

Appendix C. Scoping Summary Report

**Central Coast Marine Protected Areas
Project**

**Environmental Impact Report
Summary of Public Scoping Comments**

Prepared for:

California Department of Fish and Game
20 Lower Ragsdale Drive, Suite 100
Monterey, CA 93940
Contact: John Ugoretz

Prepared by:

Jones & Stokes
268 Grand Avenue
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510/433-8962

August 2006

Jones & Stokes. 2006. Central Coast Marine Protected Areas Project -
Environmental Impact Report Summary of Public Scoping Comments. August.
(J&S 06682.06.) Oakland, California.

TABLE OF CONTENTS

INTRODUCTION	3
PROJECT DESCRIPTION	3
SCOPING PROCESS	3
NOTICING AND PUBLICITY	4
SUMMARY OF VERBAL & WRITTEN COMMENTS	4
AIR QUALITY	4
BIOLOGICAL RESOURCES	4
CONSUMPTIVE USES	5
NON-CONSUMPTIVE USES	5
CULTURAL RESOURCES	5
ENFORCEMENT	5
FUNDING	5
MPA DESIGN	5
LAND USE	6
POPULATION AND HOUSING	6
PUBLIC SERVICES	6
WATER QUALITY	6
VESSEL TRAFFIC	6
CEQA PROCESS	6
ALTERNATIVES	7
OTHER CONSIDERATIONS	7

APPENDICES

NOP
NOP Distribution List
Meeting Announcement Flyer
Meeting Flyer Distribution List
Meeting Presentation
Meeting Sign-in Sheets
Meeting Transcripts (Separate Cover)
Written Comments

Introduction

On behalf of the California Fish and Game Commission, the California Department of Fish and Game (Department) will be preparing an Environmental Impact Report (EIR) for the Central Coast Marine Protected Areas (MPAs) Project (project). Pursuant to the requirements of the California Environmental Quality Act (CEQA), the Department released a Notice of Preparation (NOP) on July 11, 2006 and held two scoping meetings: one on Thursday, August 10, 2006 in Morro Bay and one on Friday, August 11, 2006 in Monterey. The scoping meetings were held at the Morro Bay Veteran's Memorial Building at 209 Surf Street and the Monterey Beach Resort, La Grande Room, at 2600 Sand Dunes Drive. Approximately 38 people attended the Morro Bay meeting and 15 people attended the Monterey meeting. The purpose of the scoping meetings was to present a project description and receive oral comment regarding the scope of the EIR for the project. Written comments were received by the Department between July 17, 2006 and August 18, 2006. This report summarizes the key subjects raised in both oral comment at the scoping meetings and written comments concerning the scope of the EIR.

Project Description

The project proposes a network of MPAs within the central coast region of California, as required by the Marine Life Protection Act (MLPA). For the purpose of the project, the central coast region defined as State waters located between Pigeon Point (San Mateo County) and Point Conception (Santa Barbara County).

The goals of the project are:

- To protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems.
- To help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted.
- To improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity.
- To protect marine natural heritage, including protection of representative and unique marine life habitats in California waters for their intrinsic value.
- To ensure that California's MPAs have clearly defined objectives, effective management measures, and adequate enforcement, and are based on sound scientific guidelines.
- To ensure that the state's MPAs are designed and managed, to the extent possible, as a network.

Currently, the central coast region has twelve existing MPAs and one special closure area. The proposed project would modify and/or delete these MPAs and establish new MPAs to achieve the project goals.

Throughout the Environmental Scoping Phase of the project, input was sought from the public and regulatory agencies to assist in identifying a range of alternatives, potentially significant environmental effects and possible mitigation measures.

Scoping Process

The project will require approval from the California Fish and Game Commission (Commission), a state agency, before implementation. Discretionary actions by state and local agencies are subject to review under CEQA. The purpose of review under CEQA is to inform governmental decision-makers and the public about potentially significant environmental effects of proposed projects and possible ways to avoid or substantially reduce those impacts. All agencies are required to conduct an environmental review under CEQA prior to approval of a project.

For the Central Coast MPAs project, scoping was conducted to assist the Commission, which is the CEQA lead agency, in identifying the range of alternatives, potentially significant environmental effects, and possible mitigation measures. Scoping is a process whereby the lead agency seeks input from other agencies and the public early in the environmental review process.

Noticing and Publicity

The NOP was distributed to the State Clearinghouse and mailed to governmental agencies with potential interest, expertise, and/or authority over the project. The NOP also was sent to the MLPA Initiative public mailing and email lists. The notification process included a MLPA web posting announcing the meeting dates, locations and times, meeting flyers, mailing of the meeting flyer, and a newspaper advertisement. Notification materials and the NOP are included in the Appendix.

Summary of Verbal & Written Comments

The following summarizes verbal comments received at the scoping meetings and written comments received from regulatory agencies and the public during the scoping comment period. Comments in their entirety are located in the Appendix. This is not intended as a verbatim or comprehensive list of issues raised in comment, but rather to summarize notable concerns. For the detailed concerns, the reader is directed to the comments themselves.

Air Quality

- Would there be air pollution resulting from longer running times?

Biological Resources

- **Displacement of Fishing Effort** – Displacement and concentration of fishing in lower-productivity areas will result in loss of fisheries outside of MPAs.
- Assess impact of pinnipeds on fish populations.
- Assess harvest of apex predators on fish populations.
- Assess marine ecosystem as total biological community.
- Assess breeding patterns and dietary preferences of birds and mammals. How will populations of birds and mammals change with the proposed MPAs?
- Collection of fishing data is as important as collection of biological data.
- Discuss benefits of MPAs.

- Concern raised about reef use impacts resulting from fishing congestion outside MPAs.

Consumptive Uses

- **Commercial and Recreational Fishing** – Concern regarding loss of opportunities within central coast study area. Lost opportunities should be mitigated.
- **Management** – Consider adverse and beneficial effects on federally managed fisheries and fish stocks.
- **Socioeconomics** – Consider effects on fishing industries and communities. Opposition expressed to closures or restrictions that hinder local seafood business economy.
- Reduction in by-catch a poor indicator of species depletion.
- Consider effect of increased fish imports from other countries.
- Ecotrust data and surveys were used against the fishing industry.

Non-Consumptive Uses

- Recreation user base extends beyond central California coast.
- Public recreational elements must be evaluated relative to impacts on neighboring private lands.
- Discuss benefits of MPAs to non-consumptive users.
- Protected areas don't represent best non-consumptive use interests – too much sandy bottom lacking habitat diversity.

Cultural Resources

- EIR should assess fishing heritage as a coastal cultural resource.

Enforcement

- The Department can't adequately enforce existing regulations. Can the Department provide adequate enforcement both inside and outside of MPAs?
- Include analysis of ability to monitor and enforce project, particularly adjacent to Vandenberg Air Force Base.

Funding

- Cost not given enough consideration.
- Initial funding may be available, but what of the balance needed for future management?
- Consider joint state-federal task group and cooperative monitoring with cost sharing.
- EIR should delineate all funding required to implement and manage the project.

MPA Design

- Prohibition of all extractive activities within State Marine Reserves conflicts with other management activities such as invasive species control and removal of rotting carcasses.
- MPAs in other parts of the world (Florida, Australia) are not similar to or comparable with those in California.
- Effects of MPAs should be able to be understood from the Channel Islands National Marine Sanctuary monitoring efforts. Establishment of decent biological baselines is needed.
- MPAs will not build or maintain fish stocks.

- Discrepancy exists between MPA goals and regulations proposed to achieve them.
- SAT did not quantify expected outcomes. An abundance assessment and population dynamics modeling should be completed in support of the EIR analysis.
- Avoid using concepts from terrestrial protected area planning.
- SAT should develop quantitative classification guidelines and a quantitative assessment of degree of benefit by species.
- Consider phasing of MPA network and developing benchmarks for expansion.
- Assess implications of semi-take areas versus no-take areas.
- Assess ability of alternatives to facilitate monitoring and adaptive management.
- MPAs can work if modeled correctly. Quotas work better.
- Ecosystem function and diversity are not well defined.

Land Use

- Compare proposed regulations with past regulations and closures, and other State laws. Assess effectiveness of past regulations on marine resources.
- Assess change in land use plans for coastal communities dependent on coastal access, recreation and commercial fishing activities.

Population and Housing

- Loss of homes anticipated. Need to consider changes in standard of living to fishermen.

Public Services

- Consider effects on ports, marina, and harbors such as oil and fuel spills, and vessel abandonment.

Water Quality

- Number of MPAs could be reduced if non-point source pollution addressed.

Vessel Traffic

- Consider safety of vessels traveling further and effect of higher densities of vessels.
- Consider safety issue of vessels dodging MPAs to fish.
- Vessel traffic effects may be balanced between distances traveled by fishermen and divers.

CEQA Process

- Confusion expressed as to whether an equivalent environmental document or an environmental impact report (EIR) is being prepared. Need for preparation of an EIR identified.
- Consultant should consider best available science and earlier analyses.
- Include assessment of cumulative effects and reasonably foreseeable future project phases.
- CEQA analysis must include a detailed description of non-fishing impacts to the marine ecosystem, and how the MPA network will improve or worsen these impacts.

- Scoping inappropriate at this time because Commission has not selected a preferred package. Scoping deadline needs to be extended. Website didn't mention scoping meetings.

Alternatives

- **General** – All additional or enlarged State Marine Reserves, or Marine Life Reserves, should be eliminated. Should look to improving water quality, sewage treatment, and control of trawling in lieu of MPAs.
- Include no action analysis and discussion.
- Include Package 1 in CEQA analysis.
- Include Package 2R in CEQA analysis.
- Include Science Advisory Team analysis in alternatives environmental review. Also include analysis of how each alternative meets legal requirements of MLPA.
- Differences among alternatives expected to be few.
- **Subregion 7** – Consider allowance of white sea bass gill net fishing to offset MPA impacts.

Other Considerations

- Citizens' rights violated by not putting project on ballot. Conflict with special interest groups.
- Are MPA's required?
- Begin monitoring basic ecological response indicators.
- NEPA document required based on federal agency involvement in implementation process.
- Assess educational benefits of MPAs.

Memorandum

Date: July 11, 2006

To: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street
P.O. Box 3044
Sacramento, CA 95812-3044

From: Gary Stacey 
Regional Manager, Marine Region
Department of Fish and Game

Subject: Notice of preparation of environmental document regarding marine protected areas in the central California region pursuant to the Marine Life Protection Act.

Attached are the Notice of Preparation and a copy of the Notice of Preparation letter forwarded to interested parties (list attached) for the Marine Life Protection Act central California coast region Environmental Document.

The Fish and Game Commission is the lead agency, and the Department of Fish and Game will prepare the environmental document for the above project.

If you have questions, please contact Mr. John Ugoretz at (831) 649-2893.

Attachments

cc: Fish and Game Commission
John Carlson, Jr., Executive Director

Department of Fish and Game
S. Barrow, Senior Biologist Specialist, Regulations Unit, Fisheries Program
Branch
J. Ugoretz, Nearshore Ecosystem Coordinator, Marine Region

Explanation of the Notice of Completion Form

This form is *required* to be submitted with 15 copies of every draft Environmental Impact Report which is reviewed through the State Clearinghouse (see CEQA Guidelines Section 15085[d]). It is used by the Clearinghouse for transmittal of all environmental documents

LEAD AGENCY

Project Title: This is the project's common name. It is best to use project specific words in order to facilitate database searches.

Lead Agency: This is the name of the public agency that has legal responsibility for preparation and review of the environmental document.

Contact Person: Name of contact person from the lead agency. This should not be the consultant's name.

Phone: Phone number of the contact person at lead agency.

Street Address: This is the mailing address for the contact person from the lead agency. State comments will be mailed to this address.

City: City of the lead agency address. This is not necessarily the city in which the project is located.

Zip: Zip code of the lead agency. Please indicate the new nine digit zip code if applicable.

County: County of the lead agency address. This is not necessarily the county in which the project is located.

PROJECT LOCATION

County: County in which the project is located. Most state agencies assign projects for review according to the county of the project. The State Clearinghouse is not always able to determine the location of the project based upon the address of the lead agency. An example of this problem is Los Angeles Department of Airports projects located at Ontario International Airport.

City/Nearest Community: City or town in which the project is located; or the nearest community to the location of the project.

Cross Streets: Indicate the nearest major cross streets or cross streets.

Total Acres: The total area encompassed by the project site gives some indication of the scope of the project and its regional significance.

Assessor's Parcel Number (optional): For locational purposes.

Section, Township, Range and Base: Please indicate base meridian. If you are not able to provide Assessor's Parcel Number, please indicate Section, Township, and Range.

Highways, Airports, Railroads, Schools, and Waterways (including streams or lakes): These identifiers are of consequence to many projects. By restricting the information to those features within a two-mile radius of the project site, unnecessary data collection can be avoided. Please indicate the name(s) of the waterways, airports, railroads, schools, and the route number(s) of the state highways.

DOCUMENT TYPE

This identifies the nature of the environmental document. Mark

appropriate blanks with an "X".

LOCAL ACTION TYPE

This helps reviewers understand the type of local approvals that will be required for the project and the nature of the project and its environmental documentation. Mark appropriate blanks with "X".

DEVELOPMENT TYPE

This data category helps identify the scope of the project for distribution purposes. Additionally, the information also serves to identify projects of a similar character to assist in the reuse of environmental documents. For some of the development types, the form asks for the number of acres, square footage, and number of permanent employees. Fill in the blanks.

PROJECT ISSUES DISCUSSED IN DOCUMENT

These are the topics on which the environmental document focuses attention. These are not necessarily the adverse impacts of the project, but the issues which are discussed in some depth. Check appropriate blanks.

PRESENT LAND USE AND ZONING

This enables the agencies to understand the extent of the changes proposed and again helps to identify projects with similar environmental issues for later reuse of information.

PROJECT DESCRIPTION

This response should provide a thorough description of the proposed project enabling the reviewing agencies to understand the total project concept. The data categories can provide guidance and structure to the explanation given.

Reviewing Agencies Checklist:

REVIEWING AGENCIES

The back of the form lists the agencies and departments to whom the SCH may distribute a draft document. The lead agency can indicate for the SCH's information any responsible, trustee or concerned agencies which they would like to review the document, or who have previously been involved in the review of the project. Any agencies that have received the document directly from the lead agency should also be marked.

PUBLIC REVIEW PERIOD

This section is to be filled in when the Notice of Completion form is being filed and not being submitted with environmental documents.

CONSULTING FIRM

This information is to be filled in only if applicable.

APPLICANT

This identifies whether the applicant/project proponent is a private developer or the lead agency.

Notice of Completion & Environmental Document Transmittal

SCH #

Mail to: State Clearinghouse, PO Box 3044, Sacramento, CA 95812-3044 916/445-0613

Project Title: Marine Protected Areas in the central California coast region

Lead Agency: California Fish and Game Commission Contact Person: John Ugoretz
Street Address: 1416 Ninth Street Phone: (831) 649-2893
City: Sacramento, CA Zip: 95814 County: Sacramento

Project Location:

County: Coastal - San Mateo to Santa Barbara City/Nearest Community: Ocean waters off central California
Cross Streets: Zip Code: Total Acres:
Assessor's Parcel No. Section: Twp. Range: Base:
Within 2 Miles: State Hwy #: Waterways:
Airports: Railways: Schools:

Document Type:

CEQA: [X] NOP [] Supplement/Subsequent EIR NEPA: [] NOI [] Joint Document
[] Early Cons (Prior SCH No.) [] EA [] Final Document
[] Neg Dec [] Other [] Draft EIS [] Other
[] Draft EIR [] FONSI

Local Action Type:

[] General Plan Update [] Specific Plan [] Rezone [] Annexation
[] General Plan Amendment [] Master Plan [] Prezone [] Redevelopment
[] General Plan Element [] Planned Unit Development [] Use Permit [] Coastal Permit
[] Community Plan [] Site Plan [] Land Division (Subdivision, etc.) [X] Other marine protected are

Development Type:

[] Residential: Units Acres
[] Office: Sq.ft. Acres Employees
[] Commercial: Sq.ft. Acres Employees
[] Industrial: Sq.ft. Acres Employees
[] Educational
[] Recreational
[] Water Facilities: Type MGD
[] Transportation: Type
[] Mining: Mineral
[] Power: Type Watts
[] Waste Treatment: Type
[] Hazardous Waste: Type
[X] Other: Establish Marine Protected Areas in State Waters

Funding (approx.): Federal \$ State \$ Total \$

Project Issues Discussed in Document:

[] Aesthetic/Visual [] Flood Plain/Flooding [] Schools/Universities [] Water Quality
[] Agricultural Land [] Forest Land/Fire Hazard [] Septic Systems [] Water Supply/Groundwater
[] Air Quality [] Geologic/Seismic [] Sewer Capacity [] Wetland/Riparian
[] Archeological/Historical [] Minerals [] Soil Erosion/Compaction/Grading [X] Wildlife
[] Coastal Zone [] Noise [] Solid Waste [] Growth Inducing
[] Drainage/Absorption [] Population/Housing Balance [] Toxic/Hazardous [] Landuse
[X] Economic/Jobs [] Public Services/Facilities [] Traffic/Circulation [] Cumulative Effects
[] Fiscal [X] Recreation/Parks [] Vegetation [X] Other Fishing Activities

Present Land Use/Zoning/General Plan Designation:

Project Description:

See attached Notice of Preparation memorandum

Reviewing Agencies Checklist

Form A, continued

<p>KEY</p> <p>S = Document sent by lead agency</p> <p>X = Document sent by SCH</p> <p>✓ = Suggested distribution</p>

- ___ **Resources Agency**
- ___ Boating & Waterways
- ___ Coastal Commission
- ___ Coastal Conservancy
- ___ Colorado River Board
- ___ Conservation
- ___ Fish & Game
- ___ Forestry & Fire Protection
- ___ Office of Historic Preservation
- ___ Parks & Recreation
- ___ Reclamation Board
- ___ S.F. Bay Conservation & Development Commission
- ___ Water Resources (DWR)

Business, Transportation & Housing

- ___ Aeronautics
- ___ California Highway Patrol
- ___ CALTRANS District # _____
- ___ Department of Transportation Planning (headquarters)
- ___ Housing & Community Development

Food & Agriculture

Health & Welfare

- ___ Health Services _____

State & Consumer Services

- ___ General Services
- ___ OLA (Schools)

Environmental Protection Agency

- ___ Air Resources Board
- ___ California Waste Management Board
- ___ SWRCB: Clean Water Grants
- ___ SWRCB: Delta Unit
- ___ SWRCB: Water Quality
- ___ SWRCB: Water Rights
- ___ Regional WQCB # _____ (_____)

Youth & Adult Corrections

- ___ Corrections

Independent Commissions & Offices

- ___ Energy Commission
- ___ Native American Heritage Commission
- ___ Public Utilities Commission
- ___ Santa Monica Mountains Conservancy
- ___ State Lands Commission
- ___ Tahoe Regional Planning Agency

___ Other _____

Public Review Period (to be filled in by lead agency)

Starting Date July 17, 2006

Ending Date August 15, 2006

Signature _____

Date _____

<p>Lead Agency (Complete if applicable):</p> <p>Consulting Firm: _____</p> <p>Address: _____</p> <p>City/State/Zip: _____</p> <p>Contact: _____</p> <p>Phone: (____) _____</p>

<p>For SCH Use Only:</p> <p>Date Received at SCH _____</p> <p>Date Review Starts _____</p> <p>Date to Agencies _____</p> <p>Date to SCH _____</p> <p>Clearance Date _____</p> <p><i>Notes:</i></p>
--

<p>Applicant: _____</p> <p>Address: _____</p> <p>City/State/Zip: _____</p> <p>Phone: (____) _____</p>
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DEPARTMENT OF FISH AND GAME

http://www.dfg.ca.gov
Marine Region
20 Lower Ragsdale Drive, Suite 100
Monterey, California 93940



July 11, 2006

Re: Notice of preparation of environmental document regarding marine protected areas in the central California region pursuant to the Marine Life Protection Act.

To Interested Parties:

The California Fish and Game Commission (Commission) will be the lead agency reviewing and potentially adopting proposed regulations for marine protected areas (MPAs) in State waters within the central California coast region. Pursuant to the requirements of the California Environmental Quality Act (CEQA), the Department of Fish and Game (Department) will prepare a CEQA equivalent draft environmental document regarding the proposed project.

The proposed project being reviewed in this document is the central California coast component of a statewide network of MPAs as required by the Marine Life Protection Act (MLPA, Stats. 1999 Ch. 1015). For the purpose of this project, the central California coast region is defined as State waters between Pigeon Point (San Mateo County) and Point Conception (Santa Barbara County).

The project objectives are to help protect, maintain, restore, enhance, and manage living marine resources by developing this portion of the MLPA required network of MPAs. Take of finfish, marine plants and/or invertebrates would be prohibited or restricted in several areas by regulations established by the Commission and implemented by the Department. Alternatives to the proposed project will be evaluated in the document, with corresponding analysis provided for each identified alternative. Additional information on the proposed project and development process is available at www.dfg.ca.gov/mrd/mlpa.

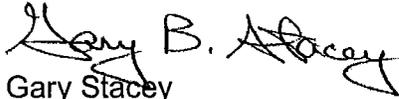
The Department has taken steps to identify and evaluate any potential negative environmental effects associated with the proposed project. However, in order to assist the Department in identifying the range of potential actions, alternatives, mitigation measures and significant effects to be analyzed in depth in the document, the Department is requesting your views as to the scope and content of the environmental information which you feel is germane to the subject Plan.

Your response relative to the scope of the environmental document must be sent at the earliest possible date, but not later than 30 days after receipt of this notice in order for your comments to be considered.

Public comment provided on the proposed project to date through extensive public processes will be addressed in the document. The Department will also hold two public scoping workshops on the development of the draft environmental document.

Please send responses to this Notice of Preparation to "MLPA CEQA Scoping Comments" c/o Mr. John Ugoretz, Nearshore Ecosystem Coordinator, at the address provided above. Your comments should include your name, address, and daytime telephone number so a representative of the Department can contact you if clarifications regarding your comments are required. Please include the heading "MLPA CEQA Scoping Comments" in your response.

Sincerely,



Gary Stacey
Regional Manager
Marine Region



Notice of Scoping Meetings

Central Coast Marine Protected Areas Project

How To Comment

To obtain a copy of the NOP:

You may access a copy of the Notice of Preparation online at www.dfg.ca.gov/MRD/mlpa/centralcoast.html or by request to the California Department of Fish and Game at (831) 649-2883.

To comment on the NOP:

You may provide comment on the CENTRAL COAST MARINE PROTECTED AREAS PROJECT through any of the following means:

- ▶ Attend one of the two scoping meetings and provide oral or written comment at the meeting.
- ▶ Mail written comments by Friday, August 18, 2006 to: MLPA Scoping Comments c/o John Ugoretz, Nearshore Ecosystem Coordinator, California Department of Fish and Game, 20 Lower Ragsdale Drive, Suite 100, Monterey, California 93940.
- ▶ Email comments to mlpacomments@dfg.ca.gov. Remember to include your name and contact information.

