographic regions, the Oregonian Province, the Californian Province and the transition zone between them. These three regions are characterized by unique suites of species, habitat types and physical oceanographic processes.

Specifically, the proposed network includes the following areas and habitat types that have been determined to be of significant marine resource value:

- *The medium to high relief rocky reefs around Richardson Rock that support numerous groundfish species including yellowtail, olive and vermillion rockfish and lingcod;*
- *The submerged rocky reefs around Gull Island that support depleted populations of abalone and rockfish, including blue and vermillion rockfish, bocaccio and various Sebastomas species;*
- *The ‘Footprint’ area between Anacapa and Santa Cruz Island which supports depleted populations of numerous rockfish species, cowcod, lingcod, thornyhead, and sablefish;*
- *The pelagic habitats that exist between three and six nautical miles offshore of the Channel Islands and are used by highly migratory species, including sharks, tunas, billfish, swordfish and coastal pelagic species, including sardines, anchovy, and mackerel;*
- *The deepwater, soft substrate benthic habitats that support a wide variety of marine invertebrate species.*

The proposed inclusion of these areas in the CINMS MPA network will enable a more complete array of species, habitats and ecosystems to be represented in the overall network and will provide a greater level of replication of the habitats already represented in the existing MPA network. As the NMSP states, “Habitat replication in protected marine zones is important to increase the likelihood that habitats and associated species will be protected in a dynamic and unpredictable environment.” For instance, the protection of similar habitat types in distinct locations increases ecological resilience and provides insurance against unpredictable localized disturbances (such as hazardous materials spills) and environmental fluctuations (such as changes in sea surface temperature).

In the proposed Alternative 1a, nine of the new MPAs would overlay and expand existing State MPAs. This would effectively increase the size of the existing MPAs, thereby increasing the potential for these zones to provide significant protection for fish species. The size of the zone is instrumental in providing protection when it is large enough to encompass the typical movements of many individual fish. As discussed in the project EIS, current data on adult fish movement patterns suggest that MPAs spanning 2.6 – 10.5 nm of coastline are likely to contribute most to the protection of fish species while MPAs spanning less than 2.6 nm in width may leave many individuals of important species poorly protected. Currently, the average width across existing MPAs is 2.8 nm with a range of 1.1 nm at Judith Rock marine reserve to 5.0 nm at Richardson Rock marine reserve. Under the proposed expanded network of MPAs the average width will increase to 3.3 nm with a range of 1.1 nm at Judith Rock marine reserve to 6.7 nm at Richardson Rock marine reserve. By increasing the average width of the MPAs as well as their individual widths, the current proposal will increase the overall effectiveness of the MPA network and enhance its ability to protect and increase fish stocks. For a detailed discussion of the resources and characteristics of each existing and proposed marine reserve and conservation area, refer to Exhibit 3 (please note the size descriptions included within Exhibit 3

are only rough estimates. The individual MPA sizes listed in Exhibit 2 more accurately reflect the proposed project).

The original boundaries of the State MPAs were drawn as rectangles, rather than congruent with the boundaries of State waters, in order to simplify management and enforcement. This left irregularly shaped portions of State waters (gaps), immediately adjacent to the outer boundaries of the MPAs, excluded from the MPAs (see Exhibit 9 – Alternative c). The originally proposed preferred Alternative 1a would designate federal MPA boundaries that extend into State waters to the MHWL, extending protection to the gap portions and overlapping the State MPAs. However, the Resources Agency expressed concerns over this alternative and indicated it supports only Alternative 1c. In a letter to the Sanctuary dated January 2, 2007 (Exhibit 10), the Resources Agency stated:

As you know, the California Fish and Game Commission adopted a network of MPAs within state waters of the Channel Islands in October 2002 and these MPAs were implemented in April 2003. In supporting Alternative 1c, we are continuing our support for this joint state and federal process for the Sanctuary to designate MPAs within federal waters. The State supports the use of the most efficient means to establish MPAs in federal waters and we are ready to assist NOAA in any way we can.

We believe that the overlay of Sanctuary designations on top of existing state designations is unnecessary and duplicative. Further, the Fish and Game Commission can close the gaps between existing state MPA designations and federal waters using existing state jurisdiction. The Department of Fish and Game and I will initiate a process with the Commission to close these gaps as soon as possible. With the conclusion of this process using our respective authorities, the State and the Sanctuary Program will complete the process of designating these important marine resources for protection.

