

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON
CHANNEL ISLANDS NATIONAL MARINE SANCTUARY (CINMS)

The Scientific and Statistical Committee (SSC) reviewed a document entitled, “Supporting Materials” (Agenda Item H.1.a, Attachment 1), which describes draft reserve alternatives for federal waters at Channel Islands National Marine Sanctuary (CINMS) and provides some description of the effects of these alternatives. “Supporting Materials” was an attachment to a letter submitted by Mr. Daniel Basta to Dr. Donald McIsaac (date stamped May 25, 2005) for Council consideration. According to page 3 of that letter, “Supporting Materials” addresses comments previously provided by the Council regarding a May 2004 document entitled *Staff Preliminary Working Draft Document for Consideration of a Network of Marine Reserves and Marine Conservation Areas within the Channel Islands National Marine Sanctuary*. The SSC was among the Council advisory bodies that provided comments regarding the May 2004 document.

The SSC understands that “Supporting Materials” is not intended to constitute a Draft Environmental Impact Statement (DEIS) - which will be completed at a later date - but rather to provide the Council with enough information to propose fishing regulations. The SSC notes that the DEIS is the vehicle by which the Council ensures that its decisions are based on the best available information. Given that “Supporting Materials” is not intended to meet the standards of a DEIS, it would be futile for the SSC to evaluate “Supporting Materials” on that basis. Under these circumstances, the best that the SSC can do is to:

- Focus on issues identified in our cumulative record of recommendations (see Attachment 1 of this statement) that are relevant to the goals and objectives identified in “Supporting Materials” and that the SSC considers salient to the information contained in that document.
- Review the issues identified above as best we can, given the limited information contained in “Supporting Materials.”

“Supporting Materials” reflects an effort to recognize the potential trade-off between ecological and socioeconomic costs and benefits of the reserve alternatives. A major factor hampering the SSC’s review of “Supporting Materials” is the lack of substantiation for the socioeconomic analysis. While “Supporting Materials” includes some tabular estimates of socioeconomic effects, justification for these estimates consists largely of repeated references to an analysis by Leeworthy and Wiley (2005), which was not made available to the SSC; the name of this document is not even known, as it is not included in the “References” section of “Supporting Materials”. In June 2002, the SSC expressed substantive concerns regarding a socioeconomic analysis of CINMS reserve alternatives provided by Leeworthy and Wiley (2002). In July 2004, the SSC reviewed an updated version of that analysis - Leeworthy and Wiley (2003) - which did little to address those concerns. Given this history, the SSC considers it particularly important to have access to Leeworthy and Wiley (2005) in order to evaluate the extent to which these ongoing technical issues have found some resolution in “Supporting Materials”.

“Supporting Materials” contains very little documentation regarding the rationale underlying the description of the baseline and the methods and assumptions underlying the analysis of socioeconomic effects of the alternatives on commercial fisheries and recreational consumptive and non-consumptive activities. Attachment 2 of this statement provides more detailed comments regarding these issues. Some of these issues (particularly those pertaining to the socioeconomic analysis) are not new and were raised by the SSC in 2002 and 2004.

The letter accompanying “Supporting Materials” indicates that it addresses Council comments regarding a document previously submitted to the Council in May 2004, entitled *Staff Preliminary Working Draft Document for Consideration of a Network of Marine Reserves and Marine Conservation Areas within the Channel Islands National Marine Sanctuary*. As indicated in Attachment 2 of this statement, the information contained in “Supporting Materials” is not responsive to SSC comments regarding the May 2004 document. “Supporting Materials” the need for adequate documentation of methods and assumptions which is standard for any technical analysis, regardless of whether it is related to a DEIS. Given the inadequate documentation of the analysis of alternatives contained in “Supporting Materials” and technical issues pertaining to that analysis, the SSC does not see how the Council can make an informed decision regarding proposed regulations for reserves at CINMS.