Scoping Period Starts

The California Department of Fish and Game issued a Notice of Preparation (NOP) on July 17, 2006 that marks the first step in the environmental review of the Marine Life Protection Act (MLPA) central coast region Marine Protected Areas (MPA) Project. Release of the Notice of Preparation also initiates the scoping phase, during which interested agencies and the public are invited to help identify the range of issues and type of information to be considered in the Environmental Impact Report being prepared. Scoping comments will be accepted by the California Department of Fish and Game through close of business on Tuesday, August 15, 2006.

Central Coast Marine Life Protection Act Project

The California Department of Fish and Game's central coast region Marine Protected Areas Project proposes a package of Marine Protected Areas (MPAs) comprising a portion of the central coast region between Pigeon Point (San Mateo County) and Point Conception (Santa Barbara County). The goals of the central coast region MPA Project are:

- ▶ To protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems.
- ▶ To help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted.
- ▶ To improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity.
- ▶ To protect marine natural heritage, including protection of representative and unique marine life habitats in California waters for their intrinsic value.
- ▶ To ensure that California's MPAs have clearly defined objectives, effective management measures, and adequate enforcement, and are based on sound scientific guidelines.
- ▶ To ensure that the state's MPAs are designed and managed, to the extent possible, as a network.

Currently, the central coast region has twelve existing MPAs and one special closure area. The proposed project would modify and/or delete these MPAs and establish new MPAs to achieve the project goals.

Environmental Review Process

The California Environmental Quality Act (CEQA) requires that decision-making agencies and the public be informed of any potentially significant environmental and other effects before a proposed project is approved. The California Department of Fish and Game will prepare an Environmental Impact Report on the proposed project that provides information about potentially significant impacts, identifies ways to minimize these impacts, and evaluates feasible alternatives. The California Fish and Game Commission is expected to make a decision regarding a preferred alternative in late-August 2006, and is expected to review and adopt regulations implementing a new MPA package for the central coast region before the end of the year.

Scoping Meeting Information

We encourage you to attend an upcoming scoping meeting on environmental review of the central coast Marine Protected Areas Project. The California Department of Fish and Game is holding two scoping meetings in the central coast region to solicit public comment on the scope and content of information to be included in the Environmental Impact Report. See the maps on the reverse side of this flyer for additional detail on meeting locations.

THIS IS YOUR CHANCE TO COMMENT ON WHAT WILL BE STUDIED DURING ENVIRONMENTAL REVIEW OF THE CENTRAL COAST MARINE PROTECTED AREAS PROJECT!

▶ Morro Bay

Thursday, August 10, 2006
2:00 – 4:00 PM
Morro Bay Veterans Memorial Building
209 Surf Street

▶ Monterey

Friday, August 11, 2006
6:30 – 8:30 PM
Monterey Beach Resort, La Grande Room
2600 Sand Dunes Drive

► **Morro Bay**

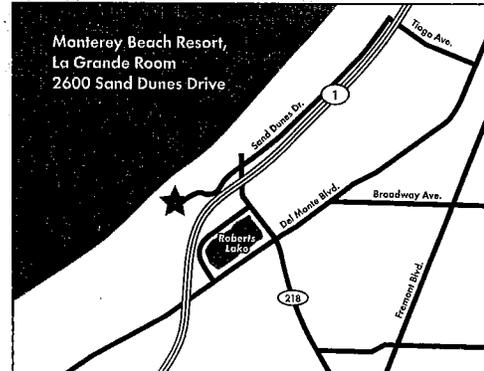
Thursday, August 10, 2006



Free street and lot parking available.

► **Monterey**

Friday, August 11, 2006



Street parking and Monterey Beach Resort parking available for \$2 per hour (up to \$10 maximum).

FIRST CLASS MAIL
PAID
US POSTAGE
SAN FRANCISCO, CA
Permit No. 11751

State of California
The Resources Agency
Department of Fish and Game
Marine Region
20 Lower Ragsdale Drive, Suite 100
Monterey, CA 93940

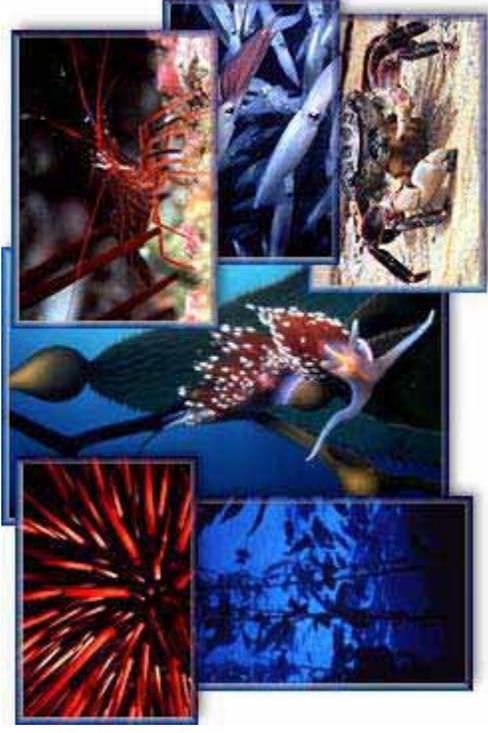


Notice of Scoping Meetings

Central Coast Marine Protected Areas Project

This is your chance to comment on what will be studied during environmental review of the Central Coast Marine Protected Areas Project! Attend a scoping meeting near you.

Central Coast Marine Protected Areas Project



Environmental Impact Report Scoping Meeting



August 10, 2006 • Morro Bay, CA



Jones & Stokes

Meeting Agenda

- Introduction and Welcome
- Project Overview
- CEQA Process and Schedule
- Public Participation Opportunities
- Receive Public Input

Legislative Background

- **Marine Life Management Act (1998)**
 - **Devoted to protection of marine ecosystems**
 - **Priority of long-term sustainability**
 - **Considers use of MPAs**

Legislative Background

- **Marine Life Management Act (1998)**
 - Devoted to protection of marine ecosystems
 - Priority of long-term sustainability
 - Considers use of MPAs
- **Marine Life Protection Act (1999)**
 - Requires master plan for MPAs
 - Requires Fish & Game Commission adopt program

Legislative Background

- **Marine Life Management Act (1998)**
 - Devoted to protection of marine ecosystems
 - Priority of long-term sustainability
 - Considers use of MPAs
- **Marine Life Protection Act (1999)**
 - Requires master plan for MPAs
 - Requires Fish & Game Commission adopt program
- **Marine Managed Areas Improvement Act (2000)**
 - Created six new classifications (3 MPAs)

MLPA Goals

- **Protect diversity, abundance & function**

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MLPA Goals

- **Protect diversity, abundance & function**
- **Sustain, conserve & rebuild populations**
- **Improve recreation, education & study**
- **Protect habitats for their intrinsic values**

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MLPA Goals

- **Protect diversity, abundance & function**
- **Sustain, conserve & rebuild populations**
- **Improve recreation, education & study**
- **Protect habitats for their intrinsic values**
- **Ensure management, enforcement & basis in science**
- **Ensure MPAs are designed and managed as a network**

MLPA Initiative Process

- **Draft Master Plan Framework (completed in August 2005)**
- **MPA Implementation Funding Source Recommendations (December 2005)**
- **Alternative MPA network proposals for Central Coast Study Region (completed in June 2006)**
- **Coordinated State and Federal Agencies Ocean Resource Management Recommendations (pending)**

Central Coast MPA Proposals

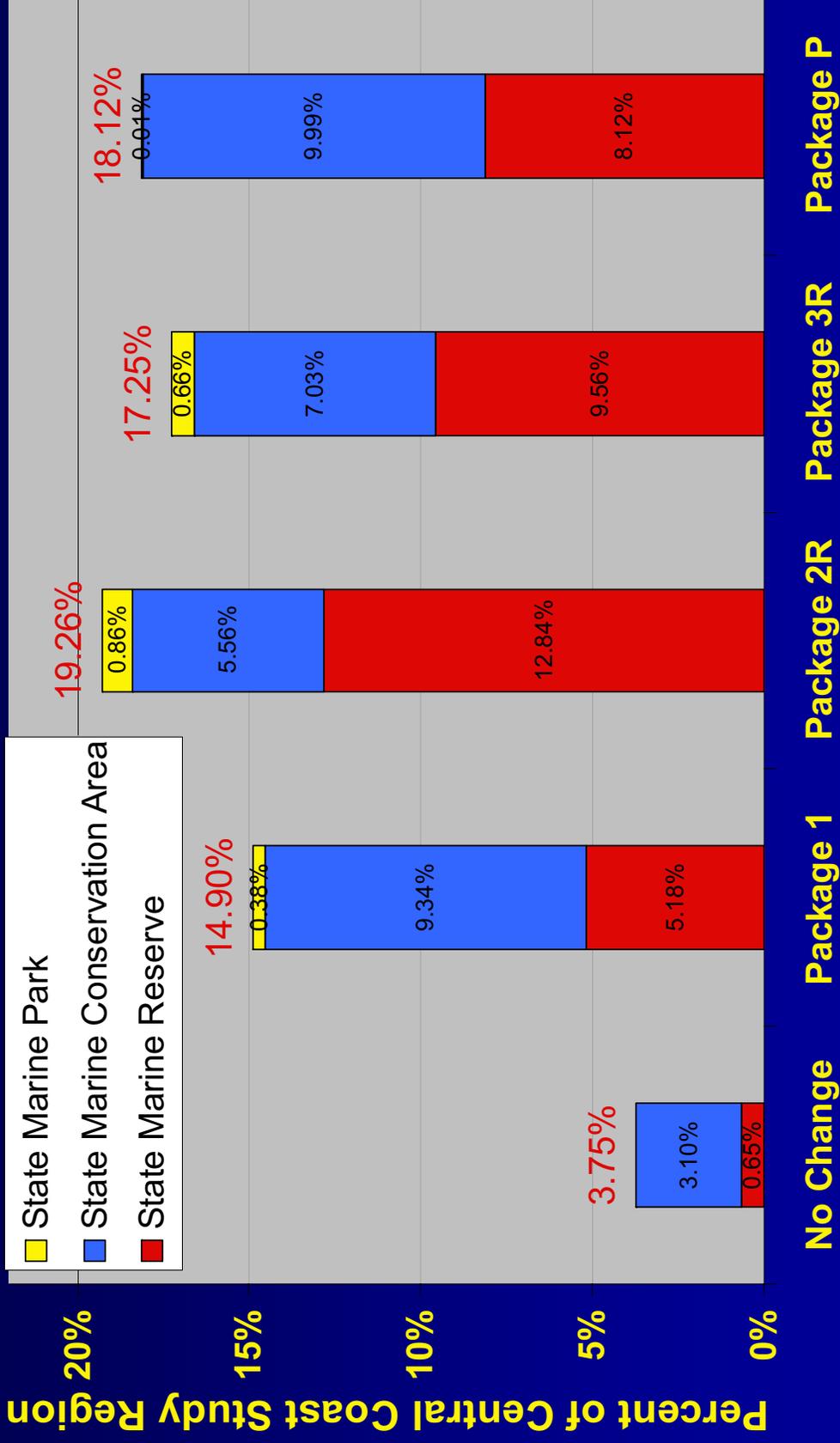
- **Four alternative MPA proposals developed thru extensive stakeholder process:**
 - 1. Package P (DFG staff recommended)**
 - 2. Package 1**
 - 3. Package 2R**
 - 4. Package 3R**

Central Coast MPA Proposals

- **Four alternative MPA proposals developed thru extensive stakeholder process:**
 1. **Package P (DFG staff recommended)**
 2. **Package 1**
 3. **Package 2R**
 4. **Package 3R**
- **F&G Commission to identify preferred project at August 15th special meeting in Monterey.**

Alternative MPA Packages

Percent of Central Coast Waters



Marine Protected Area Types

State Marine Reserve - Prohibits all “Take” including injury, damage, or possession of any living, geological, or cultural resource.

State Marine Park – May allow limited recreational take.

State Marine Conservation Area – May allow limited commercial or recreational take.

Project Information

Available online at www.dfg.ca.gov/MRD/mlpa



CEQA Process

Under CEQA, the CDFG is required to evaluate and disclose the environmental impacts of the proposed action, the Central Coast MPAs Project.

CEQA Steps:

- 1. Notice of Preparation**
- 2. Draft Environmental Impact Report**
- 3. Public Review and Comment**
- 4. Final Environmental Impact Report**
- 5. Certification of EIR and Mitigation Monitoring Plan**

CEQA Process

CEQA requires consideration of the following environmental impact areas:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
 - Cumulative and Growth-Inducing Impacts
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

Scoping Meeting Purpose

Early opportunity for the public and governmental entities to provide feedback on the scope and content of the EIR.

Scoping Meeting Purpose

Early opportunity for the public and governmental entities to provide feedback on the scope and content of the EIR.

Scoping comments can include information regarding:

- Scope of important environmental issues;
- Similar studies that are relevant to the proposed project;
- Characterization of the existing environment;
- Resources that may be cumulatively affected; and
- Existing and reasonably foreseeable projects that are likely to affect the same resources as the project.

CEQA Schedule

August 2006	Public Scoping Meetings
Nov.- Dec. 2006	Draft EIR circulation
January 2007	Response to Comments & Final EIR
February 2007	F&G Commission Certification

Today's Meeting

We want to hear from you!!

Public input is valued and important

Comments will be considered throughout the EIR
process, starting today

Please use Comment Cards
(return by August 18, 2006)

We will now take your comments.

Thank you for coming!





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Scoping Meeting

Central Coast Marine Protected Areas Project

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CALIFORNIA MARINE LIFE PROTECTION ACT
CENTRAL COAST REGION
MARINE PROTECTED AREAS PROJECT
PUBLIC SCOPING MEETING

MONTEREY BEACH RESORT
2600 SAND DUNES DRIVE, LA GRANDE ROOM
MONTEREY, CALIFORNIA

FRIDAY, AUGUST 11, 2006
6:00 O'CLOCK P.M.

REPORTED BY: DEBORAH FUQUA, CSR#12948

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A P P E A R A N C E S

JEFF THOMAS

Senior Project Manager
Environmental Impact Report
Jones & Stokes

PAUL REILLY

California Fish & Game

MARISSA ADAMS

Community Affair Specialist
Jones & Stokes

P U B L I C S P E A K E R S

Chris Arcolao	Hank Cureton
Chuck Tribolet	Paul Chua
Richard Parrish	Brian King
Barbara Karleen	Thomas Croke

1 Friday, August 11, 2006

6:45 o'clock p.m.

2 P R O C E E D I N G S

3 JEFF THOMAS: Why don't we go ahead and get
4 started. If you guys would like to sit down, I'll give
5 you a really brief presentation, and then we'll take
6 comment.

7 Welcome. Thank you for coming. I realize it's
8 Friday evening, and there's a lot of places people could
9 be. And it's good to have some folks here and to really
10 get some input.

11 My name is Jeff Thomas. I'm with the firm
12 Jones & Stokes. We're actually a consultant to Fish &
13 Game. We're preparing the environmental impact report
14 for the project. And we're looking at the packages you
15 see on the posters behind you. Tonight we're going to
16 cover a real quick overview of the project. We've got
17 Paul Reilly from Fish & Game here. He'll speak to that.
18 And then we're going to talk a little bit about the CEQA
19 process and what the schedule is for that and what are
20 your opportunities to participate in that process. And
21 then we'll take public comment.

22 PAUL REILLY: Good evening. Thanks for coming to
23 tonight. As Jeff said, we're here to listen to you
24 tonight. So I'm going to be very brief in my remarks.

25 This is very loud if you get too close, so be

1 aware. That one may be the same way.

2 Many of you will know this material I'm going
3 to be discussing in the next five minutes. And I
4 apologize for that, but some of you may be new to this.
5 So I just want to walk you through a few of the things
6 that are relative to the process, including some of the
7 legislation that was important in establishing some new
8 parameters for the health of the ocean. And there are
9 three pieces of legislation that relate either directly
10 or dir- -- indirectly, excuse me, to this process.

11 And the first is the Marine Life Management
12 Act, or MLMA, of 1998. And this is really the first
13 piece of legislation that was starting the trend towards
14 what people call ecosystem management and working
15 towards long-term sustainability of our fisheries and
16 our resources and also consider the use of Marine
17 Protected Areas as one of the tools in managing
18 fisheries.

19 Now, the Marine Life Protection Act, of course,
20 is why we're here tonight. That was in 1999. And we've
21 been working on implementing that for the past seven
22 years. It requires, among other things, a master plan
23 for Marine Protected Areas, and it requires the Fish &
24 Game Commission to adopt a program about those. And the
25 Fish & Game Commission is now starting their part of the

1 formal public process to do such a thing for Central
2 Coast Region.

3 And those first two are often called the
4 ma and pa of marine -- of ocean protection legislation.
5 And the last one is maybe less known to some of you.
6 It's called the Marine Managed Areas Improvement Act. I
7 guess you could call that one "mama mia" if you want to.
8 All right. I'll take that off my joke -- my
9 presentation next time.

10 So that created a simplified classification
11 system for Marine Managed Areas, which include Marine
12 Protected Areas. It also gave the Commission broader
13 authority to deal with Marine Protected Areas and Marine
14 Managed Areas. And it created six classifications of
15 Marine Managed Areas, three of which are MPA's. And
16 I'll just go over those briefly in my last slide.

17 So there are six goals of the Marine Life
18 Protection Act. Most of you -- some of you may know
19 them as well as the names of your children by now. But
20 briefly they are -- these are paraphrased, not
21 verbatim -- to protect diversity, abundance, and
22 function of ecosystems; to sustain, conserve, and
23 rebuild populations; to improve recreation, education,
24 and study opportunities; to protect habitats for their
25 intrinsic value or their natural value; and to ensure

1 there's adequate management, enforcement, and sound
2 science in our MPA system; and to ensure that these
3 MPA's are designed and managed as a network.

4 Now, the major milestones in the Master Plan --
5 in the MLPA initiative process, excuse me, have included
6 the Commission adoption of a Draft Master Plan
7 Framework, which really lays the guidelines for how the
8 MLPA process is proceeding on a regional basis. That
9 happened in August 2005 at a Commission meeting.

10 And there was a report on how the MLPA should
11 be implemented for different funding sources. That came
12 out in December 2005, many suggestions for options for
13 funding this process.

14 Then in 2006, the State quota process was
15 completed for the Central Coast after a series of seven
16 very intense and frequent meetings, monthly meetings.
17 And the Department submitted a package of alternatives
18 to the Commission at their June meeting. And those are
19 the packages that you see behind you. There are four of
20 them, plus the existing package, which is the way we
21 have our MPA's right now.

22 And lastly, there is a report to be completed
23 which will deal with the coordination of State and
24 Federal management in dealing with ocean resource
25 issues, including Marine Protected Areas in State and

1 Federal waters.

2 So as you see behind you, the four packages the
3 Commission is now considering are called Packages 1, 2R,
4 3R, and Package P. Package P is the Department's
5 preferred alternative which is based, in turn, on
6 Package 3R, which, in turn, was the recommendation from
7 our blue-ribbon task force. And that was actually a
8 compromise between Packages 1 and 2R.

9 So there's been a lot of compromising as that
10 whole process has evolved, but those four packages will
11 be carried forward to the Commission. Package 1, 2R,
12 and 3R will not change when the Commission -- the
13 Commission has received it already as-is. And Package P
14 is still being modified because of the direction the
15 Commission gave the Department at the meeting August 2nd
16 in Sacramento when approximately 200 people spoke about
17 the different packages. And that's one reason John
18 Ugoretz is not here tonight because he's been working on
19 the modifications of this Package P.

20 And those will be presented at the next
21 Commission meeting, which is August 15th, here, in this
22 building, starting at 10:00 a.m. And if it's anything
23 like the last meeting, it will be going on at 10 p.m. as
24 well -- because the last meeting in Sacramento went on
25 for 12 hours before they kicked us out of the building.

1 So the packages have different proportions of
2 these three types of Marine Protected Areas, the red
3 being State Marine Reserve, the blue State Marine
4 Conservation Area, and the yellow being State Marine
5 Park.

6 As you see, Package P is somewhat in the amount
7 of State Marine Reserves between Packages 1 and 2 and 3.
8 And they all -- all four packages have between 15 and 19
9 percent of State waters in proposed Marine Protected
10 Areas.

11 And lastly, the three types of MPA's that we
12 are dealing with again in this process are the State
13 Marine Reserve, which prohibits all take; State Marine
14 Park, which prohibits commercial fishing but which may
15 allow recreational take; and the State Marine
16 Conservation Area, which may allow commercial and/or
17 recreational take. It's a very flexible MPA that's
18 being used quite frequently in this process.

19 So with that, I'll turn it over to Jeff. Oh, I
20 wanted to make one point about socioeconomic impacts.
21 As Jeff will tell you, that is not a part of the CEQA
22 process for this. However, the Department has
23 contracted with some individuals. And they have
24 completed a separate socioeconomic impact analysis of
25 these four packages. And it is now available on our Web

1 site. If you go to the Department's MLPA Web site and
2 you click on the link, right on the first page, it will
3 say -- talk about the Package P proposals. And if you
4 scroll down to Document No. 7, that is the analysis that
5 was recently completed by James Wilen and Josh Abbott on
6 socioeconomic impacts, potential impacts from these four
7 packages. So it's worth reading. I suggest you take a
8 look at that.

9 Again, that's not why we're here tonight. This
10 is to talk about environmental impacts. And I'll turn
11 it back to Jeff now. And I thank you.

12 There's our Web site also (indicating).

13 JEFF THOMAS: Okay. So what is CEQA? CEQA is a
14 process for evaluating environmental effects of a
15 project and providing disclosure of those effects, both
16 to the public and decision makers. In this case, the
17 proposed action or project is the Central Coast MPA
18 project.

19 The steps that we're going to be taking in this
20 process -- Fish & Game issued a notice of preparation --
21 I don't know the exact date but a few weeks ago. As
22 part of that process, it involves this scoping meeting.
23 Actually, I think it was, like, July 17th.

24 After this, we're going to be preparing a draft
25 environmental impact report. And that impact report

1 will look at a few different things that I'll mention in
2 a minute in terms of potential environmental effects.
3 They will be available for public review and comment.
4 And I think it will be a 45-day public review period
5 approximately.

6 And then we'll prepare a final environmental
7 impact report. And that will include any comment
8 letters that are received, responses to those comments
9 from the Department of Fish & Game, and it will
10 incorporate any changes or revisions to the document
11 that result from that process.

12 And there will be a certification of that
13 document and a mitigation and monitoring plan that would
14 accompany it for any impacts that would require
15 mitigation, what those mitigations would be for the
16 Commission certification and approval sometime at the
17 end of the year. We'll talk about schedule in just a
18 minute.

19 So CEQA looks at the following environmental
20 areas (indicating). A number of these will relate to
21 the project, and some of these will be areas that will
22 be dismissed from further consideration because they
23 won't actually relate to the nature of what the MPA
24 project is. Some of the key ones I think you know: air
25 quality, biological resources, cultural resources, water

1 quality, land use, a look at cumulative growth-inducing
2 impacts. The document will also look at
3 alternatives. In this case, the alternatives are
4 primarily what you see behind you with any modifications
5 we find out about in the coming week or so. And as Paul
6 mentioned, socioeconomics isn't really a category that
7 CEQA considers. But what CEQA does look at is are there
8 any indirect effects that result from a socioeconomic
9 impact. And a good example of that would be if the
10 socioeconomic impact relates to increased fishing
11 pressure, let's say. Can't fish here; gonna go out and
12 fish here. Everyone is at the same watering hole now
13 trying to catch fish. What's the impact to the
14 biological resource there that results from that.