We have worked well with the sanctuaries over these years in joint management, education/outreach, monitoring, and enforcement programs. We believe that all the management considerations identified in the DEIS can be met by Alternative 1c through ongoing collaboration between the Department of Fish and Game and the Sanctuary. The state is committed to working with the Sanctuary to achieve this purpose.

Alternative 1c does not include the gaps in the federal MPAs, leaving small, unregulated and unprotected areas between the outer boundaries of State MPAs and the proposed federal MPAs. The issue raised by the approach suggested by the Resources Agency is that it leaves the ‘gaps’ unprotected, for an uncertain time period, which would frustrate the achievement and implementation of these MPAs and may diminish marine resource protection. Section 30230 of the Coastal Act includes a requirement to protect, and where feasible restore, marine resources, and it is clearly the intent of both the Resources Agency and the Sanctuary to provide for

protection of these “gap” areas. What is in question is simply a matter of timing and the appropriate mechanism. The Commission believes the appropriate mechanism is conditioning this consistency determination to provide that if Alternative 1c is implemented, that the Sanctuary’s proposal be temporarily expanded to cover these areas until such time as the Fish and Game Commission include the gap areas within its State MPAs, or until the Fish and Game Commission or the DFG and NOAA enter into an interagency agreement that otherwise establishes MPA protection for these gap areas.

As conditioned, but only as conditioned, the Commission finds that Alternative 1c would provide the equivalent level of protection as would Alternative 1a, and thus be consistent with the requirement of Section 30230 to protect, enhance, and restore where feasible, marine resources.

Conclusion

Based on the strong evidence suggesting that the designation of MPAs greatly enhances the maintenance, protection and restoration of marine resources both inside and outside the protected areas, the Commission finds that, as conditioned, the currently proposed additions to the existing CINMS marine protected area network will substantially enhance marine resource protection within the Sanctuary and will likely result in the restoration of currently depleted resources. The Commission therefore agrees with NOAA’s determination that the proposed designation of MPAs described above, and as conditioned, would be consistent with the marine resource and water quality policies of Chapter 3 of the Coastal Act (Sections 30230 and 30231).

5.2 Commercial and Recreational Fishing

Section 30230 of the Coastal Act provides in part:

Section 30230: ... Uses of the marine environment shall be carried out in a manner that would ... maintain healthy populations of marine organisms adequate for long-term commercial, recreational, scientific and educational purposes.

The Coastal Act further provides:

Section 30234.5: The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

The establishment of additional no-take and limited-take marine protected areas has the potential to adversely affect commercial and recreational fishing within the Sanctuary by reducing the area available to these activities. The current proposal will result in the restriction of extractive activities, including fishing, in nearly 11% of the Sanctuary’s waters. Combined with the existing network of State marine reserves and State marine conservation areas, the proposed designation of MPAs will significantly limit or prohibit the injury or removal of Sanctuary resources in over 19% of the total Sanctuary area.

5.2.1 Commercial Fishing

Commercial fishing occurs at many locations off the coast of southern California, including the Channel Islands. As described in previous sections, the nearshore waters around these islands contain large beds of giant kelp that support a wide variety of fish and invertebrate species, including many that are of value to commercial harvesters. The majority of fish and invertebrates landed within the CINMS are caught within or in close proximity to these kelp beds and the nearshore rocky areas that support them.

Methods of fishing used in the CINMS include live fish and lobster trapping, diving, offshore gill netting, trawling, purse seining and hook and line fishing with hand lines, long lines, rod and reel and trolled gear. Consumptive diving and fish and lobster trapping occur primarily in the shallower waters near the coastlines of the Channel Islands since these areas have the greatest abundance of rocky kelp habitat at depths of 100 feet or less, the preferred habitat type for sea urchin, spiny lobster and rockfish. Hook and line fisheries are also concentrated within the nearshore or state waters portions of the Sanctuary, as demonstrated by the heavy concentration of vessels within the three nm boundary shown in Exhibit 4. Gill nets are not allowed within one nm of the offshore islands of the CINMS but commercial drift gill netting for pelagic shark and swordfish, trawling for ridgeback prawn and commercial purse seining for squid and wetfish occurs throughout the open waters portions of the CINMS, principally around Santa Cruz Island, Anacapa Island and the eastern edge of Santa Rosa Island.