Attachment 1. Cumulative Record of SSC Comments on Reserve Alternatives at CINMS

Over the past four years, staff at the CINMS have periodically briefed the SSC regarding their plans and progress toward establishing marine reserves at CINMS. To facilitate the Council's consideration of this issue, the SSC has reviewed a number of technical reports pertaining to reserves in state, and now federal, waters at CINMS, as follows:

- October 1-2, 2001 review of a document pertaining to recommendations of the CINMS Science Advisory Panel regarding reserve size
 - Anonymous. May 23, 2001. *DRAFT - How large should marine reserves be?*

- June 10-11, 2002 review of two documents that analyze effects of reserve alternatives in state waters at CINMS
 - Ugoretz, J. And D. Parker. May 2002. *Draft Environmental Document - Marine Protected Areas in NOAA's Channel Islands National Marine Sanctuary*
 - Leeworthy, Dr. V. And P. Wiley. 2002. *Socioeconomic Impact Analysis of Marine Reserve Alternatives for the Channel Islands National Marine Sanctuary* ???

- July 19-20, 2004 review of two documents pertaining to preliminary work by CINMS on evaluating reserve alternatives in federal waters
 - CINMS. Undated. *Staff Preliminary Working Draft Document for Consideration of a Network of Marine Reserves and Marine Conservation Areas within the Channel Islands National Marine Sanctuary.*
 - Leeworthy, Dr. V.R. and P.C. Wiley, 2003. *Socioeconomic Impact Analysis of Marine Reserve Alternatives for the Channel Islands National Marine Sanctuary*

October 1-2, 2001 review: This review was the outcome of a request from the SSC to CINMS for the opportunity to review documentation underlying the CINMS Science Advisory Panel's recommendation for reserves in 30%-50% of CINMS waters. SSC comments regarding this document are contained in the SSC meeting minutes for October 29-30, 2001.

June 10-11, 2002 review: Although the Ugoretz and Parker (2002) analysis pertained to the establishment of marine reserves in state waters at CINMS, the Council requested an SSC review of that document on the basis that subsequent establishment of reserves in federal waters would be contingent on the location of these state reserves. In reviewing Ugoretz and Parker (2002), the SSC was careful to distinguish between aspects of the report that addressed state requirements for regulatory analysis under the California Environmental Quality Act (CEQA) and aspects of the report (most notably the socioeconomic analysis) that went beyond CEQA requirements but nevertheless contributed to the analysis of alternatives. Because documentation for the socioeconomic results presented by Ugoretz and Parker (2002) was contained in Leeworthy and Wiley (2002), it was necessary for the SSC to also review the latter document in order to adequately understand and review the former. The SSC's June 2002 review and its response to a letter from Dr. Leeworthy regarding this review are contained in the SSC meeting minutes for June 16-18, 2002 and September 9-10, 2002, respectively.

July 19-20, 2004 review: This review was prompted by a request from the National Ocean Service for Council input regarding the data, analytical methods and range of reserve alternatives being considered at CINMS. In order to adequately understand and review the *Staff Preliminary Working Draft Document* provided by CINMS, the SSC also received and reviewed an updated version (Leeworthy and Wiley 2003) of the socioeconomic analysis reviewed in June 2002 (Leeworthy 2002). The results of this review are contained in an SSC report dated September 14, 2004 and entitled *Review of Data, Analytical Methods and Range of Alternatives Used in “Staff Preliminary Working Draft Document for Consideration of a Network of Marine Reserves and Marine Conservation Areas within the Channel Islands National Marine Sanctuary”*. This review covered issues initially identified in the SSC’s June 2002 review which had not yet been addressed as well as new issues associated with changes in the analysis since that initial review.

Together, the October 2001, June 2002 and July 2004 reviews provide a cumulative record of SSC recommendations to date regarding reserves at CINMS. These recommendations are consistent with federal regulatory guidelines and with the SSC’s 2004 white paper entitled *Marine Reserves: Objectives, Rationales, Fishery Management Implications, and Regulatory Requirements*.