15 So we do look at socioeconomics in terms of it
16 allows us to get a -- at least some understanding of
17 what the future would be, what that picture might be.
18 And we look at these issues as related to that and find
19 out if there are any fallout effects.

20 So the scoping meeting, this is an early
21 opportunity -- in this case, not so early. This is kind
22 of a unique experience because a lot of work has been
23 done to date involving a lot of alternative packages and
24 involving the public and stakeholders and defining what
25 the project is. A lot of times when the scoping process

1 starts, we know what the project is, but we don't know
2 any of the options to that. And so this is usually an
3 early opportunity to hear that. So you may still have
4 some ideas, and please feel free to share those. But a
5 lot of work, as we know, has been done to that end.

6 The kinds of comments that you might consider,
7 the things that we're looking for for CEQA, maybe of
8 scope of environmental issues that you think are
9 important, studies that you know of that you think are
10 relevant to the proposed project, particularly with the
11 subject areas that I showed in the last slide -- and
12 we'll show that again at the end so that's available to
13 refresh your memory -- characterization of the existing
14 environment, resources that may be cumulatively
15 affected, and any existing or reasonably foreseeable
16 projects that might affect the same resource -- that
17 kind of speaks to the cumulative effect.

18 So the CEQA schedule, we're doing scoping right
19 now. The draft EIR, as I mentioned, will circulate for
20 about 45 days. And that's roughly November-December.
21 In an optimistic schedule, that will be available to you
22 late October, but it will be somewhere towards the end
23 of the year, that time frame.

24 We're looking at responding to comments,
25 preparing the final EIR after the 1st of the year. And

1 then having that document available to the Commission
2 for their review, and then consideration in February of
3 2007.

4 So our goal today is to hear from you, to get
5 your input. We have a few speaker cards. I'll be
6 calling people up. Please come to the center
7 microphone. Just introduce yourself, your name, you
8 know, say what you need to say.

9 We don't have too many speakers. And as you
10 can tell, we kind of thought, based on some prior
11 experience, we were going to get a bigger crowd. So
12 please, everyone has to eat five brownies and lots of
13 fruit. And I think, given the time frame, you know, if
14 you need five minutes, we'll start there and see where
15 we go. But I don't think we're going to have any
16 problem hearing people tonight.

17 So we'll take your comments. And here's that
18 slide, as I mentioned. We'll leave this up in case it
19 jogs your memory or helps assist you in your comment.
20 And we'll go from there.

21 Oh, and while I'm thinking about it, one
22 clarification on schedule. The scoping period actually
23 ends -- technically it ends on the 15th of August. But
24 due to some inconsistency between our scoping materials
25 and the notice that went out, we identified the 18th as

1 well. So we're going to the end of next week for
2 receiving comments.

3 And if you grab one of the meeting -- kind of
4 agenda forms that's there, it tells you how you can
5 submit comments. So if you don't speak tonight or
6 submit a comment tonight, you can send an e-mail or you
7 can mail a letter by the end of next week, and that will
8 be fine.

9 Okay. I'm really good at butchering names, so
10 I'll be consistent. I did that a lot yesterday.

11 Chris -- Arcoleo, there we go. Then after
12 Chris, Chuck Tribolet, and we'll do Richard Parrish and
13 Barbara Karleen. And that's the four that we have so
14 far.

15 If anybody else wants to say anything
16 afterwards, please to grab a card.

17 CHRIS ARCOLAO: My name is Chris Arcolao. I have
18 party boats in Monterey, and we've been there since
19 1949. And this, what we're doing here, is probably
20 right. We need to adjust what we've been doing through
21 the past.

22 But I would like the Department to take a real
23 good look at -- at present time, the biggest areas that
24 are being closed are the southern areas, which are the
25 ones that are -- have the most fish. Those are the ones

1 with all the quality fish, the big fish and which is the
2 most protected areas also. We can't get there often
3 because it's very bad weather. And that's why those
4 areas are so protected.

5 And I believe that, if we're going to have to
6 not fish those areas and fish in the upper areas, we
7 will not be able to catch quality fish. And I don't
8 believe those areas will be able to respond anymore.
9 You will have -- of course, those areas below will have
10 lots of fish. They have lots and lots of fish at the
11 present time.

12 That's basically what I've got to say. It's
13 just that I would like the Department to take a good
14 look at the amount of area that they have on the
15 southern end of our area which is the Point Sur area.

16 Thank you.

17 CHUCK TRIBOLET: I'm Chuck Tribolet. I'm a
18 recreational, non-consumptive diver. I've got about
19 1200 dives in the Monterey area. I dive Monterey
20 basically every weekend, both days.

21 Basically, I'm not going to talk about what
22 should or should not be in the areas because I think
23 that's off the plate here. But in looking at the
24 various areas, look at both sides. You know, somebody's
25 going to -- I'm sure somebody is going to bring up air

1 quality; the boats have to go -- the fishing boats have
2 to go farther. Well, ask the divers about, "Hey, maybe
3 you're not going to be going as far. Because I can see
4 the dive boats moving closer to the Monterey breakwater
5 and diving the point, the -- Lovers Point SMR once it
6 starts to get some big fish in it and so forth.

7 So look at both sides, and do your job.

8 RICHARD PARRISH: My name is Richard Parrish. I'm
9 a retired fisheries biologist. I was a member of the
10 original science team, and I'm one of three authors on a
11 review that was rather critical of the process.

12 And I should start off by saying I'm glad to
13 hear that Jones & Stokes is doing this. You've got a
14 lot of experience; you have a good reputation. That's
15 why I'm glad to hear that they've contracted it out in
16 this way.

17 What I'm primarily going to be trying to get
18 at is the fact that the science team did not quantify
19 anything. They used, rather, words to describe things
20 rather than trying to make things numerical. And an
21 example of that was their classification for "high
22 protection conservation areas," "moderate protection,"
23 and "low protection." They gave you the words, but
24 there's nothing that tells you what that means.

25 Does "high protection" mean that you have 95

1 percent of the animals survive; "moderate protection,"
2 you have 65 percent; or "low protection," 20 percent; or
3 what? They made no distinction as to what those are.
4 So I think it's going to be hard for you to quantify
5 what's the difference between a high protection and low
6 protection area because they provided no guidance as to
7 what they actually meant. So that's one thing you're
8 going to have to try and deal with.

9 Another feature is they did no quantification
10 of the effects on the total population. And in the
11 report that we turned in criticizing this, we did some
12 modeling. And I'll send you a copy of it. Actually,
13 it's a rather long document.

14 And basically what it turns out is that the
15 animals that move around a fair amount are not much
16 protected by the MPA's, as you would expect. If there's
17 something that migrates from Southern California to
18 Oregon, like a lot of the animals do, Marine Reserves
19 the size we have have no effect whatsoever. So those
20 are excluded from much of the environmental impact,
21 probably.

22 When you get down to the animals that are
23 moving 20 or 30 miles, then it's going to be another one
24 to figure out how it's going to get at (sic). Now, we
25 were criticized -- we used a diffusion model for this,

1 and they wanted to use a home range model. You probably
2 should look at both of these sort of things when you're
3 trying to find out inside and outside effects.

4 But the major feature is, is they need to get
5 at some modeling like was done by one of the team
6 members, Lou Bottsford (phonetic). But he basically --
7 that modeling was not included in any of their
8 deliberations.

9 The principal things that the population models
10 show in the Marine Reserves is that the animals that
11 have low mobility developed large populations and
12 near-pristine populations inside the reserves. And
13 animals that move around do not.

14 The -- when you start putting a fishery on
15 these animals, that affects what's going on with the
16 thing as well. And one of the major problems they
17 brought out in the report is, the way we manage our
18 fisheries is based on quotas.

19 So whether you have a Marine Protected Area
20 network or not, we're going to continue catching exactly
21 the same amount of fish because quotas are based by the
22 Federal government. And they cover for the whole West
23 Coast, although they're somewhat regional. So basically
24 what's going to happen is, instead of catching them
25 inside the reserves, we're going to be catching them

1 outside of the reserves. And it's going to be the same
2 amount.

3 Well, if you run the population models on
4 this -- and this is something you should think about
5 doing -- you'll find out that, basically, the MPA has no
6 effect on total population because it does not reduce
7 the number of animals that are killed because that's a
8 constant that's set by the quota.

9 Now, there was no modeling done to get at this
10 by either our group or the other group. But it's rather
11 simple modeling to do. All you have to do is, when you
12 run the population model, is make the catch equal, when
13 you run it against these various proposals, to what you
14 have if you had no MPA. And with the quotas you'll come
15 out with almost exactly the same populations.

16 So in a sense, we're not protecting
17 populations. What we're doing is protecting some areas
18 at the expense of others. So the -- what's going to
19 happen is, inside the Marine Reserves, populations will
20 go up somewhat. And according to what the terminology
21 involved in it is, the ecological function will go up --
22 although they did not define ecosystem function; the
23 diversity will go up, although they did not define
24 diversity. So it's going to be hard to quantify
25 increases or decreases in either ecological function or

1 diversity because, again, the SAT provided no
2 description of what they meant by those.

3 But from the environmental impact point of
4 view, you're really looking for damaging effects of this
5 network. And those damaging effects are primarily going
6 to be -- is that you're going to be reducing the
7 populations outside of the reserves. And you're going
8 to be reducing them by essentially the same amount in
9 totals of numbers as you're increasing inside.

10 So one of the features that the environmental
11 impact needs to really focus on is, what is the
12 reduction in populations in the areas outside? What is
13 the reduction in ecosystem function outside? What is
14 the reduction in diversity outside? Because the claims
15 are that this is -- what will happen inside is you'll
16 get all these benefits, and they've ignored the fact
17 that what you're going to get outside are the detriments
18 of those very same quantities.

19 The part of it getting at economics is going to
20 be harder to get at. But the economics part of it are
21 kind of reflected in this effort. And you should look
22 at effort in more than that. Because what's going to
23 happen, when they move outside, they're catching the
24 same amount of fish, but because of lower densities, the
25 effort required to catch them is going to go up. And of

1 course, that's a fuel consideration, which is economic.

2 But to some degree, any fishery causes side
3 effects on the population and on the habitat. Just the
4 fact that -- trawl fisheries have very bad effects, in
5 many cases. POP fisheries have much less. But still
6 there's a detrimental effect of fishing. And the
7 increase in effort outside will mean that those
8 detrimental effects through the fishing gear actions on
9 the bottom and on the habitat will be increased outside
10 as well. So that's another negative aspect of the areas
11 going on outside.

12 Now, when I get through with this thing, the
13 problem, I think, in the way the thing has been run
14 through is that the stakeholders were never told any of
15 this. I don't think the stakeholders ever heard that
16 the populations of most of the rockfishes are going to
17 remain the same whether you have a Marine Protected Area
18 network or not. I don't think that there was any
19 emphasis on the fact that we're going to be catching
20 much fish outside and that the areas outside are going
21 to have reduced abundance, reduced diversity, and
22 reduced ecological function.

23 And I was really glad to see that you're
24 actually going to be going through an environmental
25 impact statement so we can try and get this out. So

1 this kind of information will be presented as part of
2 the situation.

3 I don't think you're going to be able to tell
4 too much difference between the various packages. The
5 real difference is going to be between the whole concept
6 of putting areas in this kind of a situation because,
7 after all, they're all about the -- 15 to 18 percent,
8 they're fairly similar.

9 Do you have any questions as to what I said, or
10 is that --

11 JEFF THOMAS: No. That was great. Thank you.

12 BARBARA KARLEEN: My name is Barbara Karleen. My
13 boat is the BAREFOOTIN' II. I'm a recreational
14 fisherman. I'm also vice president of Friends of the
15 Harbor Group in Santa Cruz, where we're being tormented
16 by the environmental lists not letting us stretch the
17 harbor. And I've fished, hunted my whole life. I have
18 raised fish and birds my whole life. And I am -- the
19 first thing I would like to address is this "best
20 available science statement" that keeps being
21 reiterated.

22 When there is no science, the assumption is the
23 worst case. Studies are not being completed. Studies
24 are not being done. We have been cut off -- first it
25 was, "You cannot fish for the rockfish over 120 feet."

1 No data, no science, no basis for this, just, "It's
2 overfished." No science, no data, no facts. "You are
3 cut off."

4 Okay. Now we're over 180 feet. I totally
5 concur with the previous gentlemen's statements.
6 Mankind is part of this food chain. All I can say -- I
7 fish Ano Nuevos, which is what you want to take away
8 from me. I've been fishing it forever. It's a very,
9 very lucrative population up there. Lingcod are
10 abundant. They are very vociferous (sic) fish. They're
11 equivalent to the pike that they drained a whole lake in
12 Northern California to get rid of. Okay? We decrease
13 some of that population. We relieve the rock cod, which
14 is their food, from that population.

15 By these reserves where we cannot fish, where
16 we cannot be part of the natural environment of which we
17 are -- yes, you're going to get a lot larger lingcod.
18 At what expense? You're not going to have any rock cod
19 left.

20 By -- and this whole concept, yeah, "You cannot
21 fish these areas. You can only fish these areas."
22 Well, these areas that -- we're constantly being
23 pressured into smaller and smaller areas.

24 In -- a few years ago, all the party boats, the
25 commercial guys, they were all on the outside just

1 providing some catch. The small, small boats, they were
2 hitting the smaller ports where they can't go because of
3 the weather condition, size of boats, catching a few
4 fish. We were spread out.

5 Now, we're being forced constantly into smaller
6 tighter areas. And they will be over-fished. I mean,
7 it's common sense. You don't even need to do science on
8 there.

9 But my main objection is this "best available
10 science" needs, by necessity, to be replaced by hard
11 scientific data and research. And without that, this is
12 all charade, all a sham. And you just have to examine
13 the bottom line of what you really are doing is
14 destroying the economy and everything that depends on
15 the fishing industry. You are destroying the commercial
16 people whose lives -- they can't do anything else. This
17 is what they do.

18 You are forcing us into farm fish, imported
19 fish. You are telling us that we can no longer be part
20 of the dream that the entire world civilization forever
21 has depended on, which is hunting, fishing, and growing
22 your own food. I don't want to buy it out of a damned
23 market that came out of some dump off Chili.

24 Okay. So I'm angry. And that's what I have to say.

25 Thank you.

1 JEFF THOMAS: I don't know if we have any other
2 speakers.

3 HANK CURETON: My name is Hank Cureton. I'm a
4 recreational fisherman out of Santa Cruz. And one of
5 the things I wanted to mention is, what I'm concerned
6 about is we have no base data. We're trying to --
7 you're creating all these scenarios. There's no data as
8 to what the populations are like today. Okay? There
9 is -- I've seen no plan for a routine evaluation of
10 these areas to determine what has changed.

11 What I call that is basic science. And I don't
12 see any of that. No proposals, no nothing. And without
13 that, I don't see how you can move forward with at least
14 having a very strong baseline. It doesn't exist.

15 But still people are making comments -- they're
16 not even comments. They're talking as if they've got
17 scientific facts as to what the population is, et
18 cetera, et cetera. It's not true. They never come up
19 with anything that is scientific that we can go get a
20 copy of and read and give our comments on whether it's
21 valid or not. It doesn't exist. And I don't see
22 anything that you do today, okay, is not going to be
23 perfect. It's not going to last forever. And there is
24 no evaluation network set up to do this. I don't see
25 how you can possibly set up this type of a program with

1 the impact it has without having that in place and have
2 it bought into by all involved.

3 PAUL CHUA: My name is Paul Chua. I'm a graduate
4 student at Moss Landing Marine Labs in biologic
5 oceanography. And my concern is more of the water
6 quality and non-source-point pollution that's affecting
7 these areas that we're trying to protect.

8 And I think, instead of trying to put more of
9 the emphasis on the Marine Protected Areas, more
10 interest should be place in the non-source-point
11 pollution and preventing that going into oceans.

12 You have two proposed Marine Reserves, the Moro
13 Cojo and the extension of Hopkins and of the Lovers
14 Point. And those are two of the most polluted places on
15 the -- in the Monterey County. Moro Cojo slough has had
16 nitrate levels in milliMolar levels, whereas in most of
17 science you see microMolar levels in normal water
18 quality. And the -- at Lovers Point you have biological
19 runoff from, like, poor sewer system that's causing
20 probably more detriment than the small amount of fishing
21 activity that goes on in the Lovers Point area.

22 And I think, so, spending more time on
23 non-source-pollution prevention would be much more of a
24 strong effort economically than wasting our time on
25 Marine Protected Areas. I do believe you need some but

1 not on a giant extent which would be un-economical and
2 unfeasible for Fish & Game wardens to patrol.

3 Thanks.

4 BRIAN KING: I just wanted to -- my name is Brian
5 King. I just wanted to back up something Paul had just
6 said. And that was -- well, the other day, on a quick
7 walk from Del Monte Beach to the wharf, I saw
8 approximately eight to ten dead lingcods, all in a 32-
9 to 36-inch range washed up on the beach. And that's
10 something of a concern there is the pollution in these
11 areas. And I that's, I think, where we need to be
12 concentrated on.

13 And also, in the Lovers Point area, I've spent
14 approximately ten hours a week free diving these areas.
15 And I've seen typically, on each dive, which is about
16 five days a week, at least two cabezon. And they're
17 very camouflaged in these areas, in the grassy areas.
18 And they're abundant.

19 So my concern is, if we're eliminating fishing
20 for those fish in these areas, what kind of impact is
21 that going to have on the abalone and other crustaceans
22 in that area that are already -- I see a lot of abalone
23 shells crushed up all the time all over this area that
24 have been taken by cabezon.

25 So that's something to consider, too, I think.

1 JEFF THOMAS: Thank you.

2 Paul, could you spell your name, too, for the
3 record?

4 PAUL CHUA: C-H-U-A.

5 JEFF THOMAS: C-H-U-A.

6 RICHARD PARRISH: Could I make a comment on the
7 population stuff?

8 JEFF THOMAS: Sure.

9 RICHARD PARRISH: Richard Parrish, again.

10 I've been working in the Monterey area for 40
11 years. And we put hundreds of millions of dollars into
12 research on the whole West Coast, Federal government,
13 State, universities. And actually, we have a rather
14 good handle on total populations of the most abundant
15 ground fish. The problem is, is that the way we went
16 about doing it is trying to estimate the whole
17 population.

18 So while we can give you a pretty good number
19 on how many total are out there and what the trends are,
20 we have no handle whatsoever on where they are and in
21 what concentrations. So the difficulty is, is that we
22 can't tell you that there are so many off of Monterey,
23 as opposed to Santa Cruz, as opposed to Eureka, because
24 all of our data is combined into one data set and one
25 analysis.

1 So most of the population data that is
2 available, it can't be used very effectively for
3 application against this kind of a spacial management.

4 JEFF THOMAS: Thank you.

5 Sure. Come on up.

6 THOMAS CROKE: My Thomas Croke, and it's spelled
7 C-R-O-K-E.

8 And my question is, how are you going to fund
9 this set of areas that you're going to block off?

10 I mean, we don't have enough money now for
11 Department of Fish & Game to enforce what they already
12 enforce. We just voted in a bill to provide -- 33
13 percent of the money collected for fishing licenses is
14 going towards raising trout for the eastern Sierra and
15 the Sierra in general.

16 A lot of times I've been to Morro Bay, and I've
17 seen the Fish & Game boat sitting idle there. If you
18 can't fund it now, how are you going to fund it when the
19 people that are paying for licenses aren't going to buy
20 them if they can't fish? The commercial guys aren't
21 going to buy a license because they can't fish. You
22 know, you're kind of cutting off your nose to spite your
23 face by doing it that way, it seems to me. It seems to
24 me, if you want to come up with this proposal and make
25 it work, you're going to have to come up with money to

1 enforce it. Otherwise, it's a joke.

2 JEFF THOMAS: If that's it, if there are no other
3 comments, then thank you for coming. And we'll
4 definitely take that into consideration as we prepare
5 the draft document.

6 As Paul mentioned, the Commission's meeting
7 here in Monterey on Tuesday. And it's anticipated that
8 they're going to select their preferred package and have
9 any additional comments or changes they may have to
10 either that or to the other -- I don't think we're
11 expecting changes to the others, but I guess many
12 changes to Package P.

13 PAUL REILLY: May I clarify that?

14 JEFF THOMAS: Yes.

15 PAUL REILLY: What they're going to do is what's
16 called "Go To Notice" on the options of MPA packages.
17 They may identify a preferred alternative, but they are
18 not going to be adopting anything or implementing
19 anything.

20 So this is just the start of the formal
21 Commission process. There will be additional hearings,
22 additional possibilities for -- opportunities for public
23 testimony. So the word "select" is -- you have to take
24 that with a grain of salt.

25 It's -- they're going to look at the options,

1 decide which they will consider their preferred
2 alternative, and then all these options will be carried
3 forward as this process, at the Commission level, goes
4 forward.

5 Sometime by next February, they may actually
6 adopt regulations for implementing the package that they
7 decide is the one they should -- so it's the start, not
8 the end, of the Commission process.

9 RICHARD PARRISH: I assume they won't make that
10 until your environmental impact report, so --

11 PAUL REILLY: Right. That's why it's just the
12 start of the Commission process now. So this is time to
13 help that process go forward.

14 Thank you again.

15 (Whereupon, the proceedings concluded
16 at 7:24 p.m.)

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1 STATE OF CALIFORNIA)
2 COUNTY OF MARIN) ss.

3 I, DEBORAH FUQUA, a Certified Shorthand
4 Reporter of the State of California, duly authorized to
5 administer oaths pursuant to Section 8211 of the
6 California Code of Civil Procedure, do hereby certify
7 that the foregoing proceedings were reported by me, a
8 disinterested person, and thereafter transcribed under
9 my direction into typewriting and is a true and correct
10 transcription of said proceedings.

11 I further certify that I am not of counsel or
12 attorney for either or any of the parties in the
13 foregoing proceeding and caption named, nor in any way
14 interested in the outcome of the cause named in said
15 caption.

16 Dated the 14th day of August, 2006.

17

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19 DEBORAH FUQUA

20 CSR NO. 12948

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CALIFORNIA MARINE LIFE PROTECTION ACT
CENTRAL COAST REGION
MARINE PROTECTED AREAS PROJECT
PUBLIC SCOPING MEETING

MORRO BAY VETERANS MEMORIAL BUILDING
209 SURF STREET
MORRO BAY, CALIFORNIA

THURSDAY, AUGUST 10, 2006
2:00 O'CLOCK P.M.

REPORTED BY: DEBORAH FUQUA, CSR#12948

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A P P E A R A N C E S

JEFF THOMAS

Senior Project Manager
Environmental Impact Report
Jones & Stokes

PAUL REILLY

California Fish & Game

MARISSA ADAMS

Community Affair Specialist
Jones & Stokes

P U B L I C S P E A K E R S

Mandy Davis	Judah Sanders
Joey Racano	Rick Algert
Richard Sadowski	Henriette Groot
Edwin Ewing	Steve Rebuck
John Usilton	Jean Usilton
Hon. Janice Peters	Roger Anderson
Gene Johe	Bob Koch
Mike McCorkle	Tom Wells
Alan Alward	Stew Jenkins
Tom Hafer	Garry Johnson
Sheri Hafer	Claudia Makeyev
Erick Endersby	

1 Thursday, August 10, 2006 2:09 o'clock p.m.

2 P R O C E E D I N G S

3 JEFF THOMAS: I want to introduce myself. My name
4 is Jeff Thomas with the consulting firm Jones & Stokes.
5 And we are writing the environmental impact report for
6 Central Coast MPA project on behalf of Fish & Game.