The primary species targeted by commercial fishing in the Sanctuary include squid, sea urchin, spiny lobster, prawn, nearshore and offshore finfishes (rockfishes and sheephead), wetfish species (anchovy, sardine and mackerel), flatfishes, rock crab, sea cucumber and tuna. 1999 was a record year for the Sanctuary's largest fishery – market squid. A total of 737 fishing operations generated over \$36.7 million in revenue from 26 species of fish and invertebrates caught in the CINMS, substantially more than the 1996-2003 average annual revenue of \$24 million. However, the individual contributions of these species to overall annual commercial fishing revenue vary greatly. For example, the commercial squid fishery between 1996 and 2003 comprised over 59% of the total revenue from commercial fishing within the Sanctuary (excluding the value of harvested kelp⁶) and the commercial urchin fishery accounted for an additional 24%. Of all species commercially harvested in the Sanctuary in recent years, the top five species – squid, urchin, lobster, wetfish, and crab – typically combine for over 92% of the revenue from the total commercial harvest of fish and invertebrates within the Sanctuary. The remaining 8% of total revenue is divided between 21 other species (as shown in Exhibit 5).

Additionally, the currently proposed expansion of marine protected areas within the Sanctuary will affect the Sanctuary's fisheries unequally. Because the majority of areas currently proposed

⁶ In June of 2005, ISP Alginates, the country's largest kelp harvesting company and the only commercial harvester active within the CINMS, announced it will be closing its southern California facility in early 2006 and relocating to Scotland. With the departure of this commercial operation, kelp harvesting no longer occurs within the Sanctuary and will therefore not be affected by the proposed designation of MPAs (McMahon 2005).

for MPA designation are in waters between three and six miles offshore of the Channel Islands, nearshore fisheries, such as the spiny lobster, crab and sea cucumber fisheries, will likely be only minimally affected while offshore fisheries (squid, wetfish and prawn) will potentially be more heavily affected. In its comprehensive and detailed socioeconomic impacts analysis of the proposed designation of MPAs within the CINMS, Leeworth, Wiley & Stone (2005) demonstrate that five mostly offshore fisheries will likely absorb over 91% of these impacts. These five fisheries, squid, wetfish, urchin, prawn and rockfish are detailed below while a comprehensive list of all the potentially affected fisheries is included in Exhibit 6.

Market Squid

Market squid (*Loligo opalescens*) has been harvested off the California coast from Monterey to San Pedro for over 100 years. Recently, the growth of international markets and the decline of competing squid fisheries in other parts of the world have enabled the squid fishery to evolve into one of the largest fisheries in California in terms of volume and economic value. The majority of squid harvest is centered in the waters around Santa Rosa, Santa Cruz and Anacapa Islands and generally involves luring squid to the surface with high wattage lamps, encircling them with purse seine nets and pumping and/or using brail nets to transfer the squid from the water into shipboard fish holds.

According to Leeworth, Wiley & Stone (2005), in 1999 there were an estimated 169 commercial fishing operations harvesting market squid in the CINMS. Between the years of 1996 and 2003, these commercial operations combined for average total annual revenues of \$10.8 million. The proposed designation of MPAs currently being considered is estimated to result in a total annual loss of roughly \$112,965 or 1.05% of the total annual revenue from all market squid commercial fishing within the CINMS. This estimated potential impact represents nearly 40% of the total potential cost resulting from the proposed project to all of the commercial fishing that occurs within the Sanctuary. Spread between the numerous market squid fishing operations that occur within the Sanctuary, however, this estimated 1.05% potential loss in total annual revenue is anticipated to result in less than significant adverse impacts to both individual market squid harvesters and the commercial fishery as a whole. Taking the 1999 figure of 169 commercial squid harvesting operations as a baseline, and assuming that these operations will be affected equally by the proposed designation of MPAs, a potential annual loss of \$112,965 fishery-wide will equate to a loss of just over \$668 per year to each individual squid harvester. A loss of this magnitude will be largely overshadowed by typical yearly fluctuations in both landing volume and market value and will be unlikely to result in any widespread or long-term reduction in commercial squid harvesting operations within the Sanctuary.