Attachment 2. SSC Comments Regarding Specific Aspects of “Supporting Materials”

Defining range of alternatives

- “Supporting Materials” provides useful information regarding the alternatives. For instance, figures 4-7 (pp. 17-21) describe the location of state reserves under the *status quo* and the location of federal reserves under each of the three alternatives to the *status quo*. Table 2 (p. 29) describes the extent to which different types of habitat (soft sediment, hard sediment, submarine canyons) would be protected under the *status quo* and the three alternatives. Pages 17-21 describe the size of the combined state and federal areas that would be set aside as marine reserves (MRs) and marine conservation areas (MCAs) under each alternative. Additional breakdown of these numbers to distinguish how much of these MRs and MCAs occur in state and federal waters would be helpful for better understanding the impact of the proposed regulatory action.
- Pages 10-11 (including Table 1) provide information on selected fishes and invertebrates in CINMS. If the intent of this information is to identify species that would be protected under the reserve alternatives, this should be made explicit. Clarification regarding the extent of species protection provided by the alternatives would be useful for evaluating the ecological effects of the alternatives and may also facilitate the Council’s efforts to draft appropriate regulations as they pertain to these species.

Defining the baseline

In its July 2004 review, the SSC recommended that the baseline used in the analysis of reserve alternatives for federal waters should (to the extent possible) reflect the level and geographic distribution of commercial and recreational activities in CINMS after establishment of reserves in state waters (that is, 2003 and beyond). The extent to which this is done in “Supporting Materials” is limited or, in some cases, not clear.

- The commercial fishery baseline is defined in “Supporting Materials” in terms of the annual ex-vessel value of landings in 2003 for rockfish, tuna and prawns, 2000-2003 for sheephead, and 1996-2003 for ten other species. Given that 2003 ex-vessel revenue information is available for all species, it is not clear why this information was not consistently used to define the baseline for all species.
- No discussion is provided regarding how baseline estimates of person-days associated with consumptive and non-consumptive recreation were calculated. The actual numbers that appear in the analysis are virtually unchanged from the 1999 baseline previously used by Leeworthy and Wiley (2002, 2003).
- No information is provided regarding baseline geographic distributions of commercial and recreational activity or the assumptions underlying those distributions.

- The Sanctuary Aerial Monitoring and Spatial Analysis program (SAMSAP) is used to qualitatively characterize the extent of congestion associated with each alternative. While SAMSAP is a potentially useful source of information, the baseline for analyzing the SAMSAP data (Figure 10, p. 41) includes years before and after the establishment of state reserves (1997-2004) rather than just the “after” years (2003-2004).

Analyzing effects of alternatives

- The estimates of recreational and commercial fishing activity displaced under the three alternatives and associated effects on income and employment (Tables 4-6 on pp. 35-37) depend critically on how the baseline is defined. As indicated above, “Supporting Materials” provides little description of or justification for the baseline used in the analysis.
- A retrospective analysis of SAMSAP data that compares activity distributions before (1997-2002) and after (2003-2004) the establishment of state reserves (the latter being the current *status quo*) may provide insights regarding what can be expected once reserves are established in federal waters.
- “Supporting Materials” references a “benefits transfer/policy analysis simulation” conducted by Leeworthy and Wiley (2005) involving use of quality elasticities from the literature to estimate benefits of the alternatives to non-consumptive recreation (p. 40). “Supporting Materials” also references Leeworthy and Wiley’s (2005) derivation of consumer surplus estimates pertaining to recreational use at CINMS (footnote 1, p. 40). Although these results are apparently available in Leeworthy and Wiley (2005) and highly relevant to the analysis of alternatives, they are not provided in “Supporting Materials”. It is not clear why available information on all analyzed effects is not included in “Supporting Materials”, given the relevance of this information to the Council’s deliberations.
- The SSC notes its longstanding concerns - raised in June 2002 and July 2004 - regarding the treatment of recreational effects in Leeworthy and Wiley (2002, 2003). These concerns include inappropriate use of price elasticities of demand from the literature as a proxy for quality elasticities of consumer surplus, and calculations of consumer surplus based on misinterpretation of results from the recreational demand literature and incorrect conversion of recreational values from a per-trip to a per-day basis. In addition to providing a fuller consideration of recreational effects in the evaluation of alternatives (which is apparently available in Leeworthy and Wiley (2005)), adequate documentation of the methods used to estimate these effects is also needed to determine whether and how SSC concerns have been resolved.