7 To my left here is Paul Reilly with Fish &
8 Game. Many of you probably know Paul. And in the back,
9 we have Marissa Adams. Marissa is assisting you as you
10 all arrive. She's also with Jones & Stokes. And then
11 we have Debbie, our court reporter, is providing some
12 documentation for us so we can record all your comments.

13 So I want to welcome all of you and thank you
14 for coming. Thank you for -- there we go.

15 It's not a good meeting unless there's a
16 technical difficulty. And that was an easy one. So
17 again, I want to thank you guys for coming this
18 afternoon. It's really important to get your feedback
19 on this process. And I know many of you probably have
20 other places to be and things to do. So we're going to
21 try to keep this as efficient as possible.

22 And we're going to start with a brief
23 presentation and give you just a little bit of a project
24 overview. Most of you are probably really familiar with
25 the details of the project and have been involved with

1 the process for quite a while. I'm going to talk --
2 Paul is going to speak a little about the project. I'm
3 going to talk more about the CEQA process and how you
4 can participate in that and kind of what our time line
5 is. And then we're going to roll into getting your
6 comments.

7 Just so you know, in case you haven't already
8 filled out a comment card, if you want to speak, you can
9 fill out a card. And Marissa will get those up to me
10 later, and we'll be able to call you up.

11 If you want to leave written comments, you can
12 also do that. And you can also write comments after
13 this meeting as well. And this is one of two scoping
14 meetings that we're having. We have a second meeting
15 tomorrow evening from 6:30 to 8:30 in Monterey at the
16 Beach Resort Hotel. And then the close of scoping,
17 which we'll talk about a little bit later as well, is
18 the end of next week.

19 Actually, before I proceed, just in case people
20 do have other priorities and want to make sure they know
21 what our goal is today, I'll just start with that.

22 You know, we're here to get comments on inputs
23 into the environmental document that analyzes impacts to
24 the project. And just so you know, we aren't making any
25 recommendations as a result of that or making any

1 decisions. That's really up for the Fish & Game
2 Commission.

3 Many of you are probably aware there's a
4 meeting next week on the 15th in Monterey.

5 And so if you have comments relevant to your
6 preferences on package, alternatives, things like that,
7 you can provide those. We have a separate comment form
8 that Paul will make available. If you want to provide
9 those, they'll go directly to the Commission. But today
10 we're really focused on the environmental review
11 document. And we're not making decisions about how we
12 lay this project out. So I just wanted to make sure you
13 guys were aware of that up front. And we'll talk a
14 little bit more about how we lay this out. And we'll
15 talk a little about the CEQA process in just a minute.

16 Over to you.

17 PAUL REILLY: Okay. Thank you, Jeff. Many of you
18 will know what I'm going to cover in the next five
19 minutes if you've been following the process, so this
20 will be background. But for those of you who don't,
21 there are several pieces of legislation that are either
22 directly or indirectly related to this process. And one
23 was passed eight years ago called the Marine Life
24 Management Act. It was devoted to protection of
25 ecosystems, and it does consider the use of Marine

1 Protected Areas, which is the major link to the next
2 piece of legislation, which is why we are here.

3 This is the Marine Life Protection Act, 1999.
4 We've been going through this process, several starts
5 and stops, some of you know, since then. And it
6 requires a master plan for MPA's and the Fish & Game
7 Commission to adopt a program for Marine Protected
8 Areas. And thirdly, it's a lesser known piece of
9 legislation to you is the Marine Managed Areas
10 Improvement Act, which actually created a simplified
11 classification system for Marine Protected Areas and
12 other Marine Managed Areas. And I will briefly explain
13 those three types in a few minutes.

14 So there are six goals of the Marine Life
15 Protection Act which -- those of you who followed the
16 process, you're probably nauseous from hearing them so
17 many times, so I'm not going to go over them. We'll
18 just -- briefly, these are paraphrased, about protecting
19 diversity, conserving, rebuilding populations of marine
20 life, improving recreation, education, study
21 opportunities, protecting habitats for their natural and
22 intrinsic value, and ensuring that we have sound
23 enforcement management and that MPA's are based on
24 science, and ensure they are designed and managed as a
25 network.

1 So the initiative process, some of the major
2 highlights that have occurred in the past year -- a year
3 ago, the Commission adopted what we call the master plan
4 framework. And this is the blueprint of the guideline
5 for how we are going about this process and other
6 regional processes in working towards a network of MPA's
7 throughout the coast.

8 We have some outside funding sources, which
9 many of you are aware about, which -- we have also
10 recommendations for how to continue funding for the MPA
11 processes which came out as a document in December 2005.

12 Then we have the proposals for the MPA
13 networks, which you see behind you on those maps which
14 were developed through an intensive stakeholder process
15 in 2005, ending in December. And the process actually
16 went to the Commission in June 2006 with the
17 presentation of alternatives.

18 And we also have one more document in process
19 that relates to coordination of State and Federal
20 agencies dealing with ocean management on Marine
21 Protected Area issues.

22 And for the MPA process to the Central Coast,
23 as most of you know now, we have four proposals that
24 have been submitted to the Commission. Packages 1, 2R
25 and 3R came from the stakeholder process. 3R was

1 recommended, passing for an alternative by the Blue
2 Ribbon Task Force.

3 The Department has modified Package 3R in
4 several ways, and we call that Package P. And that was
5 presented to the Commission as the preferred alternative
6 at their recent meeting. And those four package are all
7 being considered by the Commission. That was what the
8 first meeting was all about last week for the 12 hours
9 of public testimony that the Commission listened to.

10 And again, if you have comments on any of those
11 packages, we're not here to discuss them today. I will
12 pass out this one-page form. It's mostly blank, but it
13 says, "Comments for Fishing Commission about the MLPA
14 process." If you can't make it to the Morro Bay
15 meeting -- I'm sorry -- to the Monterey Bay meeting next
16 week on Tuesday, August 15, if you would like to fill
17 out something in your comments, I will personally see
18 that they get to the Commission; I will make copies of
19 them, and either I or John Ugoretz will distribute them
20 to the commissioners on the 15th in Monterey. And so
21 that's -- also, if you can't attend, you can also watch
22 it on the Web cast as well.

23 Again, the packages have different types and
24 amounts of Marine Protected Areas. The red are State
25 Marine Reserve, the blue are State Marine Conservation

1 Area, and the yellow, State Marine Park.

2 And the last slide I have just, again, shows
3 you the three basic types that we're working with. The
4 Reserve, of course, is no-take, although it will allow
5 scientific collecting. State Marine Park is no
6 commercial take, but it may allow recreational take.
7 And the State Marine Conservation Area may allow some
8 types of commercial and/or recreational take.

9 So now I'll give it back to Jeff. And this is
10 your Web site address, if -- you can find a lot of
11 information there. And also, if you have any comments,
12 you can e-mail them to us. And I'll give you that at
13 the end of the show but -- "show." It's really not a
14 show. Excuse me.

15 Anyway, I will pass this out while Jeff is
16 talking, and then we'll continue on with why we are here
17 today. Thank you.

18 JEFF THOMAS: Okay. So I'm going to talk a little
19 bit about the CEQA process. For those of you maybe a
20 little less familiar, CEQA is the California
21 Environmental Quality Act. And it is primarily a
22 process of disclosure. It looks at environmental
23 effects of a proposed action -- in this case, the MPA
24 project -- and evaluates those and provides analysis on
25 potential -- both adverse and beneficial effects. They

1 could be less than significant; they could be
2 significant; they could be something that's mitigated.
3 And in this case, we're looking at preparing an
4 environmental impact report on behalf of Fish & Game.

5 The document doesn't make recommendations to
6 the Commission. It simply presents the information for
7 their review and their consideration and their
8 decisions. And the process, in short, for these steps
9 are a notice of preparation, which many of you may have
10 seen. It was available on the Web site, and I think it
11 went out to a pretty large distribution.

12 There will be draft environmental impact report
13 that we'll prepare that will get circulated. It will be
14 available to you to review and comment on. And then
15 we'll prepare our final document that incorporates your
16 feedback, provides responses to comments, and may or may
17 not have some changes that result from your feedback
18 that are incorporated in the document. And then it's
19 given to the Commission to consider and potentially
20 certify along with a mitigation monitoring program for
21 any mitigation measures that may need to be incorporated
22 into the project.

23 So in preparing the EIR, we're going to look at
24 a number of potential impact areas. And it includes
25 these. This is from the standard CEQA checklist that

1 the State provides. And as you can see, we start off
2 with everything from aesthetics, or what we consider
3 visual quality effects to agricultural resources, air
4 quality, bio resources, cultural resources, hydrology,
5 land use, public services, recreation, et cetera.

6 And not every one of these subject areas has to
7 actually -- it isn't always relevant to the project. So
8 some of these may seem a little bit out of place for
9 what the project is. And we will probably have a
10 chapter that addresses impact areas that are dismissed
11 and why. So it will be made clear that -- you know,
12 what are the things that we're focusing on of this list.

13 And then the other thing the EIR does is, it
14 provides a cumulative analysis that considers the
15 project in relationship to other either existing or
16 pending future near-term projects and what are the
17 cumulative effects of those, are there growth-inducement
18 impacts. It also looks at alternatives, in this case,
19 the packages that you see on the boards. And it will
20 identify an environmentally superior alternative, which
21 is simply based on the criteria of potential impacts,
22 which project alternative has the least environmental
23 effect in terms of impact. And that's really the only
24 recommendation that it makes.

25 So the scoping meeting -- this is really an

1 early opportunity to get your feedback and government
2 agency feedback on what should be in this environmental
3 impact report. And we look at a whole slew of things.
4 These are kind of the things that are the focus of
5 today's meeting and what we're looking for comments on:

6 What are some of the important environmental
7 issues?

8 Are there similar studies that might be
9 relevant to the proposed project that you're aware of
10 that, you know, maybe they're not -- we have, obviously,
11 access to a lot of the information you've had access to
12 in terms of the Web site. Fish & Game has provided a
13 lot of information to us. But maybe there's something
14 else that's relevant that we should be considering.

15 Any input on how the existing environment is
16 characterized? This is where scoping can be very
17 beneficial because, you know, you are the experts on the
18 environment you live in, and you're able to provide us
19 insight into some of those details that we may not have.
20 So that can be very valuable in how we look at our
21 analysis.

22 Resources that may be cumulatively affected?

23 You may know of other projects or other things
24 going on, and you want to make sure that those are
25 considered. So feel free to identify those.

1 And again, existing and reasonably foreseeable
2 projects that may affect the same resource.

3 Our schedule -- we're doing our scoping now.
4 Comments on the scoping period are due August 18th, next
5 Friday, by close of business. You can -- we have
6 information in the back. And if you got a -- one of the
7 sheets on scoping meetings, it tells you how you can
8 comment. You can provide that comment verbally today,
9 and it will be recorded. You're welcome to fill out and
10 leave a written comment today. You can also e-mail
11 comments and mail comments after this meeting but just
12 by the end of next week.

13 The draft EIR, we've initiated the process of
14 putting that together, pulling together all the existing
15 information. And we'll be taking the input from these
16 meetings and the scoping period comments and
17 incorporating that as well.

18 The draft EIR, we're anticipating, is going to
19 be circulated -- it says November to December. The goal
20 is actually early October if all goes well. But in
21 essence, it will be available for about a 45-day period
22 starting in late October and going into early December.
23 And so you'll have an opportunity to comment on that,
24 kind of like the scoping process, where we're within the
25 time period, you can either e-mail or send written

1 comments. And we'll be making that available, I
2 believe, online as well, so you'll have access to it.

3 After the EIR is circulated, we'll take all
4 your comments, prepare what we can call a final EIR. It
5 will be a supplemental document that will have copies of
6 all the comments and responses to those. And it will
7 identify if any changes were made to the document from
8 the analysis based on the comment.

9 And we'll finalize that prepare that and
10 package that late January or mid January, and have it
11 available for the Commission in early February for
12 consideration. And they will make their decisions at
13 that time.

14 So our goal today is, we really want to hear
15 from you. And we really value your input. And we want
16 to know, based on the things we presented, what comments
17 you have.

18 So with that, I think we'll get started. I
19 think -- go ahead, Paul.

20 PAUL REILLY: I'd like to ask Jeff a question.
21 This is not rehearsed, by the way. I know many people
22 in the audience and others around here have concerns
23 about how the CEQA document will treat potential
24 socioeconomic impacts. Could you address that briefly,
25 Jeff.

1 JEFF THOMAS: Yeah, sure. CEQA focuses on physical
2 effects on the environment. So in the slide that I
3 showed you with those different subject headings, you
4 know, it would address are there air-quality impacts,
5 for instance, or are there noise impacts. And so it
6 doesn't look at socioeconomic impact directly.

7 The CEQA analysis wouldn't address is there an
8 economic effect. But what it would address is, are
9 there other physical and environmental effects that will
10 result from that economic or socioeconomic effect.

11 And I guess, as an example relevant to this
12 project, if an MPA design forces greater fishing
13 pressure in another area so now you have a higher
14 concentration of fishermen in another zone, is there a
15 potential physical environmental effect that results
16 from that, for instance, a biological effect? Is there
17 going to be an effect on the actual resource that we're
18 going after in that location for fish species? And you
19 know, it would also -- I'm trying to think of what would
20 be another good example, but I actually can't come up
21 with anything off the top of my head.

22 But it is a good point to raise that, if you're
23 looking at the CEQA analysis to be a way to address the
24 economic impact to an industry, it really doesn't cover
25 that. We will actually address that in the document in

1 terms of what is the available information that we know.
2 And we have to look at it in terms of what are the
3 potential outcomes relative to the physical environment.
4 So we will address that.

5 Things like shift in vessel traffic is another
6 one that I can think of, but it might be a little more
7 limited than you're expecting.

8 Now, that said, my understanding and what I've
9 seen is that Fish & Game is, separately from this
10 process, looking at the economics of the decision that
11 is being made. And there's other studies. You guys are
12 probably well aware of, like, even the Ecotrust data.
13 That's even useful to us in terms of preference for
14 areas and what the impact might be by closing off one
15 area and forcing people to go to a different area.

16 But that is a good thing, I think, to clarify.

17 So we're going to go ahead and get started
18 taking comments and -- okay. It looks like we have 14
19 comments or so. I think what we'll go ahead and do is
20 start off giving everybody five minutes. And if we have
21 time afterwards, if we have -- either any follow-up, if
22 we have more cards, too, we can have people come back
23 up.

24 MARISSA ADAMS: Great.

25 JEFF THOMAS: Okay.

1 MARISSA ADAMS: I'll look -- if you have a comment
2 card, just hold it up, and I'll come and get it.

3 PAUL RILEY: You should tell them they need to come
4 up here.

5 JEFF THOMAS: Oh, right.

6 So as I call your name, I'll identify people in
7 groups of threes, just so you're aware of who is coming
8 up. But if you'd come up to the microphone, just
9 introduce yourself and tell us what you have to say.
10 And Marissa will be keeping track of time. So we'll let
11 you guys know when your time is up. Sorry we don't have
12 the fancy lights and bells and whistles, but it might be
13 better if we're not shining bright yellow, red, and
14 green lights in your face.

15 So Mandy Davis -- and I might butcher these
16 names, so I apologize. Richard Sadowski, and then Joey
17 Racono.

18 MANDY DAVIS: Hello. I'm Mandy Davis. I wish I
19 had the PowerPoint in front of me so I could address
20 each one of those issues. But I'm going to speak to you
21 about a very specific area within this subsection here I
22 guess which is Subsection 6. And that is Morro Bay
23 National Estuary itself.

24 I was at the meetings all last week -- or at
25 least it felt like all last week. It was only one day.

1 And what was a disturbing fact -- and it's actually
2 quite disturbing to a lot of folks that really weren't
3 aware of this is that the two estuaries that are within
4 the confines of Central Coast, Elkhorn Slough and Morro
5 Bay National Estuary, are being treated in very
6 different manners.

7 Within the confines of the mandates that Fish &
8 Game is supposed to be making these decisions on where
9 these Marine Protected Areas are, which would be
10 primarily No. 1, which addresses diversity, and No. 4,
11 which addresses unique habitat for the intrinsic value.
12 Morro Bay National Estuary has not been dealt with in a
13 fair manner. It is not entirely clear to me -- although
14 there were comments made by staff that the only reason
15 why Morro Bay National Estuary was not being made a
16 State Marine Reserve or a State Marine Conservation Area
17 was because of the hunting issues.

18 Unfortunately -- and I understand why they have
19 done this. Unfortunately, that does not meet the
20 current mandates, nor does it really adequately address
21 the fact that Morro Bay National Estuary is a
22 one-of-a-kind habitat, or actually ecosystem within the
23 Central Coast. It is crucial to the fisheries in the
24 near -- and actually, obviously, the fishermen have
25 addressed this because in every single one of the

1 packages other than Package P, which was put forward by
2 staff, there are significant protections for Morro Bay
3 National Estuary.

4 Within the staff's own report and their
5 recommendations, there are literally no protections or
6 very little, other than for the salt marsh, which is
7 already protected right now.

8 So I do not believe that they have met their
9 mandates when it comes to diversity and really how
10 important this particular ecosystem is.

11 There are particular habitats within this
12 ecosystem that are not even evident in Elkhorn Slough.
13 I believe if you were to make a comparison -- I mean, I
14 don't want to because Elkhorn Slough is an incredible
15 place. It needs those protections. But Morro Bay needs
16 those, if not, even more. Number one, it's a National
17 Estuary they are currently doing -- and this is
18 information you might want to refer to. SLOC, which is
19 a group that has put together -- they are doing an
20 ecosystem-based management project.

21 And that has been -- they considered -- Packard
22 Foundation considers this to be important enough and
23 this habitat to be important enough to look into these
24 kinds of protections. Yet, Fish & Game staff considers
25 this place to be not even worthy of protection, in

1 deference to a handful of hunters; at least that's the
2 only thing that they've said so far. I understand that
3 the hunters want to continue to hunt here, but we are
4 addressing Marine Protected Areas. And to not meet the
5 mandate is not appropriate.

6 The eelgrass beds are one of those particular
7 habitats that is very important. It's not only
8 important as an -- a marine habitat, it's also important
9 to migrating birds that are coming here. And the
10 mudflats, the -- you know, the acres of mudflats that
11 are here -- if you talk to some of the old-timers and
12 you talk to them about the biodiversity and just the
13 amount of wildlife bivalves, you know, just straight
14 across the board down to birds, is -- they recognize
15 that this area is very degraded. I mean, it's just
16 incredible. You can barely even find a goeduck out
17 there.

18 It is -- what I'm telling you is this -- and I
19 could ramble on and on because I spend a tremendous
20 amount of time out on the estuary. I'm a naturalist out
21 here -- is that this estuary has not been dealt with in
22 an appropriate manner when it comes to protections. It
23 deserves at least the protection of a State Marine
24 Conservation Area, if not an SMR, complete protections.
25 And I would like you to look into the issues, also look

1 into the SLOC information and the Packard Foundation,
2 what they're doing with that, and to also speak to Dan
3 Berman from the -- what is it?

4 UNIDENTIFIED SPEAKER: National Estuary Program.

5 MANDY DAVIS: There we go -- the National Estuary
6 Program.

7 So yeah, if you could, check those things out
8 because I was incredibly distressed when I saw the lack
9 of protections. Okay?

10 Now, is there anything else that I need to be
11 addressing? Because I am addressing a very small area.
12 I mean, what kinds of things are you looking for? What
13 kind of information?

14 JEFF THOMAS: Well, you've covered quite a bit.
15 But I think, if there's any details that we might be
16 missing in terms of other projects, other things going
17 on that we might want to be aware of, that would be very
18 helpful. If there are -- if you have knowledge of
19 certain types of environmental effects that you foresee
20 as a result of the project, I would identify those.
21 That would be --

22 MANDY DAVIS: There are some huge effects. I mean,
23 number one, even the commercial fishermen will tell you
24 that there is very little fishing, at least almost nil
25 from a commercial standpoint. There is very little

1 recreational fishing that goes on here.

2 So if you were to give it maximum protections,
3 which it deserves, you would not be affecting a very
4 large group of recreational individuals. And there are
5 some species absolutely that deserve the protection that
6 aren't getting it. The bat rays are constantly being
7 yanked out, so are the sharks. I mean, I have evidence
8 of this. And, you know, people tell you this
9 constantly. So you need to look into that.

10 Thanks a lot.

11 JOEY RACANO: Good afternoon. Joey Racano with the
12 Ocean Outfall Group.

13 Friends, we stand at a crossroads here at the
14 Central Coast of California. The obvious choice for
15 this area is the most protective, which is R2. Let me
16 talk about the biological reasons for this. I know
17 that's what this scoping meeting is about.

18 Recently, we had the amazing discovery of a
19 certain species of elasmobranch here. And elasmobranch,
20 for those at home, are the very primitive creatures that
21 include sharks, rays. And there's a special
22 elasmobranch that lives only in murky water and has a
23 unique physiology. And this unique physiology allows
24 this creature to move from fresh water to saltwater at
25 will, back and forth, not like anadromous trout or

1 salmon or steelhead. This is not a once-in-a-lifetime
2 thing. This is something that they do as a matter of
3 their daily routine.

4 No less than three of these elasmobranches have
5 been found here. I've personally held their rostrums in
6 my hand. A rostrum is a nose to what's -- these are
7 called saw fish. Saw fish, according to the Mote Marine
8 Laboratories in Sarasota, Florida and the Ocean
9 Conservancy, aren't even known to occur on the western
10 seaboard.

11 Now, there are two types of saw fish. One of
12 them is the little-toothed saw fish, who is listed on
13 the Endangered Species Act as critically endangered.
14 Then you have the large-toothed saw fish. And the
15 reason they are not listed is because they are not known
16 to occur in U.S. waters.

17 I've seen three of them in the last month. The
18 local fishermen had cut off their noses and given them
19 to the children who were running around on Morro Bay
20 Boulevard with them. And I held them in my hand. And I
21 took it and smelled it to make sure it was fresh and not
22 some relic brought in from elsewhere, and it was fresh
23 indeed. So we have a lot of attention on that.

24 Further, the Morro Bay Estuary Watershed is
25 probably the most imperiled watershed on the planet in

1 the opinion of the Ocean Outfall group, which is what
2 brought us here.

3 The first thing we did was come here and stop
4 Morro Bay in their sewage dumping, with the 301(h)
5 Sewage Waiver that allows Morro Bay to dump some of the
6 dirtiest sewage in the nation, one of only two waivers
7 left in California. The other is San Diego at Point
8 Loma that has international complications.

9 Also, you have the single-pass cooling intake
10 of the former Duke Power Plant here. That power plant
11 is on the verge of being purchased and dismantled. The
12 whole area, between e-coli being delivered from creeks,
13 southern sea otters being impacted, a nine-times-greater
14 incidence of toxoplasmosis within 75 kilometers of the
15 area -- I mean, you just have a tremendous amount of
16 impact here.

17 Nothing could be better than to give this area
18 the protection it deserves, the Morro Bay National
19 Estuary; start treating it like a national estuary.