Wetfish

The wetfish fishery, also referred to as the coastal pelagic species fishery, actually relies on the harvest of several open ocean species including Pacific sardine (*Sardinops sagax caeruleus*), northern anchovy (*Engraulis mordax*), and Pacific mackerel (*Scomber japonicus*). Historically, the commercial catch of these species contributed significantly to the foundation of the

California fishing industry and supported and funded the growth of ports in San Pedro, Monterey, San Diego and San Francisco. After the initial boom in wetfish harvesting peaked in the mid 1940's, due mainly to the thriving sardine fishery in northern and central California that was landing between 600,000 and 700,000 pounds of fish annually, the fishery crashed sharply as sardine stocks plummeted. With the disappearance of sardines from California waters, commercial wetfish operations either began concentrating on other species such as squid, anchovy and mackerel or were forced to leave the industry. Although sardine stocks have rebounded in recent years, the wetfish fishery continues to be strictly managed and regulated to ensure its long-term vitality.

Leeworth, Wiley & Stone (2005) describe that between the years of 1996 and 2003 the average revenue of commercial wetfish harvesting from within the Sanctuary was roughly \$474,251 and in 1999 there were 37 commercial harvesters operating within the CINMS. Based on its detailed analysis, Leeworth, Wiley & Stone (2005) estimated the annual amount of lost revenue to the CINMS commercial wetfish fishery resulting from the current proposal to be about \$54,717 or 11.54% of the average total annual revenue. Although this estimated potential loss represents over ten percent of the revenue generated from the commercial harvest of wetfish from within the Sanctuary, when spread across the several dozen commercial wetfish operations the magnitude of this impact will be less than significant. In addition, the majority of wetfish harvested within the Southern California Bight have both historically and recently been caught in areas outside the CINMS. Commercial wetfish operations within the Sanctuary represent only a small percentage of the southern California wetfish fishery, which suggests that any adverse impacts to this portion of the overall fishery will likely not lead to negative effects on the fishery as a whole.

Sea Urchin

Another of the most important fisheries in California and especially in the CINMS area is the red sea urchin (*Strongylocentrotus franciscanus*) fishery. Within the Sanctuary, sea urchins are typically hand harvested by divers using hoses to receive air from the surface. This type of diving gear, called hooka, relies on a low pressure air compressor attached to a hose which supplies the diver's regulator with a constant stream of air. Urchin divers prefer the use of hooka gear over self contained SCUBA gear because it allows them to spend a greater amount of time on the seafloor and it does not involve the additional complications and dangers of decompression. Urchin divers typically use a rake or hook to gather urchins which are then placed in large mesh bags that are raised to the surface when full.

Urchins are harvested primarily for their gonads, referred to as 'roe' or 'uni' in Japanese. The quality and value of red sea urchin roe is dependant on its size, color, texture, and firmness which are mostly influenced by the urchin's algal food supply and the stage of its gonadal development. Divers typically check gonad quality and size as they harvest urchins and select individuals to ensure marketability and value. In recent years the red urchin fishery has been considered to be fully exploited throughout its range in both northern and southern California.

Other types of urchins, including the purple sea urchin (*S. purpuratus*), are also harvested in California but to a much lesser degree.

In 1999, 331 commercial fishing operations harvested sea urchins within the CINMS. The average annual revenue from the commercial harvest of sea urchin within the Sanctuary between 1996 and 2003 was over \$4.3 million and it is estimated that this revenue will be reduced by \$38,247 or 0.89% due to the currently proposed designation of MPAs⁷. The large number of commercial urchin harvesting operations combined with the magnitude of revenue that these operations generate and the proportionally small amount of revenue that will potentially be lost due to the proposed action ensures that the proposed project will not result in significant impacts to commercial urchin harvesting within the Sanctuary or the urchin fishery as a whole.

Prawn

The prawn fishery in the Sanctuary includes trap fishing for spot prawn (*Pandalus platyceros*) and trawling for ridgeback prawn (*Sicyonia ingentis*). Traditionally, a number of trawl boats fished year-round for both ridgeback and spot prawns, targeting ridgeback prawns during the closed season for spot prawns and spot prawns during the ridgeback closure. Recently, in 2002 the California Fish and Game Commission voted to close the spot prawn trawl fishery, regulations for which went into effect in 2003.