20 Recently, we've had all kinds of signs of life
21 here, now, among the people. And on September 2nd in
22 this very room, you're going to have one of the biggest
23 environmental meetings in the history of California
24 called the TAB Meeting, the Talk About the Bay Meeting.
25 The keynote speaker will be Pete, Pedro Nava, from the

1 Ocean Protections Council. We'll have Haydee Dabrtiz
2 from UC Davis giving the toxoplasmosis findings. You're
3 going to have Dan Berman from the National Estuary
4 Program and Peter Douglas from the Coastal Commission,
5 the executive director on land use issues. And there
6 will be more. And it's a very exciting time.

7 But mostly what we're looking at here are new
8 species. There are -- a lot of work to do. And it's
9 important that we start to pay special attention to the
10 Morro Bay National Estuary and the watershed as a whole.
11 And I think with the Talk About the Bay meeting coming
12 up, and then another meeting coming right up after that
13 with the National Estuary Program called State of the
14 Bay, there's just tremendous, tremendous attention on
15 this area.

16 And so I urge you to go back and tell your
17 superiors that we want the top protection that this
18 place has always deserved, as one of the former speakers
19 has said.

20 I thank you for this opportunity to address you
21 today.

22 JEFF THOMAS: Thank you.

23 So Richard Sadowski. And then after Richard,
24 we have Edwin Ewing and John Usilton.

25 RICHARD SADOWSKI: My name is Richard Sadowski.

1 I'm a mechanical engineer, and I represent the Ocean
2 Outfall group.

3 I had the good fortune of being able to scuba
4 dive all along this coast here. I used to work at
5 Vandenburg off Point Arguello. And we used to dive the
6 wrecks over there. And when the -- back in the '80s
7 when there was abalone and all kind of fish. And I also
8 worked for one of the people that is engraved -- his
9 H.W. Anderson, his name is engraved on the Morro Bay
10 memorial -- the anchor memorial on the embarcadero.

11 One of the major things that this -- attracted
12 this area to me was the beauty all along this coast.
13 And I strongly urge any -- all these organizing agencies
14 to go for the most protected area. And that's 2R. And
15 it's worth protecting.

16 The amount of change, just in the last ten
17 years -- if you scuba dive and look at the area -- is
18 phenomenal. And I think that we need to reverse the
19 trend that we've been on.

20 And I think that there's a lot of fishermen --
21 we -- the Ocean Outfall group was represented at a
22 meeting in Monterey with the Ocean Protection Council.
23 And a lot of fishermen are receptive -- Shorebanks
24 Industries were receptive to the fact that the
25 environmental agencies are not against the fishermen.

1 They're against -- we're against irresponsible
2 fishermen. We want responsibility taken.

3 And there's a way to do that. And that's
4 through education. And it's through caring for your
5 environment that you live in. So I would strongly urge
6 this council to take a most protected area, please.

7 Thank you.

8 EDWIN EWING: Good afternoon. My name is Ed Ewing.

9 I've been a resident here for 38 years. I've
10 been a commercial fishermen for most of those years. I
11 used to run charter boats. So I'm one of those
12 old-timers some of these people are talking about.

13 And I'd like to address a problem that a
14 no-fishing zone, a no-take zone, does not cure
15 pollution. It does not cure a power plant. It does not
16 cure this stuff. It has absolutely nothing to do with
17 the protections that the last speakers were talking
18 about, absolutely nothing. What it has to do with is
19 the amount of fish that's in the ocean and in your
20 areas.

21 Our concerns mainly is of this environmental
22 process. Will CEQA take into account the peer review
23 that was done on the original theories of this -- these
24 environmental problems here that they have. With the
25 MPA, the MPA's -- they have their theories, and we had

1 ours. And we asked a scientist to have a peer review,
2 an independent peer review, and it was done.

3 Will the CEQA process address the money that
4 flowed through the department, through the environmental
5 organizations that got to choose the scientists? They
6 chose the scientists that brought this process into
7 being now with their theories. And I know that they
8 were biased. I know that. And so does most of the
9 other people here -- you know, that's just the way it
10 is.

11 Another concern is that, when you do put these
12 MPA's in, the shift in effort -- what it will do to the
13 other areas, you mentioned that. But also, we have the
14 MPA's going up all (sic) and down the state. And the
15 fishermen know this. They know that there's going to be
16 a law there. They also know that this isn't written in
17 stone, that you can add or subtract from these things.

18 There are no reasons to go over-restrictive.
19 One of the things that you should take into account is a
20 precautionary principle. They use that for the
21 environment. And you would have unintended consequences
22 that can happen. If you implement these MPA's in
23 Central Coast first, before you do the rest of the
24 state, those fishermen will go up and impact other
25 areas. And then what kind of a -- what kind of a -- of

1 data are you going to get when one area is fished before
2 the other one and you want to do these comparisons
3 between areas, you see? That makes a difference also
4 for the data that comes out of this.

5 And I don't know -- on that precautionary
6 principle, there are unintended consequences of
7 environmental laws. They talk about this bay being
8 devastated. Oh, it was devastated all right. You go
9 down to the pilings, you will not find a grown mussel on
10 those pilings. You won't find a clam in the bay.
11 You'll find very small rock crabs, and as soon as they
12 get big enough, the otters get them. Unintended
13 consequences let the otters run wild.

14 We used to have a lot of fisheries here for
15 clams, both, sport, all up and down. And they had a lot
16 of life in this bay. We had jack smelt and perch eating
17 the mussels that were crushed by the boats when they'd
18 come in at low tide -- against the pilings. We had rock
19 crabs all over the bay and -- because the sport
20 fishermen used to dump the carcasses in the bay. And
21 the City, in their fine attitude, stopped that. That
22 used to feed the crabs and also used to feed the other
23 fish. There was a whole variety of stuff that was
24 stopped when the otters came.

25 Now, you won't find one mussel out there on

1 these pilings. And there used to be thousands of them,
2 thousands of them. And they talk about ecosystem-based
3 management, they refused to look at the sea lion
4 population and the otters. You say that's a Federal
5 problem. It is a California problem.

6 Most of those sea lions live in that three
7 miles of the beach. And you won't address that? They
8 have to address that. Otherwise we're not sure what the
9 consequences are going to be of these protected areas in
10 the first place. Sea lion eats 20 pounds of fish a day.
11 There's about approximately 250,000, last count I heard,
12 maybe more, maybe less, but that's an average. That's
13 6 million pounds a day. That's 1,875,000,000 pounds of
14 fish they eat each year.

15 So what are these no-fishing zones going to do?
16 Are they going to help? Maybe in some areas, but I
17 would suggest that you go with the precautionary
18 principle, and you use the least amount of restriction
19 first, see how those go, don't implement those until the
20 whole state is done. And if that's not in the CEQA
21 process, I believe that you would be mistaken.

22 Thank you.

23 JEFF THOMAS: John Usilton and then Janice Peters.
24 And then, I don't know if I'm reading this right, Gene
25 Johe?

1 JOHN USILTON: Hello. I'm John Usilton and I'm a
2 resident of Morro Bay. And I've lived in this community
3 since 1970. I taught for 32 years. I retired recently,
4 and I'm attempting to be a commercial fisherman, which
5 was my dream. But I have a concern about the MLP
6 process because it does have its own direction. But it
7 seems to me that it still needs to be umbrellaed by the
8 mission statement of the Department of Fish & Game. I
9 understand that it has its own directive, but above that
10 directive is the mission statement. And I'd like to
11 read the mission statement of the Department of Fish &
12 Game.

13 "The mission of the Department of Fish & Game
14 is to manage California's diverse fish wildlife and
15 plant resources and the habitats upon which they depend
16 for their ecological values and for their use and
17 enjoyment of the public. This includes habitat
18 protection and maintenance in a sufficient amount and
19 quality to ensure the survival of all species and
20 natural communities. The Department is also responsible
21 for the diversified use of fish and wildlife, including
22 recreational, commercial, scientific, and educational
23 uses."

24 The reason I read this mission statement is
25 because I was taught in education that you did the least

1 restrictive first before you do the most restrictive.
2 You want to be sure that you're not going too far one
3 way in terms of your restrictions.

4 If -- the Department of Fish & Game has come up
5 with plan Package P. Now, I -- as a commercial
6 fisherman, I have been involved in helping develop all
7 of the fishery areas for several years. I've been
8 interviewed. I've been taken out to dinner. I have
9 gone through all the different areas where we would like
10 not to have the fishing, where all the fishing is, and I
11 thought we had a verbal agreement on Package 1.

12 I'm out fishing. I'm up in Bodega Bay, and I
13 find out that, all of a sudden, somebody's come up with
14 Package P. I have no idea -- we were -- in Morro Bay,
15 they were going to have a statement of the city council
16 to support Package 1. And they had just gotten Package
17 P, and they couldn't even make a statement on it because
18 it was so new, and we didn't even have a chance to look
19 at it or discuss it or anything.

20 It seems to me that Package P has come out of
21 nowhere. And I have been a part of this process, and
22 that's why I am concerned, that it's not under the
23 umbrella of the mission statement. Therefore, I feel
24 it's wrong. And it's wrong, inherently wrong, to come
25 up with Package P without enough talk.

1 I may be wrong, but it seems to me the
2 Commission voted to not even have the public hearing
3 except for Michael Flores vetoed that. So my feeling is
4 that they knew -- they don't even want to hear this in
5 the first place. I think I'm lucky to even be standing
6 in front of you right now because, if it weren't for
7 Michael Flores, correct me if I'm wrong, I wouldn't be
8 standing here.

9 So that is one of the things I want to bring up
10 in terms of the mission statement. I think Package P is
11 detrimental. I think, if the Department of Fish & Game
12 passes Package P, it will be the end of Virg's
13 Sportfishing. You want to walk down and see the
14 beautiful boats and all this? I just don't see how
15 anybody could survive with this package in effect
16 anywhere in our part. Even if you move that boundary
17 two miles below -- which I saw the argument on TV, and
18 some of the commissioners were squawking about even
19 moving it two miles -- people, there isn't going to be
20 anybody here to sportfish.

21 If Package P is taken in, there's not going to
22 be any sportfishing anywhere. There won't be any boat
23 ramp. What are people going to do? You can't fish. I
24 have my nephews and I have grandchildren that are going
25 to come. If you -- if the commissioners select

1 Package P, there is nowhere to fish. Sorry. That's
2 just the way it is. It is too restrictive.

3 According to the umbrella of the mission
4 statement, it is for the enjoyment by the public. If
5 you put in Package P, where am I going to enjoy the
6 ocean? It is too restrictive.

7 Please, consider these factors. I will talk
8 again about this. My five minutes is up. I will see
9 you in Monterey. Please, Package P is too restrictive.

10 Thank you.

11 JEFF THOMAS: Thank you.

12 Before you get started, a couple of thoughts.
13 One, there may be a little clarification. The
14 speaker -- the comment slips may have the old date. The
15 original official date for the scoping period was to end
16 on August 15th, but some of our noticing material said
17 the 18th. So we extended it to the 18th. So if you see
18 the 15th, ignore it.

19 And then just, I guess, a friendly reminder
20 that, in terms of your comments, try to focus on --
21 what's most beneficial to us, I think, is focusing on
22 some of these types of issues relative to these packages
23 and making that link. Because we don't influence the
24 decision in terms of the selection of a package or what
25 your preference would be. But if you think that there's

1 an environmental issue that needs to be addressed in
2 that, you know, please speak up about that.

3 Thank you.

4 HONORABLE JANICE PETERS: Hi. I'm Janice Peters.
5 I'm the mayor of Morro Bay.

6 Thank you for coming here. It's very nice to
7 be able to speak in our own town about the concerns. I
8 appreciate that. And I'm glad that you said that the
9 socioeconomic issues are going to be looked at. That's
10 really important to our city.

11 But going from the CEQA list, recreation is
12 affected. Fuel use, distance that we have to travel to
13 fish, the pollution due to that further distance and the
14 fuel used, and the greater costs involved, that does
15 affect recreation in -- and the cost of providing
16 recreational fishing.

17 Biological resources and cumulative effects --
18 the proposed closures on top of existing ones will
19 result in a tremendous amount of overfishing in the
20 areas that are still open by all of the fishermen trying
21 to sustain a living in those small areas.

22 Public services -- the fuel dock, ice machine,
23 supporting infrastructure, those will all be threatened
24 if there is no fishing industry to support them and need
25 them any longer.

1 Environmental concerns -- I guess I wonder
2 about where our environmental concerns start and stop.
3 Yes, we can control environmental concerns right here
4 and protect these fish that are along our borders. And
5 then the world is going to keep buying fish from other
6 countries where they don't protect the fish along their
7 borders.

8 So where does our environmental responsibility
9 start and stop? Is it only in California? Or should we
10 be concerned about balancing fishing throughout the
11 world so that we don't disturb it or destroy it
12 anywhere.

13 Fishing is the oldest profession in the world;
14 it's the oldest food source that we have harvested for
15 centuries. It's not a bad thing. And I think this is
16 the important thing we have to look for always is
17 balance, balance of our environment, balance of our
18 human species as well. And I would hope that we do
19 consider the human species as something that we want to
20 protect. Public access, infrastructure, maintaining
21 those for economic and recreational uses should also be
22 part of the process.

23 I hope you'll consider those.

24 Thank you, again, for being here.

25 JEFF THOMAS: Thank you.

1 GENE JOHE: My name is Gene Johe. And I'm not part
2 of the process. This is the first time that I've really
3 wanted to speak about something. And being born and
4 raised around here, I've fished the ocean quite a bit as
5 a recreational fisherman, but I do have friends that are
6 commercial fishermen.

7 And what I'm here today (sic) really is to ask,
8 what impact have the past commercial restrictions or
9 regulations had, an effect, on our current fish
10 population. And what I'm referring to -- I may be off a
11 few deals here and there, but I'm pretty close. I'd
12 like to refer to gill net fishing, which has been
13 reduced dramatically. From what I understand, there
14 used to be 50-plus boats, and now that's been reduced to
15 a half a dozen due to the regulations -- from fishing
16 with no depth limit to restricted minimum depth of 150
17 feet or more. These restrictions must have had some
18 effect on the fish population. I'm asking what the
19 impact is there.

20 Long-line fishing, before, you could fish with
21 seven lines a quarter mile long with a thousand hooks
22 per line. Now you're allowed 150 hooks total. These
23 regulations have reduced the fleet to one tenth of what
24 it used to be because they can't make a living. These
25 restrictions surely must have increased the fish

1 population; otherwise, they wouldn't be implemented.

2 Also this last year, I've heard this or read
3 it, that 400 square miles off the California coast has
4 been closed to commercial fishing this past year. This
5 surely has to have -- add to the improvement of the fish
6 population by itself.

7 Before, there were 10 to 15 -- I'm talking
8 locally. Before, there were 10 to 15 drag boats between
9 Avila and Morro Bay. You could drag up to -- a lot of
10 times they brought in 40-, 45,000 pounds of fish, and
11 you were able to go back out in the ocean as soon as you
12 were able to. There was no restrictions. Now there's a
13 20-ton limit for every three months of fishing. So the
14 fleet is down to one or two boats now instead of what it
15 was before. This must have some effect on the fish
16 population.

17 Near-shore and deepwater fishing has changed
18 from unlimited pounds of fish to 500 pounds per month.
19 It wasn't too long ago that you could go out there and
20 get an unlimited amount of fish by nearshore fishing.
21 There was no limit. Now it's 500 pounds a month.

22 Therefore, eight out of -- another regulation
23 came into effect, which I understand, eight out of ten
24 licenses for this type of fishing were taken away
25 because somewhere in 2000, 2001, whatever, in order to

1 keep your license, you had to show landings per receipt
2 from 1989 to 1999. If you didn't have receipts for the
3 landing of these fish, then the Department did not renew
4 your license or basically took them away. Not all
5 licensed fishermen had those receipts, and so a lot of
6 them were not renewed. This must have had some
7 effect -- reflect (sic) on nearshore fishing.

8 Then they created a new regulation that, if you
9 wanted to go and nearshore fish or offshore fish, you
10 had to purchase two old licenses in order to fish. And
11 the idea is to eventually phase out that totally at the
12 end. So this will have a dramatic effect on nearshore
13 fishing or offshore fishing.

14 What I understand from several dozen nearshore
15 fishermen in our area, there's about a half dozen left
16 because of this action in the new regulation. So that
17 has dramatically reduced the nearshore fishermen.

18 Sport fishing and commercial fishing season has
19 been reduced from 12 months to 5. Surely this must have
20 some effect on the fish population.

21 So what I'm saying, with all this being done
22 already, why do we need to restrict fishing further in
23 and around Morro Bay for recreational fishermen like
24 myself? We haven't given the prior restrictions enough
25 time to work out. Now you're asking us to close off the

1 most important areas of our coast to all fishing.

2 The impact on me is, I'll probably end up
3 selling my fishing boats, which I have two. I don't
4 expect to get a fishing license because there probably
5 won't be that, you know, good area to fish, or won't
6 be -- the fishing won't be worth it. So to me
7 personally, it will probably end my fishing in and
8 around Morro Bay and Avila. And my son, which is
9 sitting -- which is right there, it will probably -- he
10 probably will never see fishing again. I used to take
11 him with me. So you have a young man there that will
12 never be able to do what I did.

13 Thank you very much.

14 JEFF THOMAS: Mike McCorkle and Alan Alward. And
15 Tom Hafer.

16 MIKE McCORKLE: I'm Mike McCorkle. And I wasn't
17 quite sure what the CEQA process included. And now I
18 understand, so what I wanted to talk about today isn't
19 included in the CEQA process.

20 And what I wanted to talk about today was the
21 movement of California halibut and the category it's in
22 in the listing of fish movement. And as fishermen, we
23 disagree with the category it's in. And we think it
24 should be -- instead of in Category 2, it should be in
25 Category 4 along with Pacific halibut. I won't get into

1 why. We can prove why. But that's what I wanted to
2 talk about.

3 Thank you.

4 JEFF THOMAS: Thank you.

5 ALAN ALWARD: My name is Alan Alward, and I'm a
6 commercial fisherman. I can see two topics up here that
7 I'd like to talk about. Cultural resources -- as a
8 commercial fisherman, I really feel that fishermen in
9 general in this state are endangered, as one of the
10 previous speakers was talking about. And we've had a
11 lot of laws. They are multiplying like rabbits and more
12 restrictions, more restrictions all the time. And with
13 something like this, the beginning of participation of
14 the ocean -- where you actually take big areas, and you
15 close them off -- is going to kill fishermen all over
16 the state.

17 You already walk down the docks, and you see
18 all the boats are derelict. Nobody can afford to fix
19 them. They're sinking at the dock because nobody can
20 make any money because we just have this continuing
21 increase of regulations and layer upon layer. Not
22 only -- Fish & Game has complete control. They can tell
23 us exactly how many fish to take, what days we can fish,
24 everything. That's fine. We love that. That's
25 management. That lets us fish the amount of fish that

1 can safely be taken from the ocean without killing off
2 the stock.

3 But when you start partifying and closing areas
4 entirely -- how far do you have to go when you go
5 outside the harbor? How far do you have to go before
6 you come to a point where you can fish, a rocky point
7 that's productive of fish?

8 Now, when the law was passed, the idea was we
9 were going to have diverse areas. We were going to have
10 some sandy bottom, some muddy bottom, some rocky bottom.
11 But that kind of got -- everybody said, "Well, wait a
12 minute. Where are the most productive areas?"

13 Well, from -- from -- the people that want to
14 stop all fishing say the most productive areas are the
15 areas we have to conserve. The fisherman says, "The
16 most productive areas are the places I want to go to
17 fish."

18 So you've got to look at what's being taken
19 away. All the rocky points? How far do you have to go
20 to go to a rocky point that's productive for fishing
21 when you leave the harbor entrance? It's ridiculous.

22 I see Point Sal down there. Well, you go down
23 Point Buchon, you motor 20 miles south. It's ludicrous.
24 There should be points where a person can go and fish
25 that are productive, good fishing areas, that are open

1 to fishermen that should be left open to fishermen. Why
2 close everything? It's preposterous.

3 That's it for me.

4 TOM HAFFER: Tom Hafer, commercial fisherman,
5 nearshore and spot prawn. What I'm most worried about
6 is a couple things. Like this last speaker said,
7 they've taken all of our best fishing grounds away.
8 Point Sur, Big Creek, Piedras Blancas, Buchon, Purisima.

9 Now, one of the things I'm worried about is the
10 nearshore fishing. If we're restricted to small little
11 areas and small reefs, where we're used to going to big
12 reefs that will sta- -- abstain (sic) the nearshore
13 fishery, and they're closing us down to these little
14 small reefs and small little areas, we're going to have
15 a lot of problems with the nearshore fishing because
16 right now, we're all spread out. We all go to our own
17 areas. And you crowd us into these small little areas,
18 to take all our best points away and all the rocks, and
19 leave us with the sand and just a little bit of rock,
20 there's going to be problems.

21 And then another problem is running. I can run
22 to Point Sur, stay there for three days knowing I'm
23 going to get my quota, come home, and then I'm done for
24 the two-month wave. Now I'm going to have to burn
25 hundreds of gallons of fuel to fill my quota at these

1 small little areas you're leaving. That's a big
2 problem.

3 It's going to cost me a lot more money to fish.
4 It's going to make a lot more pollution in the air. And
5 the reefs are going to get a lot more people fishing on
6 them in these small little areas.

7 I don't understand why they had to take our
8 best fishing grounds, either. Ecotrust -- like you've
9 mentioned, Ecotrust, they came into town; they had the
10 commercial fishermen say, "Okay. We're going to ask you
11 guys where you're going to fish at. Where do you fish
12 at? Because we want to know because we don't want to
13 take them from you. We want to make the impact as light
14 as possible."

15 Well, lo and behold, where did all the reserves
16 go in? Right where our best fishing grounds are. They
17 literally lied to us. So we're pretty upset about that.
18 So there's a lot of other environmental impacts that are
19 going to incur on this too, like air quality,
20 populations of fish, water quality --

21 (Cell phone interruption)

22 TOM HAFER: I'm going to need to get that. Thanks
23 anyway.

24 JEFF THOMAS: Okay.

25 I apologize. I'm going to butcher names. Is

1 it Shay Hafer?

2 SHERI HAFER: Yeah.

3 PAUL REILLY: "Sheri."

4 JEFF THOMAS: Sheri. That was my second guess.

5 Sorry.

6 And then Eric --

7 PAUL REILLY: Endersby.

8 JEFF THOMAS: Mendersby?

9 PAUL REILLY: "Endersby," with an E.

10 SHERI HAFER: Okay. I'm Sheri Hafer. And we
11 didn't really know what CEQA was about, so we went on
12 Google. And we looked up some different case studies,
13 mostly with terrestrial projects, not with marine
14 projects. So we're not sure how they apply.

15 But I picked out a few. One was Antioch versus
16 Pittsburg in 1986. And with that project, they demanded
17 that the environment -- the environment was
18 comprehensively described.

19 And we really feel that they haven't done their
20 homework in getting the baseline data that they really
21 need to get.

22 I have in my little book here a thing on what
23 the Star Panel requested as research recommendations to
24 get accurate stock assessments. Because right now, we
25 only have four stock assessments for the 19-year shore

1 species. And they need better -- accurate accounting of
2 removals. They need better fishery independent surveys.