The annual revenue from the commercial harvest of spot and ridgeback prawn within the Sanctuary in 2003 was just over \$210,978 and 30 commercial prawn fishing operations were active within the CINMS in 1999⁸. According to studies conducted by Leeworth, Wiley & Stone (2005), the proposed project will potentially result in an estimated loss of \$36,689 per year to the annual revenue of prawn fishing operations within the Sanctuary. When spread among the several dozen prawn harvesting operations, this estimated potential annual reduction in revenue will likely result in only small and less than significant adverse impacts.

Rockfish

Rockfish species populations, including rockfish (genus *Sebastes*), greenlings (genus *Hexagrammos*), cabezon (*Scorpaenichthys marmoratus*), and other species found primarily in rocky reef or kelp habitat in nearshore waters, have undergone substantial declines in recent years. These declines have been mirrored by both reduced weight and value of overall catch as well as increases in management and regulation. In the four years between 2000 and 2003, the overall number of pounds of rockfish landed within the CINMS fell by nearly 66% (from 138,052 to 61,420 pounds) and the overall value of these landings fell by over 70% (from over \$524,000 to under \$124,000)⁹. The rockfish fishery is now heavily regulated under the Nearshore Fisheries Management Plan and is considered by many to be overfished and in serious decline. Nevertheless, the rockfish fishery within the CINMS generated \$152,892 in revenue in

⁷ Leeworth, Wiley & Stone (2005).

⁸ Leeworth, Wiley & Stone (2005).

⁹ Leeworth, Wiley & Stone (2005).

2003. Leeworth, Wiley & Stone (2005) anticipates that the proposed project will result in an annual loss of \$16,304 in revenue from the commercial harvest of rockfish from within the CINMS, a value that is far outweighed by the recent annual losses in rockfish catch revenue due to the decline of the fishery.

Cumulative Impacts

In addition to the unequal distribution of catch value and potential impacts among the Sanctuary's commercially harvested species, the distribution of catch revenue among the operations that are active within the CINMS also varies dramatically. From 1996 to 1999, 19 percent of commercial fishing operations within the CINMS (141 individual operations) accounted for 82 percent of the total commercial fishing revenue from within the Sanctuary.

In its analysis of the potential economic impact of the proposal on commercial fishing, the NMSP estimates that about \$283,680 or 1.18% of the annual total revenue from all commercial fishing activities that occur within the CINMS will potentially be lost¹⁰ as a direct result of the proposed MPAs. This potential reduction in catch value equates to a maximum potential loss of about \$939,450 – or 1.31% – of the annual income generated by commercial fishing activity within the Sanctuary, and 28 jobs – or 1.43% – of the commercial fishing employment within the seven-county regional economy affected by commercial fishing activities in the CINMS.¹¹ Although these potential economic impacts will be spread throughout the seven coastal counties surrounding the Sanctuary (Ventura County, Santa Barbara County, Los Angeles County, San Luis Obispo County, Orange County, Monterey County and San Diego County), they will not be spread equally. Ventura and Santa Barbara Counties will potentially be affected most heavily, as the ports within these counties are used most frequently by commercial fishing operations in the CINMS. Specifically, the following four ports will potentially be affected most substantially (in terms of percent of total commercial fishing revenue potentially lost): Port Hueneme Harbor – 1.15%, Channel Islands Harbor – 1.04%, Ventura Harbor – 0.87%, and Santa Barbara Harbor - 0.71% (a complete list of potentially affected ports is included in Exhibit 7).

NOAA's estimates of potential socioeconomic impacts rely on conservative assumptions that do not take into account the potentially significant long-term benefits to commercial fishing that may occur as a result of the protection, restoration and enhancement of the Sanctuary's marine resources. As detailed in section 3.3.1 above, a vast and steadily increasing body of research and observational evidence suggests that marine protected areas lead to substantial increases in the abundance, diversity, size and biomass of fish and invertebrate species both inside and outside of marine protected areas. This MPA 'spillover' will undoubtedly include commercially targeted species and over time may lead to increases in catch volumes and quality in the waters surrounding the MPA network, thereby offsetting this project's potential adverse affects on commercial fishing. Additionally, the proposed action will also increase the long-term

¹⁰ Leeworth, Wiley & Stone (2005), assuming a total annual catch value of \$24,233,406 which is an average of the annual value of commercial catch from CINMS between 1996 and 2003.

¹¹ Leeworth, Wiley & Stone (2005), assuming a total income of \$71,649,959 generated in the seven county regional economy by within-Sanctuary commercial fishing activity.

sustainability of commercial fishing operations in the Sanctuary by providing refuges and protected source areas for harvested species.

As detailed by Leeworth, Wiley & Stone (2005), several other factors may also serve to mitigate the potential adverse impacts of the proposal as well, “For commercial fishing and kelp harvesting, a mitigating or offsetting factor will be the ability to relocate effort to others areas and be just as successful (no loss) or be able to at least mitigate losses to some degree.” The magnitude of this potential mitigating or offsetting factor is uncertain at this point but it is likely that the ability of fishing operations to relocate to other fishing grounds combined with the beneficial spillover effects from the MPAs will reduce the adverse economic affects of the proposed project to levels below those estimated above. To address the uncertainty regarding the estimated and actual socioeconomic impacts of the proposed MPA network, CINMS staff, in association with NOAA economists, the California Department of Fish and Game, partner agencies, institutions, and Sanctuary users, will be working to develop and implement socioeconomic monitoring programs aimed at evaluating the actual social and economic impacts of the proposed MPA network. Many of these programs are outlined in the NOAA (2003) document, *Socioeconomic Research and Monitoring Recommendations for Marine Protected Areas in the Channel Islands National Marine Sanctuary*, which describes priority areas including analysis of commercial fishing use, catch and value data from within the Sanctuary before and after designation of the proposed MPA network, analysis of catch data from around the MPAs to evaluate the edge effect or spillover of targeted species into waters outside MPAs, and analysis of the displacement of fishing effort caused by the MPA network and the effects of this displacement.

As discussed in the previous section of this report, the Commission is adopting a condition which, if implemented, would ensure that the protections of the MPAs extend to the areas between the outer boundaries of the MPAs and federal waters. This condition should have no appreciable adverse effect on fishing, commercial or recreational, and it may assist fishing efforts by eliminating confusion that could occur in the “gap” areas between the state and federal MPAs. Moreover, it does not include or excludes any area from the proposed MPAs in a manner different that what was originally intended in the state-federal MPA process.

Conclusion

The proposed project will result in minor, short-term adverse socioeconomic effects on commercial fishing within the CINMS. These effects will reduce the total annual catch value by no more than 1.18% and will reduce the catch value of any one fishery by no more than 18%. The scientific evidence to date shows a strong likelihood that the marine protected area network will benefit commercial fishing in the long-term, and this beneficial long-term effect far outweighs the short-term adverse effects. The Commission therefore finds the proposed designation of marine protected areas, as conditioned, would be consistent with the commercial fishing policies of the Coastal Act (Section 30234.5).

5.2.2 Recreational Fishing

Recreational fishing includes both hook and line fishing from shore and from private or rental boats and commercial passenger fishing vessels, as well as spear and net fishing and hand harvesting. Recreational fisheries in the CINMS access both nearshore and offshore areas, targeting bottom fish, pelagic fish and a variety of nearshore invertebrate species. In its analysis of the recreational fishing industry and the potential impacts that the designation of MPAs may have on it, Leeworth, Wiley & Stone (2005) divided consumptive recreation activity between private household boat fishing and charter/party boat fishing. The report found that, using data from 1999 and 2002, about 12 percent of the private household boat fishing and about 13 percent of the charter/party boat fishing in southern California was done in the CINMS. Over 81 percent of this fishing activity took the form of on board fishing while the remaining 19 percent came from consumptive diving. Overall, nearly 448,000 person-days of consumptive recreational activity occurred within the CINMS in 1999, the year chosen by Leeworth, Wiley & Stone (2005) as an appropriate baseline. These activities generate over \$26.4 million in total annual income through both direct and indirect sales, wages and salaries and support 1,138 full and part time jobs. Although recreational fishing for lobster will be allowed in the proposed Anacapa Marine Conservation Area, Leeworth, Wiley & Stone (2005) estimated that the displacement of recreational fishing activities from the proposed MPA network will potentially reduce the total number of annual person-days of recreational fishing by five percent or 22,365. This reduction in activity translates to an estimated potential loss in recreational fishing income of just over five percent or \$1,387,895 and an estimated potential loss in employment of nearly five and a half percent or 62 full or part time jobs (please refer to Exhibit 8 for the complete table).