3 We really feel like there should be CPUE
4 studies all along the coast before these reserves go in
5 so they know where they're starting at. Otherwise,
6 they're going to say that the improvements on the fish
7 stocks is because of the reserves and it's not from all
8 these regulations they've been talking about.

9 They need to study the stock structure better.
10 They need better age determination on when they spawn.
11 They need to study the climate and how it affects the
12 fish. They need specific data. All this stuff, they're
13 very specific. But the only thing that they're using on
14 the Nearshore Fishery is CRANE right now. The last
15 report that came out from the Nearshore Fishery
16 Management Plan Implementation Report, in May 2006,
17 under "Fishery Control Rule," under "Conductive
18 Research," they write "CRANE." And CRANE, the only way
19 they study things is through visual -- diver visual
20 surveys, and these benthic swab transects, which is like
21 sponges that collect baby fish.

22 But they're really not getting the data that
23 they really need to be able to really observe the
24 stocks. And so what they tell us is that they're data
25 poor, and they really can't change our total allowable

1 catch because they don't have enough data to really
2 allow us to catch more.

3 But it's kind of a catch-22 because then they
4 say, "Oh, but there's enough data to put in reserves."
5 You know, so to us they're still data poor. They really
6 don't know where they're at with things, and it's really
7 too early to start putting in reserves.

8 They did this prelude study at the Channel
9 Islands. They really should be looking at that and
10 seeing what needs to be done there first before jumping
11 in and doing all of California. We really want to know
12 what they've learned from the Channel Islands. So that
13 was one thing.

14 And then the next one, they -- in "Citizens of
15 Goleta versus Board of Supervisors," in that project
16 they demanded that the person controlling the project
17 had enough money to do the project. It had to be
18 feasible. There had to be economic viability and
19 available infrastructure to do the project.

20 Okay. Well, the Governor, because he's being
21 swindled into it, has said that he'll give -- I think
22 it's \$7 million up front for implementing the MPA's.
23 Okay. Well, that's for implementation. That's no
24 promise that they're going to monitor it and continue
25 doing it. And the last quote was between, like, 25- to

1 \$43 million is what they're going to need. So the State
2 is nowhere near promising enough money to really take
3 care of these reserves and be able to monitor them,
4 especially for what they want.

5 Just the Central Coast alone, they want 200
6 miles of reserves. I mean, before, I don't know what
7 we -- Big Creek was before. They couldn't even monitor
8 Big Creek, which is only two miles long. So it's just
9 kind of crazy that they think they're going to pay for
10 this now.

11 And we want to see where the promised money is.
12 We don't want to guess, you know? If they can't afford
13 it, they shouldn't do it, or they should start with
14 something much smaller. Okay? That's number two.

15 Number three, there's a study "Laurel Heights
16 Improvement Association versus Regents of University of
17 California, 1988." And what it said was, you have to
18 study the potential negative impacts to neighboring
19 areas. Okay.

20 So there was a peer review done -- back to my
21 little book I have to refer to. And the scientists that
22 they hired didn't really want to talk about neighboring
23 effects or displaced fishing. They wanted to act like
24 commercial fishing and recreational fishing didn't exist
25 or -- I don't know. But they didn't really take into

1 account what would happen when this did all this. They
2 didn't care. They just wanted to take a certain amount
3 of habitat.

4 And so we had this peer review, and they had
5 some good things that they came up with that were put
6 down and, you know, like insulted at the Commission
7 meeting, we thought.

8 The first one, first thing is they said that
9 there's no evidence that the current fishing practices
10 upset natural biological diversity. There's no
11 evidence. The second is there's no empirical evidence
12 that Marine Reserves work in the Northern Hemisphere.
13 They've only proven that they work in tropical areas.
14 They're totally different than here.

15 And they said that headlands have upwellings
16 that have extensive offshore jets that entrain nearshore
17 larvae and transport it offshore. If larval retention
18 is a critical factor in recruitment, Packages 2, 3, and
19 P have a majority of their MPA's located at headland
20 locations. This could result in a net loss of biomass
21 in comparison to the status quo.

22 So what they're saying is where they're putting
23 all these reserves are at points. You've heard all the
24 guys say. They're all at the headlands; they're all at
25 the points. All the larvae is going to be transported

1 off. And it's going to settle where they're going to
2 let us fish.

3 And so they're saying -- I mean, the Fish &
4 Game says, "That's what we want it to do. We want it to
5 send the larvae out." But those other scientists don't
6 agree with that. So there's some argument there. And
7 there's a potential negative impact. So that should be
8 studied.

9 The other thing is they said that it would be
10 better if there was equal percentage of habitats and it
11 was split more equally instead of so much rocky habitat.
12 And right now the way P is set up, it's taken 57 percent
13 of the hard bottom, from 30- to 100,000 feet, 57
14 percent. So that's totally unnecessary. They only
15 needed to take 10 percent in the National Fishery
16 Management Plan.

17 So I think they've really gone overboard, and
18 there's going to be impact. It says here, "Alternations
19 of this magnitude will cause severe changes in
20 distribution of fishing effort."

21 So that's all I have to say.

22 JEFF THOMAS: Thank you.

23 Eric --

24 ERIC ENDERSBY: You were close. It's Eric
25 Endersby.

1 I'm here representing the Recreational Fishing
2 Alliance, California Fishers Coalition, and the City of
3 Morro Bay Harbor Department. I'll try and make some
4 pretty specific comments here.

5 Number one, please include Package 1 in the
6 CEQA analysis. CEQA should also address the impacts and
7 ramifications of displaced fishing effort, specifically
8 fishing shift, overcrowding, overfishing in the non-MPA
9 areas. A few folks have already mentioned that. By
10 having to travel further and farther and fish longer for
11 a reasonably satisfying recreational fishing experience,
12 fishermen will burn more fuel, which equates to
13 pollution to do so.

14 And the same applies to commercial
15 fishermen. In order to make a living, fishermen are
16 going to have to travel further and fish longer in order
17 to make a living. That equates to more pollution. I
18 think Tom Hafer brought that up. For both recreational
19 and commercial fishermen, often traveling extra time and
20 extra distance equates to a safety factor. If you're
21 having to go around and dodge MPA's to get to fishing
22 grounds that are productive, you're -- you're at
23 increased safety risk.

24 Terrestrial impacts need to be addressed,
25 specially how point and nonpoint source pollution

1 affects MPA's urbanization, urban encroachment, ag and
2 cattle run-off. If you talk about Monterey Bay, the
3 whole Salinas Valley drains into Monterey Bay, and that
4 needs to be factored in.

5 Effects of historically overpopulated marine
6 mammals and fished and non-fished species -- I think Tom
7 Hafer did some fish trap studies up at Big Creek here
8 the last month or so. And the whole story's not in yet,
9 but he pretty much saw nothing but lingcod in his traps
10 and saw nothing on the beach but harbor seals. And they
11 caught very little fish that they were looking for as
12 opposed to fish areas that had a lot. So the marine
13 mammals -- you know, someone mentioned that's a
14 federally managed species. Well, it's having an effect,
15 and we need to know what the effect is.

16 Description of the existing environment
17 including baseline data of fish stocks and current
18 levels of fishing and their sustainability. Tom and
19 Sheri just brought up and a couple other folks brought
20 up the layers upon layers upon layers of fishery
21 management over the years. They are obviously having an
22 effect. Things are robust, and there's a lot of fish
23 out there.

24 A couple other notes I made from some of the
25 other talkers brought some -- jogged some memory cells

1 I've got here, what few I've got left.

2 Fishery effort forced offshore to little or
3 non-regulated countries such as Mexico; that may not
4 affect our immediate environment, but it sure affects
5 the rest of the world. This country's appetite for
6 seafood is not getting any less. It's getting greater,
7 if anything. And that fish has got to come from
8 somewhere. And the people are going to buy it. And if
9 it's not coming from here, where things are fished very
10 sustainably, it's going to come from somewhere where
11 it's not fished sustainably.

12 And finally, another comment that was brought
13 up about as far as sinking boats and mothballed fleets,
14 this one's pretty near and dear to my heart. Recently
15 we had a 72-foot dragger sink here a couple weeks ago
16 because the guy was regulated out of business.

17 And by god, if that's not environmental impact
18 -- I mean, I don't know how many tens if not hundreds of
19 gallons of fuel spilled. It took probably \$250,000
20 worth of effort to raise that boat and untold amounts of
21 pollution in this bay.

22 That's getting repeated up and down the coast
23 and guys get regulated out of business. You can't, you
24 know, bring your boat to the junk yard and just sign
25 your pink slip over. Something has to happen to it.

1 So please consider these things. Thank you.

2 JEFF THOMAS: Daniel Berman and then Judah Sanders
3 and Rick Algert.

4 PAUL REILLY: Would you read that one again.

5 Oh, he's not here. Daniel Berman is not here.

6 JEFF THOMAS: Who's that?

7 PAUL REILLY: Daniel Berman is not here.

8 JEFF THOMAS: Okay.

9 Judah Sanders.

10 JUDAH SANDERS: Thanks for hearing my commentary
11 today. My name is Judah Sanders. I've been a resident
12 here for the last 11 years, relatively short compared to
13 some of the guys that have been around here. I've been
14 a scuba instructor in this area for the last ten years.
15 I've dove extensively along the coast in many of the
16 regions that are in discussion here.

17 One of the things that I look at here is that
18 we have a large section of coastline and most of it or a
19 lot of it is sand, and then there's prime habitat, rocky
20 reef areas. Some of the people have talked about that
21 already.

22 The graphs that you show in your charts show
23 about 9 to 13 percent of the total distribution of the
24 coastline being protected. But what that doesn't
25 show -- because none of us, fishermen or divers, want to

1 go jump over a sandy bottom. That's pretty much clear.
2 So if you were to overlay the best habitats over that
3 map, the areas that are being protected, it doesn't
4 represent what the coastline is -- really has to offer
5 for us recreationally and commercially.

6 I would say that more like 70 to 80 percent of
7 the prime habitat is put onto the reserve if Package P
8 is put into effect. It's not 9 to 13 percent as the
9 graphs are showing because the sandy bottoms do
10 nothing -- I mean, they're great habitat, but they
11 really aren't very diverse. And it's pretty obvious by
12 looking at the plan that wasn't what they were for.

13 Now, I may be at odds with some of the
14 commercial guys here, but I'm representing the
15 recreational community. Have no-motor areas been
16 considered along the coastline at all, I mean, for
17 kayakers, for paddle-boarders so that they can go out
18 for shore fisherman? This would reduce pollution, and
19 it would also reduce noise in those areas. So that's
20 just one other thing to put on the table. I know it
21 probably won't be considered at this point in time.

22 Also, shoreline access along our coastline is
23 pretty limited because we have a big area, Vandenberg,
24 that's 35 miles of coastline where we don't have any
25 access to. We have eight miles of coastline off Diablo

1 Canyon; we have no access there.

2 As you head north from Cayucos, you hit an area
3 of private land which is pretty significant. And from
4 there, all the way through Big Sur, we have very few
5 access points. Cambria is one of the few access points
6 that we do have. And it's a very good sheltered access
7 point.

8 With Plan P, the whole entire area off Cambria
9 would be completely off limits to any fishing. That
10 means that the kayak fisherman that wants to go out with
11 his kids can't go out there to Cambria Reef anymore. I
12 know Cambria Reef is very diverse. I believe in
13 protection. And I think that there's a plan where part
14 of that reef can be protected and part of it can be open
15 for the public still. That's all we're really asking
16 for is some type of compromise here that allows some of
17 those prime areas to be intact just for some
18 recreational fishing opportunities.

19 Thank you.

20 JEFF THOMAS: Rick Algert, and then Henriette Groot
21 and Steve Rebuck.

22 RICK ALGERT: Thank you for coming. My name is
23 Rick Algert. I'm City of Morro Bay Harbor Director. I
24 hope you do consider public access. Package 1 is -- a
25 quick example. Package 1 does include a sport park off

1 Cambria centered around the Leffingwell Landing -- would
2 be an ideal site for improving public access rather than
3 restricting public access.

4 I hope you do consider socioeconomic impacts.
5 Socioeconomic impacts. Socioeconomics may be outside
6 the scope in State. In Federal, it probably would not
7 be. You would have to include it in State (sic). I
8 think you need to look at the socioeconomics so you can
9 understand some of the environmental impacts and the
10 public access impacts too.

11 For example, if Virg's Fishing costs go up to a
12 point where they can no longer operate at the same
13 level, the same trips, or even operate at all, what
14 public access impacts do those have? I think quite
15 substantial since Virg's Fishing provides the low-cost
16 fishing opportunity. For those folks who can't afford
17 their own boats, that's the only opportunity in this
18 area besides, of course, Port San Luis.

19 Another example where you have to understand
20 the socioeconomics, I think, to understand the
21 environmental impacts might be that, if our continuing
22 drop in volume of fuel sales here makes it unfeasible
23 for the last remaining fuel dock to remain in operation,
24 folks will have to travel to Port San Luis, additional
25 miles, additional pollution, to get fuel, from Morro

1 Bay. So please look at those things.

2 Finally, I also want to say something about the
3 abandoned vessel issue. We did recently have a major
4 incident here. A lot of people became aware of it, were
5 very frustrated with the pollution caused by it. We've
6 been dealing with these things for a long, long time,
7 not quite that large. Because unfortunately, that was
8 caused by the State closing down the last remaining
9 fishery that vessel had, the spot prawn trawl fishery, I
10 think in 2001. But all you might remember better
11 than I.

12 That individual had no other legal fisheries
13 with that vessel once that permit was taken away. The
14 vessel became neglected. We became aware of its poor
15 condition about 60 days ago. It sank about 20 days ago
16 probably now, with a large pollution incident associated
17 with it.

18 Now, I want to make a distinction here. Nobody
19 says that that vessel owner isn't responsible. He's
20 responsible. He should have taken care of it. He
21 should have looked for solutions. There's no question
22 about that. So there's a difference between cause and
23 responsibility. In my mind, it was directly caused by
24 the closing of that fishery and an easy-to-predict
25 event.

1 And I can predict a number of other events that
2 will come out of other fishery closures and will come if
3 the most restrictive closures are put in, the proposed
4 MPA packages. There will be additional boats that will
5 be abandoned. Those owners will still be responsible.
6 And like this other owner we just had, they will not
7 be -- have the resources to deal with it. Public
8 agencies will get stuck with them, and there will be
9 pollution incidents.

10 So I hope you consider those.

11 The City of Morro Bay will supply you with
12 written comments next week.

13 Thank you.

14 HENRIETTE GROOT: My name is Henriette Groot. I
15 live at Cayucos.

16 I want to tell you that you've got the cart
17 before the horse here. You keep getting comments about
18 people's preferences for the different packages. And
19 the reason for that is that you haven't told us what the
20 plan is. How can we have a scoping session on a program
21 that we don't know what it is?

22 I contend that this is not an appropriate
23 scoping session under CEQA. And I also feel that you
24 should have your real scoping session after the
25 Department of Fish & Game has made its final decision

1 about which plan they're going to go with. Then we can
2 make sense in our comments. Then we can really tell you
3 what the issues are, and we won't keep jumping back and
4 forth between Package P versus 1 or 2R or what have you.

5 I have comments I would make about those
6 packages. But I will make them next week in Monterey
7 because you don't want to hear that here, I think. So I
8 think you should at least extend the deadline for
9 scoping and not close it on the 18th.

10 I also want to tell you that the Web site,
11 which I checked today, did not mention this meeting, did
12 not mention the Monterey meeting. Maybe I'm inadequate
13 in how I find things on a Web site. But you might take
14 a look at that and see whether all the information that
15 the public needs is on the Web site.

16 The rest of my comments I'll make in writing.

17 Thank you.

18 JEFF THOMAS: Thank you.

19 Steve Rebuck.

20 STEVE REBUCK: Good afternoon. My name is Steve
21 Rebuck.

22 For over 20 years, I've represented commercial
23 fisherman up and down the coast. I no longer do so.

24 My family moved to Morro Bay in 1954 to fish
25 abalone. I started diving here in 1956. I've seen a

1 lot of change. There were legal abalone inside the bay.
2 I got my last one in 1966 before I went in the
3 U.S. Army. And that was at Target Rock.

4 I kind of feel like these fishermen here today
5 are like the Israelis. The more land they give up, the
6 more they get blamed, and the more they get bombed. And
7 I'm not in favor of any of these MPA's. And I will
8 explain why.

9 Having lived here for over 50 years, I've seen
10 a lot of change. The biggest change, the biggest cause
11 of change in this area is not fishing pressure. It's
12 marine mammals. It's seals and sea lions, and it's the
13 range expansion and population increase of the sea
14 otter.

15 Now, scoping, as I understand it, is to
16 identify new information. And my information is in
17 regards to ecological issues.

18 The first one would be, I'd like you to include
19 an assessment based on this document, the "California
20 Marine Protected Areas," by Deborah McCartel (phonetic).
21 There's 103 Marine Protected Areas included in here.
22 And in this assessment, what I'd like to see is how they
23 worked. Have they accomplished the objectives when they
24 were established? And if not, explain why.

25 Couple of months ago I gave a talk on abalone

1 up at Monterey. There were two ama divers, Japanese
2 women, who came to California to dive. And they took --
3 they went out to Point Lobos. These are ladies who are
4 68 and 72 years old with over 50 years of diving
5 experience. They dove Point Lobos. And in the
6 question-and-answer session, they identified one living
7 organism that they saw: sea cucumber. They saw no
8 abalone, no fish. I've been up there; I haven't been in
9 the water because you've got to get on a list. But you
10 can't see starfish on the beach. It looks pretty much
11 like the coast down here, a desert. Now, the
12 interesting thing about Point Lobos, it's been a Marine
13 Reserve now since 1960, and yet it's a desert.

14 The second assessment I'd like to see is in
15 regards to marine mammals, their impact on fish and
16 shellfish. You have robust populations now increasing
17 up and down the coast. At San Miguel Island, for
18 example, there are, as far as I know, 100,000 California
19 sea lions now, at 20 pounds of fish per day, which comes
20 from Dr. Darryl Hannon (phonetic). That's 2 million
21 pounds of fish a day consumed by those animals. There's
22 no fisheries in the region that even come close to those
23 kinds of numbers.

24 And how you do an assessment on fish mortality
25 and not address marine mammals to me is folly. Down

1 here we have some Pismo clam reserves and invertebrate
2 reserves. A couple years ago there was an effort to
3 maybe remove those from this 103 Marine Reserves that
4 are listed. I think that makes a case that, when you
5 have these robust populations in marine mammals, it
6 doesn't matter if you have a reserve. You're not going
7 to have more fish.

8 And then the third assessment that I'd like to
9 encourage would be the justification for MPA's
10 themselves. I've been following this for more than ten
11 years. In my opinion, this was a political debate not
12 based in science but politicians giving themselves a pat
13 on the back for doing something. Well, I don't think
14 they've done anything. And just closing off areas isn't
15 going to save the marine environment.

16 Thanks for coming to town; appreciate it.

17 Thank you.

18 JEFF THOMAS: Thank you.

19 Next we have Jean Usilton, Roger Anderson, and
20 then Bob Koch.

21 JEAN USILTON: Hello. I'm Jean Usilton. I had no
22 intention of speaking today. However, after I listened,
23 I guess I'm here to address recreation and economic
24 impacts.

25 First of all, I think we're all

1 environmentalists. None of us wants all the fish to go
2 away. None of us wants the ocean to be depleted.

3 And I really appreciated what the lady said
4 before about how fishing is not a bad thing. It -- it's
5 a good thing. And it's healthy for lots of reasons.
6 They came to town. They said, "Oh, talk with us.
7 Please, work with us. We want to know. We don't want
8 to close all your places. Please, help us so that this
9 doesn't happen."

10 My husband was quite impressed that they would
11 actually ask him for his opinion. Turns out that was
12 one of the reasons people say "don't trust people." You
13 know, they took all the information that all of the
14 fishermen said, and they said, "Oh, well, that sounds
15 good. We'll close all of those."

16 It doesn't make sense to me. When I teach my
17 kindergartners and they give me an answer, I say to
18 them, "Does that make sense to you? Is that a good
19 thing? Does that make sense?" And this just doesn't
20 make sense. None of it makes sense to me.

21 My husband and I -- I've lived here all my
22 life. I'm 56 years old. I like living by the ocean. I
23 like to be able to take my children and hopefully,
24 someday, my grandchildren fishing. But they're not
25 going to be able to do that because there isn't going to

1 be any reason to go fishing.

2 My husband and I have both been gainfully
3 employed, responsible citizens for all of our lives,
4 followed the rules, done everything everybody said to
5 us. He retired and was looking forward to becoming a
6 commercial salmon fisherman full-time instead of
7 part-time. And now, he's not going to be able to even
8 do that.

9 And I guess my final comment is that, even the
10 Fish & Game's -- Department of Fish & Game's scientists
11 don't agree with the data. They know it's flawed. We
12 all know it's flawed. Somebody needs to study it
13 better.

14 I think that Package P is for "preposterous."
15 And Package 1 meets the requirements of the law, which
16 is, of course, I know, what you don't want to hear
17 today. And I'm sorry, but it doesn't make sense to me.

18 JEFF THOMAS: Thank you.

19 ROGER ANDERSON: I'm Roger Anderson. I've lived
20 here my whole life, the Central Coast. Actually, we
21 moved from San Luis Obispo to Morro Bay in the late
22 '50s, but close enough.

23 I've served here as mayor of Morro Bay, been
24 involved in a family business on the waterfront for 40
25 years. We had a wholesale fish license for a number of

1 years. I've worked with and around commercial fishermen
2 for most of my life.

3 If you give the fishermen good science, they'll
4 endorse you 100 percent. Salmon, for example, after
5 lengthy drop periods when seasons are shortened and
6 catches are limited, they want the fish to repopulate.
7 They'll -- you show it to them, it makes sense, and they
8 will buy in in a big way.

9 There's a lot of doubt about the science that's
10 gone into this. Several people testified early on,
11 "Take the most restrictive one." If some people had
12 their way, there would be no fishing out there at all.

13 I sat here and ran a meeting as mayor when they
14 were talking about people being able to walk their dogs
15 on the beach. We asked that an area that had no plovers
16 be left open. "Nope. It's just easier to close the
17 whole thing." Off the record in a conversation, it
18 was -- my take on it was that some agencies were so
19 anxious to avoid litigation that they would rather just
20 back away from a confrontation with a vocal, well-heeled
21 group. And so they would take the course of just bowing
22 down to their wishes. I don't think that's the way to
23 go.

24 When we found out about that plover issue, it
25 was made very clear to us. "Not only can we keep your

1 dogs off the beach, but if we see fit, we can keep
2 people off the beach altogether."

3 I don't think that mankind is an invasive
4 species here. I think that the numbers have been made
5 pretty clear. I can't quote them, but I have seen them
6 in the past. The repopulation of marine mammals, in
7 particular sea lions, if you take Fish & Game numbers
8 for the estimated population of sea lions and the
9 estimated, you know, amount of fish they have to eat in
10 a day or a week or a year compared to the commercial
11 landings in the State of California, it's far and away
12 greater.

13 Commercial fishermen will work with you if you
14 try to -- they don't feel like they're listened to, and
15 they don't feel fairly treated. Package 1 at least, you
16 know, hints of the word "compromise." If you're --
17 there are some who would advocate for even stricter than
18 what's been proposed. They would advocate for no
19 fishing at all, no human interaction with the shoreline
20 because that does no damage whatsoever. And I really
21 think that it's time to show that we still have the
22 ability to find compromise.

23 If, down the road, it doesn't prove to be
24 workable, stronger restrictions can be put in place.
25 Government agencies -- from my many years' experience as

1 both an elected and an appointed official and as a
2 businessman, government agencies seldom back down on
3 things; once something is in place, it's usually there
4 to stay. It's easier to strengthen something than to
5 reduce it in strength.

6 So I just implore you to take the message back
7 to -- this is a step towards more restriction but not so
8 great that it puts people completely out of business at
9 this time.

10 JEFF THOMAS: Thank you.

11 BOB KOCH: My name is Bob Koch. I'm a retired Fish
12 & Game patrol lieutenant, retired about three years ago.
13 I'm now a commercial fisherman as well as a sport
14 fisherman.

15 My concern with some of the plans here that are
16 more extensive is that, realizing the Department of
17 Fish & Game has a limited budget to run patrol boats,
18 and if you have an area that's open to fishing that's in
19 an area that's near -- like near Cambria, where you have
20 a lot of people who would like to fish there,
21 recreational kayaking or boating, it could be a real
22 burden. Every time somebody is out there doing
23 something, to get phone calls complaining about somebody
24 doing something up there that they may not even be
25 doing.

1 UNIDENTIFIED SPEAKER: Could you speak into the
2 microphone? I can't hear you.

3 BOB KOCH: Excuse me?

4 UNIDENTIFIED SPEAKER: Speak into the microphone.

5 BOB KOCH: I'll get closer. Okay.

6 My concern is that -- that smaller areas would,
7 basically, be better and easier to enforce. And those
8 areas should be in areas where there's not a lot of easy
9 access from the coastline, simply because, if you get a
10 lot of activity in there, it's difficult for patrol
11 boats -- for people to know exactly what's going on in
12 those boats. If you get a lot of nuisance calls, it
13 takes a lot of gas, it takes a lot of diesel fuel, it
14 takes a lot of money to respond to those calls.

15 And in the planning process, that should really
16 be considered because it is an environmental impact
17 because there's a limited amount of time that wardens
18 can spend on the water. And that time shouldn't be
19 impacted by running a bunch of false calls. And if the
20 areas are too large, it simply increases the demand on
21 the patrol effort.

22 The patrol effort is not just to patrol the
23 MPA's but to patrol the entire ocean. And patrolmen are
24 appreciated when they're seen out there, but if they
25 spend all their time running out on wild goose calls, it

1 could be a real burden.

2 So I think that area up around Cambria is a
3 disaster in the making. And I also feel the area up
4 north of Point Buchon is also in that -- falls in the
5 same category because you're going to get a lot of phone
6 calls, and it's going to be a lot of wasted time and
7 money.

8 And the other thing is, is that I hate to see
9 the goose that laid the golden egg get killed because
10 the commercial fishermen and the sport fishermen provide
11 an extensive amount of resource in the way of money for
12 the Department of Fish & Game to do its operations. If
13 you cut these areas down too much and people stop
14 fishing, then we're going to have less money to do the
15 research that everybody wants to get done.

16 So that's about it in a nutshell.

17 JEFF THOMAS: Thank you.

18 Tom Wells and then Stew Jenkins. And I think
19 our last comment card possibly, Garry Johnson.

20 TOM WELLS: You're going to kind of have to bear
21 with me. I've got hearing aids in both ears. I'm from
22 Paso Robles, Tom Wells.

23 I've been fishing on our coast for about 30
24 years, just as a recreational fisherman. And I dove our
25 coast for about 12 years. And I can remember when, like

1 the gentleman said earlier about some of the marine life
2 problems with otters and stuff, I can remember when they
3 were going to allow the first plan of the sea lions --
4 or the sea otters to come down from Monterey. I was a
5 member of a dive club in Pismo Beach. And we used to --
6 we fought it tooth and nail back then, getting some of
7 the otters down into the abalone.

8 I used to take a lot of abalone, lot of clams.
9 I did it legally, and I did it honestly. I did my
10 limits. And I've seen some just fantastic fishing over
11 the years. And I'll admit, some of the cutting back has
12 helped our marine fishery considerably.

13 I've -- I own a boat. I've owned a boat for 30
14 years. And I've got probably 70 rods. And there's a
15 lot of fish out there. But I think if you start
16 restricting our areas to -- we're down to where we're
17 into one area, I think we're going to see some real
18 problems. I think -- I hope that we take a more relaxed
19 plan.

20 And I am, like I said, a common man. But I've
21 been fishing all my life, ever since I was born. And I
22 come from an old family of fisherman. I have nine
23 grandkids. And I've done everything legally up till
24 now. But I said -- but when you take my fishing away,
25 I'll probably do things that I probably would have never

1 done in my life. And I'll probably still continue to
2 fish this coast one way or the other. I'll do it
3 legally or illegally.

4 And I guarantee you, I -- there's a lot I've --
5 like I said, I come from an old fisherman family. I
6 mean, I used everything from dynamite -- I was raised in
7 Texas. I used carbide lights; I used gill nets; I used
8 hoop nets; I used every kind -- because it was legal
9 there.

10 I ended up in California. First time I ever
11 got a citation and the only citation I ever got in
12 California, was I was fishing up at Lake Nacimiento. I
13 had six rods and reels on the back. And I was fishing
14 for catfish. The Fish & Game officer came down; he
15 said, "Where's everybody at, son?"

16 And I said, "Well, it's just me. I'm just
17 catfishing."

18 And he says, "Do you -- where are you from?"

19 And I says, "Well, I'm originally from Texas."

20 He handed me a Fish & Game book, and he says,
21 "I suggest you read this. I'm not going to cite you,"
22 and he says, "I'm not going to give you a ticket, but,"
23 he says, "you're allowed one fishing rod."

24 I said, "One fishing rod? Well, that's crazy."

25 I says, "I've always used six or seven rods," you know.

1 But -- and from that day on, I did it legally. And I
2 followed the rules and the regulations.

3 And like I said, I got nine grandkids. And I'm
4 going to teach them from this on up to this
5 (indicating). They're just now coming to the age where
6 they're starting to fish. And we're not taking it away
7 from my grandkids. I'll fight you tooth and nail. I
8 don't care what it takes. And you may put the handcuffs
9 on me and take me to jail. And I'm not a rich man, but
10 you can take every darn thing I've got. And -- unless
11 you want to buy my boat and buy my fishing rods. And
12 I -- you're going to have a generation of kids that I'm
13 going to teach how to fish illegally because I know how
14 to do it.

15 And I won't do it; but I will do it if you try
16 to take it away from me. It's my heritage. It's a
17 heritage that has been here for hundreds of years. And
18 I'll work with environmental, I will play your game, but
19 just don't restrict me, and don't tell me you're going
20 to take it away from me. Because you won't take it away
21 from me.

22 And there's a lot of other guys just like me,
23 and we'll organize one way or the other.

24 I just thank you for your time.

25 JEFF THOMAS: Thank you.

1 STEW JENKINS: Good afternoon, and thank you for
2 coming to San Luis Obispo County.

3 I don't know. Following that confession, I
4 just have to observe that St. Peter was a fisherman.

5 JEFF THOMAS: Could you speak into the mike.

6 STEW JENKINS: Yeah. I'm Stew Jenkins, and I'm
7 from San Luis Obispo. I formerly was the commissioner
8 on the Port San Luis Harbor District Commission. And I
9 have some process comments that I'd like to suggest.

10 You've heard a number of comments here about
11 how the MMAI, as it was passed in 2000, talks about
12 rebuilding the racehorse. That's one of the goals. And
13 there's some concerns about weakness in baseline data
14 for the current proposal -- the preferred proposal.

15 But I think that the MMPA needs to look at
16 something else as you're preparing the environmental
17 impact report. It's not enough just to get the
18 baseline. If the goal of this program is to take the
19 biological resources and restore them, there has to be
20 something that gives benchmarks for when the restoration
21 has occurred included in the report.

22 And it's not enough just to say, "For this
23 species, X number in a certain area is a restoration."
24 When you're looking at the cultural aspects of fishing,
25 the report needs to also examine things like the talent

1 base. Right now, the average fisherman in this state is
2 60 years old because there's no future in fishing.

3 You've seen one individual come and talk about
4 how his son is never going to be able to go fishing
5 again. Well, his son would ordinarily be the natural
6 next generation of fishermen with the talent that
7 they've been taught by their fathers or their mothers or
8 their uncles or their aunts. There has to be some
9 examination of how to preserve the talent and the
10 infrastructure so that the public in California can use
11 and enjoy these resources when they're restored.

12 The final thought I think that you should
13 include in your examination is one of these elements:
14 Population and housing. Population, just like fishing,
15 is not a bad thing. As long as people learn how to live
16 together and use their resources wisely together, there
17 are not impacts. If the fishing industry is so impacted
18 so quickly, the reality is -- most everybody has a
19 financed house; they're going to lose that house, and
20 they're going to have to go to a lower standard of
21 living. They're going to have to move somewhere else.
22 That is an impact on housing and population on the
23 Central Coast and anywhere else that fishing is a major
24 way of making a living.

25 So thank you for your time, and thank you for

1 coming to San Luis.

2 JEFF THOMAS: Thank you.

3 I've got one last speaker card for Garry
4 Johnson. And then, if Daniel Berman has by some chance
5 come back, I've got a card tore for him as well.

6 GARRY JOHNSON: Hi. I'm glad you guys were able to
7 come here and didn't have to go anywhere else in
8 Monterey or Santa Barbara.

9 I've got three comments -- I've got a comment
10 to make about social economics (sic), and then I want to
11 talk about the estuary, and then I want to talk about
12 the ocean itself.

13 Social economics. I feel sorry for the
14 fishermen. You know, I belong to Morro Bay Beautiful,
15 and we pick up trash every Monday morning from the
16 visitors. And I'm on the peer the other day, talking to
17 this fisherman about this problem. And he says, "See
18 this guy over here? He's in debt 60,000. This guy's in
19 debt 40,000. This guy's in debt \$30,000. We have to go
20 to Oregon in a couple weeks. We're going to spend
21 thousands of dollars on fuel trying to get up there to
22 catch 75 fish."

23 I mean, the social economics of what the State
24 is empowering (sic) on these people, I really feel sorry
25 for them.

1 Also, the sport fisherman -- I have a vacation
2 rental. My vacation rental is down half because the
3 fishing has stopped because people were coming from the
4 valley, coming over here to fish and so forth.

5 So something has to happen. If you do this,
6 not only the fish owners (sic), but the people that are
7 fishing -- because it seems to me that, when the
8 government runs into trouble, do they lay off people?
9 No, they don't lay off people. They want to increase
10 taxes so they can keep the same amount of people. But
11 the fishermen can't do that. They lose everything in
12 the pack.

13 Now let's talk about the estuary. I get sick
14 and tired of these environmentalists saying how bad the
15 estuary is. Okay? I'm an engineer, retired scientist
16 working on satellite programs. We had to have good data
17 before we could go on with our programs. I think the
18 Fish & Game and these environmentalists don't have good
19 data.

20 Now, the reason why I say that, because I take
21 water samples on the estuary. And we look at it under
22 the microscopy. It is alive with microscopic marine
23 life that the bigger fish eat. Now, since you're here,
24 go out and look and see how many pelicans are out there
25 in the bay. There's thousands of them this year. I

1 have never seen so many pelicans in my life.

2 Now, why are they there? They have to eat.

3 Now, you go out there -- I'm in my kayak because I'm a
4 bird photographer. I'm in the midst of these hundreds
5 of pelicans that are just scarfing up the fish. Now, if
6 it's a dead estuary, you wouldn't have this. And I
7 could go on and on with that.

8 Now, let's take the ocean for an example.

9 That's -- the reason why I'm here is because I heard
10 this gentleman talk about Point Lobos. I'm a scuba
11 diver. And I've been diving here for 38 years. Point
12 Lobos is a protected area. Dozens of sea otters. When
13 I dive that area, he's right, there isn't any abalone;
14 there isn't anything but these huge -- these cucumbers,
15 these beautiful white cucumbers that -- maybe a couple
16 feet high and so forth.

17 And it proves that, when you restrict an area
18 to (sic) the human race, doesn't mean that you're going
19 to have fish and the abalone and all that. And that
20 proves a good point.

21 Now, a friend of mine was diving last weekend
22 in Avila. He said, "Garry, you should see the fish out
23 there. My god," he says, "I dove that Pinnacle. We
24 made two dives, and we chose some of the bigger fish.
25 There were hundreds of fish out there around the

1 Pinnacles."

2 I says, "No, Sean. The Fish & Game, the
3 environmentalists say there isn't any fish."

4 And so a couple weeks ago, he's down in Estero
5 Bay, down by one of the reefs out there. He was telling
6 me, "Garry, I caught a -- we caught our limit in 20
7 minutes of rockfish."

8 I said, "Sean, again, you can't catch rockfish,
9 because there's nothing out there."

10 He says, "Don't tell me that because there's
11 lots of rockfish out there."

12 So I can go on and on with this, but I'll just
13 say that, if you're going to take the fishing away from
14 California, I want to know where the fish are coming
15 from that's going to be in the store selling fish
16 because -- for an example, China is contaminating the
17 world. You think -- people blame the United States, but
18 China is really bad.

19 I want to be sure that the fish we eat is not
20 going to be full of mercury and other toxic chemicals in
21 the fish that are in these third-world countries that
22 are polluting the ocean back there. That's all I've got
23 to say. Thank you.

24 JEFF THOMAS: Claudia Makayev.

25 CLAUDIA MAKAYEV: My name is Claudia Makayev. And

1 I just recently got my master's at the University of
2 Rhode Island studying fisheries economics, and
3 specifically, my thesis and research was on using Marine
4 Reserves and MPA's as a fisheries management tool. So I
5 thought I could just offer a minute or two on what I
6 found and what my professors and I were working on.

7 It -- they can work. You just have to be very
8 careful. And you have -- you can do it and design a
9 Marine Reserve so that it can benefit the fishery. And
10 you have to look specifically at the different species
11 and the habitat, the size and the shape of the location
12 that you're targeting.

13 We found, like, a highly mobile species like
14 tuna responded really a lot differently as compared to,
15 like, a sea urchin, where they liked, like, larger
16 closures. We just looked for profits for the fisheries
17 and -- like, find that magic number that the fishermen
18 are happy with and the fish population levels were at a
19 good, just sustainable, wonderful level.

20 You asked for reasonable alternatives, and I
21 can honestly say that quota systems work better. But
22 you can also model an MPA system to emulate the quota
23 systems, like the IHQ and the ITQ systems.

24 So I would just advise to look at the current
25 scientific literature out there on bio-economic modeling

1 and that MPA can work, but just be very careful because
2 it could go both ways. And that's all I have to say.

3 Good luck.

4 JEFF THOMAS: Thank you. So that's it for speaker
5 cards. I want to thank everybody again for coming. If
6 you have additional comments you want to make, feel free
7 to make them on the written cards in the back.

8 You can either leave those with us today, or
9 you can mail those in next week. Thanks a lot.

10 (Whereupon, the proceedings concluded
11 at 3:57 o'clock p.m.)

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1 STATE OF CALIFORNIA)
2 COUNTY OF MARIN) ss.

3 I, DEBORAH FUQUA, a Certified Shorthand
4 Reporter of the State of California, do hereby certify
5 that the foregoing proceedings were reported by me, a
6 disinterested person, and thereafter transcribed under
7 my direction into typewriting and is a true and correct
8 transcription of said proceedings.

9 I further certify that I am not of counsel or
10 attorney for either or any of the parties in the
11 foregoing proceeding and caption named, nor in any way
12 interested in the outcome of the cause named in said
13 caption.

14 Dated the 14th day of August, 2006.

15

16

17

DEBORAH FUQUA

18

CSR NO. 12948

19

20

21

22

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24

25

MLPA CEQA Scoping Comments
c/o Mr. John Ugoretz, Nearshore Ecosystem Coordinator
DEPARTMENT OF FISH AND GAME
Marine Region
20 Lower Ragsdale Drive, Suite 100
Monterey, California 93940

John:

Here is a specific CEQA comment.

Throughout the entire study region, there will be significant displaced fishing effort into smaller lower-productivity areas causing a negative impact to those areas with concentrated fishing. Although only package one addressed this issue as an overall network, all of the originally submitted packages 1, 2R, 3R, and to a lesser degree P handled this fairly well in Subregion 1 with respect displaced recreational rockfishing effort. This is because all proposal proponents acknowledged that keeping enough of Año Nuevo open to make it a worthwhile trip would prevent the lower-production area between Santa Cruz and Scotts Creek from being completely wiped out. Unfortunately, in it's haste, and without understanding the rationale for why MPA boundaries were drawn the way they were, the Fish and Game Commission removed Año Nuevo and points north as a viable destination from Santa Cruz by moving the western boundary to 122 degrees 21 minutes. As such, the area between Scotts Creek and Santa Cruz will now be subjected to a massive increase in fishing effort.

This occurred because the commission attempted to make changes over the course of an hour and without receiving a single public comment on the new MPAs they created. Had the modifications they made been handled in a responsible manner, clearly such a mistake would not have happened. Science, conservation and fishing groups all had a good grasp on the concept here, but the commission, at the end of a 12-hour day, was obviously unable to grasp the boundaries of their expertise here. .

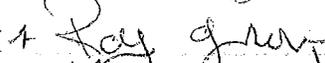
Alternative boundary schemes that handle the *intent* of the commission and all 4 originally proposed packages should be addressed in order to avert a complete loss of the fishery between Scotts Creek and Santa Cruz. Additionally the displaced effort issue in general needs to be addressed. This is simply an example of the only area that it had already been addressed but was undone by the commission.

Respectfully,

Howard Egan
Recreational Fishing Alliance.

Cc:
Ryan Broddrick
Sonke Mastrup
Mike Chrisman

to John Ugoretz ; MLPA/CEQA Scoping Comments
Our concerns are that you (DFG) will
close Recreational Fishing on the central
COAST! We (Father, 2 Brothers + Sons) have
fished this Area Morro bay, San Simeon,
Piedras Blancas for over 40 years and
the fishing is better now than in past
years (Probably due to DFG + Fed. mgt efforts)
PLEASE keep Rec. fishing open!

PO 171 Moccasin CA		209 989-2356
15577 Volta RD LOS BAROS CA		209 826 1889
22798 W Sunset LOS BAROS CA		209 826-4495
PO 171 Moccasin CA		209 989-2356
15577 Volta LOS BAROS CA		209 826 0906



PACIFIC FISHERY MANAGEMENT COUNCIL

August 1, 2006

Mr. John Ugoretz, Nearshore Ecosystem Coordinator
Marine Region
20 Lower Ragsdale Drive, Suite 100
Monterey, California 93940

Re: MLPA CEQA Scoping Comments

Dear Mr. Ugoretz:

The Pacific Fishery Management Council (Council) appreciates the opportunity to provide comments during the scoping period for the California Environmental Quality Act (CEQA) analysis of proposed State water marine protected areas (MPAs) in California. The Council remains supportive of the Marine Life Protection Act (MLPA) and has recommended the implementation of area closures and MPAs in Federal waters as effective tools for managing fisheries, protecting healthy stocks, and rebuilding depleted species.

As you assemble your CEQA equivalent draft environmental document regarding the central California coast MPA network, the Council requests you include analyses of the effects of the proposed State action on Federally managed fisheries and fish stocks under the Council's jurisdiction. Specifically, the Council requests the document include sections covering potentially adverse and beneficial biological effects on Federally managed fish stocks and socioeconomic effects on communities and fishery participants with interests in Federally managed fisheries.

Again, thank you for the opportunity to comment. The Council requests the opportunity to review the resulting environmental document and looks forward to working with the State of California on the continued implementation of the MLPA. Should you have any questions, please contact me or Mr. Mike Burner at the Council office.

Sincerely,

A handwritten signature in black ink, appearing to read "D. O. McIsaac".

D. O. McIsaac, Ph.D.
Executive Director

c: Council Members

Mr. Mike Chrisman, Secretary for Resources, State of California
Mr. L. Ryan Broddrick, Director, California Department of Fish and Game
Mr. Robert Treanor, Executive Director, California Fish and Game Commission
Mr. Gary Stacey, Regional Manager, California Department of Fish and Game

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Portland, OR 97220-1384

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Fax 503-820-2299
www.pcouncil.org

Jeff Thomas

From: Rich Holland [rich@wonews.com]
Sent: Tuesday, August 01, 2006 2:55 PM
To: mlpacomments@dfg.ca.gov
Subject: eir comments

John,

I'm sure you'll hear this from others, but I am extremely concerned that the issue of displaced fishermen redirecting their effort to remaining open areas is thoroughly addressed. Increased regulations in those areas will only increase the law enforcement burden. Will DFG be able to provide adequate enforcement inside and outside of the reserves to prevent environmental damage?

Thanks,

Rich Holland
185 Avenida La Pata
San Clemente, CA 92673

949 366 0030 x59

Jeff Thomas

From: Carl Lind [clind1@san.rr.com]
Sent: Tuesday, August 01, 2006 6:54 PM
To: Ugoretz, John; mlpaccomments@dfg.ca.gov
Subject: Notice of Preparation/CEQA

Re: Marine Life Protection Act: CEQA/Notice of Preparation/Scoping comments

Mr. Ugoretz:

There are significant flaws in the Marine Life Protection Act that should cause the creation of an Environmental Impact Report for the Central Coast Marine Protected Areas Project (or any other area directly effected by the MLPA). Specifically, the MLPA does not and cannot comply with CEQA if it incorporates larger or increased numbers of Marine Life Reserves (MLR), as defined by the MLPA.

Section 2852(d) states that a MLR prohibits "all extractive activities, including the taking of marine species..." Thus, a serious health and environmental threat such as a rotting whale or pinniped carcass could not be removed from an MLR; nor could an invasive foreign species be removed; nor could a bloom (excessive number) of a destructive marine animal be controlled. An example of the harmful environmental impact of the latter can be seen by the historical destruction of kelp beds by sea urchins ("*Left unchecked, urchins will devastate their environment, creating what biologists call an urchin barren, devoid of macroalgae and associated fauna*" http://en.wikipedia.org/wiki/Sea_urchin)

Similarly, harbor seals and sea lions can not be controlled ("taken") within MLRs. Contrary to general public knowledge, the Marine Mammal Protection Act does allow certain control of pinnipeds, but within a MLR, even this federal flexibility could not be acted upon. Pinnipeds are major predators on marine life, eating up to eight percent of their weight daily. Note that this appetite includes protected species (garibaldi, juvenile giant seabass, "undersized" white seabass, and "out of season" salmon. The MLPA does not address the destruction by pinnipeds on California's sea life, even though their take is substantially larger and significantly less discriminating than that of sport fishermen. The harmful environmental impact of an uncontrolled population of pinnipeds cannot be understated.

The solution to this problem is to eliminate all additional or enlarged MLRs from the MLPA implementation process. The MLPA does not mandate additional MLRs, and using other proven fishery management techniques can be more effective because of the flexibility afforded to the MPA and traditional fishery managers.