As with the commercial fishing analysis provided by Leeworth, Wiley & Stone (2005), the estimated potential adverse impacts to consumptive recreation within the Sanctuary detailed above were obtained through the simple process of adding up the activity currently taking place within the proposed marine protected areas and applying the assumption that all will be lost if the proposed project were adopted. Leeworth, Wiley & Stone (2005) notes, however, that under this analysis,

No account was taken of people's ability to substitute or relocate their fishing activities to other fishing sites. Under the proposed project, just over 19 percent of the CINMS waters would be included within the proposed and existing MPA network leaving 81 percent of the CINMS plus all the areas outside the CINMS for people to find other fishing sites. Additionally, there would likely be those who decide to participate in some other activity – these users would still be spending money in the local economy and therefore the income and employment dependant on this spending would not be lost. Thus it is expected that the estimates detailed [in the previous paragraph and in Exhibit 7] are overestimates of impact. Unfortunately, models do not exist that estimate how much substitution might take place, and what the net impact would be either in the short or long term. However, some substitution is likely, and to the extent that some people are able to find suitable substitute fishing sites, this would lower the estimated impacts. It is anticipated that these adverse impacts would be mitigated or offset to some degree

through the enhancement of the Sanctuary’s stocks of targeted fish and invertebrates and the spillover of these organisms into the waters surrounding the MPAs. Additionally, it is also anticipated that if recreational fishing activities are able to successfully relocate to areas outside of the proposed MPAs, the magnitude of impacts described above would be reduced substantially.

Conclusion

Given the relatively small estimated potential impacts of the proposed project on consumptive recreation within the Sanctuary (only around five percent of total use, income and employment will potentially be lost) the Commission finds that the proposed designation of 140.2 nm² of marine protected areas within the CINMS will not result in significant adverse impacts to recreational fishing. Furthermore, due to the marine resource enhancement opportunities provided by the proposed project and the potential for recreational fishing activities to relocate or continue in substitute areas, and for the reasons discussed above on page 21 (long-term benefits outweighing short-term effects), the Commission agrees with NOAA’s determination that the proposed designation of marine protected areas, as conditioned to be consistent with the intent of NOAA’s original proposal, would be consistent with the recreational fishing policies of the Coastal Act (Section 30234.5).

5.3 Public Access and Recreation

The Coastal Act provides for the protection of public access in Sections 30210 and 30214:

30210: *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

30214: *(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:*

...

(2) The capacity of the site to sustain use and at what level of intensity. . . .

In addition, Section 30220 of the Coastal Act also provides for the protection of water-oriented recreation:

30220: *Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*

The proposed expansion of MPAs will not result in any adverse impacts to public access or recreation within the Sanctuary. By enhancing the protection and restoration of the Sanctuary's marine resources, the proposed MPA network will serve to enhance and promote recreational activities such as whale watching, wildlife viewing, kayaking, surfing, photography and non-consumptive diving. Also, passage through the proposed MPAs by recreational and commercial harvesters will not be restricted, provided that these individuals are not engaged in fishing activities during transit. Therefore, the Commission finds that the proposed project is consistent with the public access and recreation policies of Chapter 3 of the Coastal Act (Sections 30210, 30214 and 30220).

6.0 Substantive File Documents

1. Draft Management Plan/ Draft Environmental Impact Statement – Channel Islands National Marine Sanctuary, Volumes I and II, National Oceanic and Atmospheric Administration (NOAA), May 2006.
2. Consistency Determination CD-036-06, NOAA, Channel Islands National Marine Sanctuary management plan update and revision.
3. Draft Environmental Impact Statement for the Consideration of Marine Reserves and Marine Conservation Areas - Channel Islands National Marine Sanctuary, NOAA, August 2006.
4. Final Environmental Document for Marine Protected Areas in the National Oceanic and Atmospheric Administration's Channel Islands National Marine Sanctuary, Volume I and II, California Department of Fish and Game, October 2002.
5. Leeworth, Vernon R., Wiley, Peter C. and Stone, Edward A. Socioeconomic Impact Analysis of Marine Reserves for the Channel Islands National Marine Sanctuary. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service, Special Projects, Silver Spring, Maryland. October, 2005.
6. National Oceanic and Atmospheric Administration. Socioeconomic Research and Monitoring Recommendations for Marine Protected Areas in the Channel Islands National Marine Sanctuary. National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Special Projects: Silver Spring, Maryland. July 2003.
7. McMahon, Shannon. *Goodbye to a Sea Giant*. San Diego Union Tribune, June 10, 2005.

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