Carl B. Lind
247 Gravilla Street
La Jolla, CA 92037
clind1@san.rr.com

David W. Valentine, Ph.D.
7305 Monte Vista Avenue
La Jolla, CA 92037
(858) 442-6036 (cell)
Dave_valentine_92037@yahoo.com

3 August 2006
Mr. John Ugoretz
Nearshore Ecosystem Coordinator
Department of Fish and game
20 Lower Regsdale Drive, Suite 100
Monterey, CA 93940

Subject: MLPA CEQA Scoping Comments

Gentlemen;

On 11 July you published a Notice of Preparation for an equivalent draft environmental document. I don't understand the concept of an *equivalent draft environmental document*. The proposed action requires a full Environmental Impact Report (EIR) prepared in accordance with California Environmental Quality Act (CEQA) guidelines. The proposed action is major, it will directly or indirectly impact most California residents and, as such, would seem to cry out for a full EIR. Using Federal Environmental Impact Statement (EIS) terminology, this issue is "ripe" for a full and open discussion. In this context I don't understand the term "equivalent" or the use of "environmental document". Your 1 August notification of public scoping meetings for an EIR was a bit confusing. Are you planning some sort of generic "environmental document" or a "real" EIR? The difference is not trivial. An environmental document may only mean an environmental assessment or a biological assessment which is a far cry from a full and formal EIR. One must remember that a "good" environmental impact report gives full coverage to man's impact on the environment but, at the same time, must also address the proposed actions implications on the human environmental.

Few would argue about the laudable goals of the MLPA as expressed in Section 2853(b). Being against conserving of natural resources is a narrow, short-sided, viewpoint, which cannot long endure. It is the manner in which to best achieve this and yet maintain a reasonable level of extractive use which is in contention. The MLPA supporters seem certain that zero extractive use is the appropriate means of achieving these goals. Concerned citizens likely to be directly impacted by forced closures of marine habitat do not share the same arrogance as those who elect to preserve for the sake of preservation or who wish to have access to state and federal funds to "study" the problems *ad nauseum*.

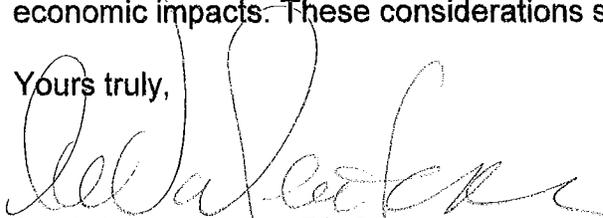
Much has been made of the successes reported in MPA's in Florida and Australia. It should be recognized that MPAs in these two regions are not similar to those in California. The basic ecological structure of coral reef communities has little in common with kelp bed communities. Comparing these as if they are is fallacious. One careless drop of an anchor can easily destroy a centuries old coral head. Kelp communities are far more resistant and resilient.

The Channel Islands National Marine Sanctuary (CINMS) has been in existence over two decades. That the CINMS is not being used as the center piece for further MPAs is, to me, a damaging comment on either the effectiveness of sanctuary programs in general, this sanctuary in particular, or the manner in which previous monitoring programs have been established and the data analyzed. With 20 years worth of good data (supposedly from 16 different sampling locations at 5 channel Islands) one should be able to make definitive statements as to what one might predict the effects of more MPAs should be. As far as I can determine no one has been able to document a biologically significant impact of any of the Channel Islands MPA sites on "biodiversity" or an increase or decrease in "important" ecological components using any rational ecological measure. And this after twenty years of study.

Cost is an important element which so far has been given short shift. One key report for estimating MPA costs was Balmford *et al.* 2004 using 83 individual MPAs worldwide. The report stated "Costs spanned six orders of magnitude . . ." This "seminal" report is found between pages 9694-9697 PNAS 101(26). Discussing 83 MPAs in a report three pages long does not give one a great deal of confidence in the description of the individual MPAs.

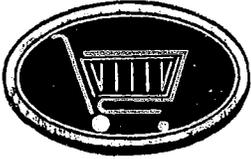
Going forth with the MPA program with scant concern for establishing a decent biological baseline is questioned. MPAs will eliminate commercial and recreational use of large areas of California with scant regard to social or economic impacts. These considerations should be of overriding importance

Yours truly,



David W. Valentine, Ph.D.

CC: Ms. Andrea Shea, Science Advisor
MLPA Initiative
California Fish and Game Commission
Sacramento CA
MLPAcomments@resources.ca.gov



MURPHY'S Markets Inc.

785 Bayside Road
Arcata, Calif. 95521
Phone (707) 822-7665

July 30,2006

Andy Bunnell
Meat Supervisor, Murphy's Markets
(707) 822-7667

MLPA CEQA Scoping Comments
C/O John Ugoretz
Nearshore Ecosystem Coordinator
20 Lower Ragsdale Drive, Suite 100
Monterey, CA 93940

Dear Mr. Ugoretz,

Although most of our seafood is purchased from the Northern California region, I am opposed to any closures or restrictions that would further hinder our stores abilities to purchase nearshore fish, crabs or salmon. Our stores business depends on local hook and line rockfish, crabs and salmon caught by local fishermen in nearshore waters to attract our customers.

To the best of my knowledge, none of the seafood purchased from our local waters is designated as over-fished and is highly regulated, so I am unclear as to why further closures are warranted. The seafood we purchase from our local fishermen is far superior to any purchased from our distributors both I shelf life and flavor. Since we are one of the few outlets in the area where local fish is available, it is invaluable to our business. Any closures that would further reduce the availability of local seafood to our stores will have a severe negative economic impact on the Murphy's Market chain.

Andy Bunnell
Murphy's Markets Meat Supervisor

To MLPA CEQ&A scoping comment and other parties.

My name is Jack Compton, I live at 49 Spring Pt. Rd.
Castroville Ca. 95012, phone # is 831-633-5430.

My comments come in four different categories.

- 1) The intent is not only to stop Central Coast users, they include recreational users from all 50 states.
- 2) You have not reached the working public for comment about a food source with an opening date of closed areas.
- 3) The working citizens Civil Rights have and will be violated by not having the rights to make a comment at the ballot box.
- 4) Some special interest groups with funding have been allowed to make those comments. Those comments will exceed MLPA's written document. Possibly causing a conflict of interest/litigation.

Thank you for reading my comments package. I will send copies to Fish and Game Commission and State Governor Arnold Schwarzenegger and to John Ugoretz at Nearshore Ecosystem Coordinator and other interested parties regarding MLPA's comments.

Jack Compton
Monday August 8, 2006

Jeff Thomas

From: DCLAGG [dclagg@socal.rr.com]
Sent: Tuesday, August 08, 2006 4:46 PM
To: mlpacomments@dfg.ca.gov
Subject: MLPA Scoping Comments

Mr. John Ugoretz
MLPA Scoping Coordinator

Sir,

As a life long outdoorsman, fisherman, skin and scuba diver, boater, kayker and environmentalist, who has a family who love the same activities, I strongly disagree with the calls to create additional MLPA's along the central coast, or any other California location.

As sportsmen, we have limited impact on sea life counts and habitat. We have seen more improvement in fish quantities and habitat due to better water quality, sewage treatment, and control of bottom trawling and other harmful practices.

I, my family and friends oppose the creation of any additional MLPA's.

Respectfully,

Doug Clagg
720 W. Pine Avenue
El Segundo, CA 90245

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JAY K. ELDER *Harbor Manager*
THOMAS D. GREEN *Legal Counsel*
PHILLIP J. SEXTON, CPA *Treasurer*

August 9, 2006

MLPA CEQA Scoping Comments

‰ John Ugoretz, Nearshore Ecosystem Coordinator
Dept. of Fish and Game – Marine Region
20 Lower Ragsdale Drive, Suite 100
Monterey, CA 93940

Re: MLPA Scoping Comments

Dear Mr. Ugoretz:

Thank you for allowing the Port San Luis Harbor District to submit Scoping Comments for the Environmental Review of the Marine Life Protection Act Initiative. This Project is to consider possible Marine Protected Areas on the Central Coast of California between Pigeon Pt. and Pt. Conception. The California Fish and Game Commission is acting as Lead Agency.

Along with proposed Marine Protected Areas (MPA's), a set of proposed regulations is also being considered. The Project's objectives are "to help protect, maintain, restore, enhance and manage living marine resources." We wish to offer our views on what should be analyzed in the Environmental Review of the proposed MLPA Project. The attached Scoping Comments are submitted for your review and consideration.

Thank you.

Sincerely,

A handwritten signature in black ink that reads "Jay K. Elder". The signature is written in a cursive, flowing style.

Jay K. Elder
Harbor Manager

JKE: lp

Attachment: Scoping Comments – MLPA Project



Scoping Comments – MLPA Project

1. Explain the “CEQA equivalent” process and law for the Department of Fish and Game as it applies to this Project. Include timeline, technical and statutory requirements leading up to final action by the Fish and Game Commission.
2. Does the Marine Life Protection Act (MLPA, Stats. 1999, Ch. 1015) “require” Marine Protected Areas, as stated in the July 11, 2006 Department of Fish and Game Notice of Preparation for this Project?
3. Include in the “Alternatives” section of the draft environmental document a No Action (no Marine Protected Areas) discussion and analysis. Include a discussion that the MLPA law does not require adoption, only consideration of MPA’s by the Fish and Game Commission (if the answer to #2 above is No).
4. The stated Project objectives are “to help protect, maintain, restore, enhance and manage living marine resources” by developing a network of Marine Protected Areas. Please include in this study the effects of marine mammals, specifically sea otters and sea lions and their influence and impacts to the stated goals. Also include an analysis of human harvest of other apex predators, such as lingcod, and the effects and benefits of such harvests compared with stated Project goals and objectives.
5. Consider as a mitigation measure a change in the Fish and Game code to allow white sea bass gill net fishing to re-occur in Subregion Area 7 (Santa Maria River to Pt. Conception) to offset the impacts of the proposed Marine Protected Area (restore to historic depths in shallower waters).
6. Consider and analyze the safety of fishing vessels and crew in having to fish areas that may be further from points of departure, and as a result of Project, smaller areas of fishing grounds, creating a higher density of vessels (i.e., collisions, etc.) in remaining fishing zones. Are there or will there be air pollution impacts due to longer running times?
7. What are the environmental effects of crowding the existing number of fishing boats into a smaller area of fishing grounds?
8. Does the current Project as defined by CEQA meet the detailed description for a marine ecosystem (which shall include all influences upon such systems)? Please analyze the marine ecosystem as a total biological community and not just selected creatures/species.
9. Consider and create a comparison matrix of proposed regulations for Marine Protected Areas (MPA’s), current Fish and Game regulations, and past regulations and closures (since 1995). Then provide an in-depth analysis on how the past regulations relate to this Project’s goals and objectives, and if the past regulations and closures (seasonal quota

limits/reductions and Rockfish Conservation Zone – RCZ) have been effective in “maintaining, restoring and enhancing” the marine resource.

10. Do a comparison and analysis on the Project’s proposed closures and any conflicts with other State laws, such as the California Coastal Act, etc. (Land Use impacts).

11. With the proposed closures of a percentage of the State waters to coastal dependent and related activities (recreational and commercial fishing), a loss of opportunity is established, thus requiring mitigation measures for those losses. Please identify appropriate and sufficient mitigations for the loss of these marine related (and existing) uses.

12. The reduction of marine access, including recreational and commercial fishing enterprises, will have an impact on the coastal communities’ land use and planning policies / ordinances (State, County and locally). Provide an analysis on the effects of the change in Use patterns due to the Project, and what effects it will have on the adopted Land Use Plans for coastal communities whose infrastructure, economy and existence count on coastal access, recreation and commercial fishing activities.

13. Fishermen, both sport and commercial, are main social and cultural contributors to coastal communities. This heritage is a vital part of the historic waterfront community. This Environmental Review should study and mitigate any impacts in the change of coastal culture and fishing heritage due to the Project.

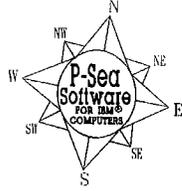
14. Regarding increased or decreased public services, the effects of the Project on local government (ports, marinas and harbors) and specifically Fish and Game monitoring and enforcement should be studied and discussed in detail.

15. The consultant (and Fish and Game) should consider earlier analyses, and the best available science, on all elements of this Project, including historical catch data, economic benefits of the fisheries industry, and recently published scientific data regarding the health of the ecosystem in the Project areas (Big Creek, CFC Peer Review, Cal Poly – San Luis Obispo, etc.).

16. The Project must be described in full and must take into account the whole “action” involved, that is, apply the “objectives” to the entire ecosystem in the study area per the requirements of CEQA.

17. Cumulative effects of all aspects of the proposed Project should include the issues listed above.

18. Conduct a complete review and analysis of the ability to perform (monitor, enforce, etc.) the Project in all Subregions, with a focus on the Southern part of the study area – Vandenberg Zone. The analysis should include the Air Force’s stated policy (position) and environmental statement (NEPA) for any change that may occur due to new or expanded Marine Protected Areas. Discuss methods of access for the purpose of monitoring, managing and enforcement, and whether any restrictions would invalidate the stated goals and objectives of the Project.



P-Sea Software Co.
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Morro Bay, CA 93443 USA
Ph (805) 772-4396 FAX (805) 772-5253
E-mail: faxinfo@p-sea.com
Web: www.p-sea.com

MLPA CEQA Scoping Comments

August 10, 2006

Greg & Julie Hansen
2485 Laurel Ave.
Morro Bay, CA 93442

Day Phone (805) 772-4396

My name is Greg Hansen, I have been a resident of Morro Bay and involved with the marine industry since 1978. I started with a Marine Electronics Sales and Service. At the beginning it was a very lucrative business that gradually declined as I lost more and more customers to fishing restriction, quotas, and closures. In 2001 I had to close the business as it was costing more money to keep it open than it was bringing in.

In the mean time I started another business P-Sea Software Company providing computer navigation software. I now talk with fishermen from all over the US. Day after day I hear of new restriction, quotas and closures forcing more and more people out of the fishing industry. I feel there is so much we could do to build both the fish stocks and preserve the fishing industry if we would just put the effort and funding out to intelligently manage it. The fish and game, as I understand it, is so under funded that they can not properly manage the rules they have now. I feel that the current regulations provide for a good MPA as they are, but the F&G can't enforce it properly because of lack of funding. So why put more restriction with MLPA's that won't be funded in the further either. I just doesn't make sense to me.

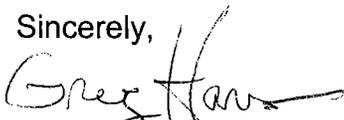
While I feel that some of the current restrictions and quotas are needed in order to properly manage the fish stocks I do not agree with the need of the MLPA's. I do not see how MLPA's will do anything to maintain or build fishing stocks. I feel that over the last 50 years, mother nature has compensated for the gradual addition of more and more boats fishing by increasing the breeding habits of the fish. Now all at once we are just stopping fish taking but their breeding habits wond change that fast thus causing an increase pressure on the food reserve for the fish. The fish are literally starving. For this reason I feel the fish will not stay in these areas as all fish do, in my opnion, migrate to some extent. You see when food runs out, fish will go else where to get it, I have seen it. At present the sport fishermen can't fish past 240 feet, when I fish near the 240' line I get good fish and there is lots of fish. The fishing is so good my 1 pound weight rarely makes it to the bottom before a fish grabs hold of it indicating to me that there is lots of fish and/or lack of food. I feel these fish have got to be coming from the deeper depths. But have we ever checked this out? I do not think so. Are fishermen going to fish as close to these protected areas as they can. The answer is yes of course.

Currently the most of the scientific data we have come from surveys of the fishermen's catch and this is a wrong way to do it as it provides false data. For example, the software I make helps the fishermen to catch only the fish they are targeting and thus reducing the by catch. Scientists see the reduction in by-catch as a depletion of the species and this assessment is obviously just the opposite. I feel that data needs to come from independent, government funded surveys in order to be valid, provided they include people that are familiar with the fishing industry so that we can try and keep it from being biased. We also need to have more fishermen involved in any councils that decided the data is valid or not as they are the best experts of the species in my opinion. Data should also be take over a period of years. I have noticed that fishing changes from year to year. We just do not have this data needed to cause a need for MLPA's as far as I can see.

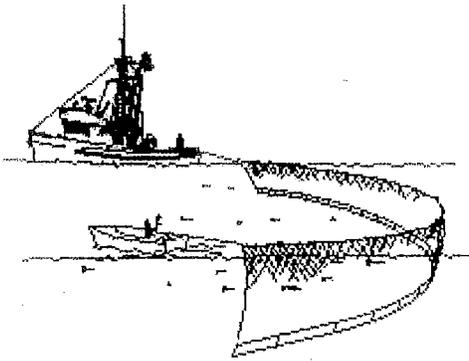
I also notice a scenario in government now that frightens me. We currently make laws that gets adequate funding to start it but once they are in place and the public eye is no longer on it, the funding is cut in order to balance the budget. If this happens with MLPA's what is the next step? Well this is where I am frightened becuase it seems if government can't manage something they just close it down completely.

So, I do not feel the species will be necessarily be hurt by this action, at least not in the areas of the MLPA's unless your talking about the fishermen. However you will be concentrating the fishermen into the areas that are open putting more pressure on the species there. I also feel that when the fish in the closed areas run out of food they will migrate to the open areas where there is food. And if we do go ahead with the implementation of the MLPA's , we need to make sure the fishing industry is fully involved as they are the most economically impacted. We need to make sure the fishermen have the geographic data needed to keep in the areas where they can fish. Most important is that we need to make sure funding is provided in the long term to properly enforce the new MLPA's. If we don't, then I feel the next step that the radical's will to after is total closure and that is not acceptable. I still can not comprehend just how the MLPA's are going to be enforced? Just the magnitude of the number of warden's needed boggles my mind. I feel we do not need these MLPA's but just give the Fish and Game the funding they need to properly enforce the current fishing regulations and the fish stocks will return, they are already returning!. I wish we could stay with the current restrictions long enough to see that they will work as is and to show that the MPLA's are not needed.

Sincerely,


Greg Hansen





CALIFORNIA WETFISH PRODUCERS ASSOCIATION

Representing California's Historic Fishery

August 11, 2006

MLPA CEQA Scoping Comments
c/o Mr. John Ugoretz, Nearshore Ecosystem Coordinator
Department of Fish and Game – Marine Region
20 Lower Ragsdale Drive, Suite 100
Monterey, CA 93940

Dear John,

I'm writing on behalf of the California Wetfish Producers Association, representing fishermen and processors in Monterey and southern California who harvest and process coastal pelagic species including sardines, mackerels and market squid. California's wetfish industry represents more than 80 percent of the total volume of seafood produced commercially in California. Monterey's wetfish industry contributes the lion's share of all commercially landed seafood products in the Monterey Bay area. This is an historic industry of continuing importance, both economically and culturally, in the Monterey area as well as statewide. However, the future of Monterey's wetfish industry depends largely on final decisions made re: implementing the MLPA Initiative on the central coast, with particular emphasis on regulations that could curtail squid fishing in the Año Nuevo – Greyhound Rock area, and possibly also curtail fishing for coastal pelagic species in the Soquel Canyon and Portuguese Ledge deep-water conservation areas proposed for Monterey Bay.

We appreciate this opportunity to recommend the following information for inclusion the MLPA environmental review and CEQA analysis. The notice announcing scoping hearings stated that the Department's Environmental Impact Report (EIR) on the proposed project intends to provide information about [1] potentially significant impacts, [2] identify ways to minimize impacts, and [3] evaluate feasible alternatives.

[1] Summarizing our concerns re: impacts, which will be echoed by other central coast fishing interests:

- The EIR requires a comprehensive description of the pre-existing environment.

In the case of new MPAs proposed for implementation, comprehensive baseline data on marine species should be included in the CEQA analysis if future evaluation of MPA performance is to be meaningful. Adequate baseline data are also required to meet the MLPA mandate for adaptive management.

The existing environment in this project has not been adequately described to date, in part because there has been no quantified evaluation of the benefits of fishery management relative to meeting the goals of the MLPA. The Hilborn, Parrish, Walters review of the MLPA science guidance quantified the effects of existing fishery management and found:

"Resulting from precautionary "ecosystem-based" fishery regulations enforced by both State and Federal fishery management agencies in recent years, there is now no evidence that current fishing practices upset the "natural" biological diversity of the marine ecosystem."

This important finding should be included and quantified in the CEQA analysis as contributing to MLPA goals of protecting biodiversity and ecosystem function, as well as conserving and restoring species of concern.

PO Box 1951

Buellton, CA 93427

Phone: 805-693-5430

Fax: 805-686-9312

Email: dplesch@earthlink.net

The SAT did not quantify expected outcomes from its theoretical prescription for MPA size and spacing; no modeling of population dynamics was applied to the various MPA network proposals. The science advice also did not describe the meaning of the terms "ecosystem function" and "diversity", and likewise failed to undertake quantitative analysis of the effect of any of the any of the MPA network proposals on ecosystem function or biodiversity. At a minimum, the SAT should develop definitions of ecosystem function and diversity that can be employed in the future to assess the effects of MPAs on these statute-mandated quantities. We're concerned that there is simply no hope of monitoring either ecosystem function or diversity without explicit definitions, and the mandate for adaptive management will also be unachievable.

Modeling, including dispersion models developed by Hilborn and Walters and presented in the Hilborn, Parrish, Walters review of the MLPA science advice, must be employed in the CEQA analysis to correct this deficiency. The EIR should carry out an abundance assessment using present harvest rates, so decision makers will be able to determine the effect of the preferred MPA network on the total abundance of the key marine species in the California Current ecosystem. Ideally, this analysis should be accomplished BEFORE a network and accompanying regulations are enacted.

The Hilborn et al review made important findings, which also should be included in analysis of environmental impacts:

- **Recognize that there is little chance that MPAs will contribute significantly to maintenance of marine ecosystem function; the function of these ecosystems is largely determined by highly mobile species that will be totally unaffected by MPAs. Only widespread, effective fisheries management will insure maintenance and restoration of ecosystem function.**
- Because the SAT did not do quantitative analysis on the effect of network proposals on total function and diversity, it failed to acknowledge that species managed by quotas, which include all rockfish as well as other important species in the California Current ecosystem, will have no net change in abundance due to the MPA network. In fact, these species will decrease in abundance outside MPAs. Based on the net zero effect on abundance of the majority of important species, there will be a zero effect on function and diversity of the broad California Current ecosystem. **The EIR must address and quantify these overall abundance and diversity questions, which underlie the whole concept of MPAs, in the context of the California Current ecosystem.**

The MLPA is intended to address ALL impacts to the marine environment; however, this project only proposes to curtail fishing. This CEQA analysis must include a detailed description of the NON-fishing impacts to the marine ecosystem, i.e. impacts of coastal development, non-point source pollution etc., and how the MPA network will (or will not) improve these problems. This analysis should acknowledge that curtailing fishing will have NO measurable benefit with regard to minimizing pollution or the degradation to the marine environment caused by current and future coastal development. Nor will eliminating fishing restore sea otter populations, when up to 50 percent of documented mortality is caused by non-point source pollution contributed by cat and opossum feces.

Further, we find discrepancies between the goals and objectives for MPAs stated in Package P and the regulations proposed to achieve them. How does prohibiting fishing protect sandy beaches, for instance?

A key rationale for curtailing wetfish fisheries, particularly in headland areas, is to protect forage for birds and marine mammals. With specific reference to the squid fishery, the Año Nuevo – Greyhound Rock area was proposed for total closure in Packages 2R and 3R, and partial closure in Package P.

The EIR and CEQA analysis should include detailed discussion of the breeding patterns and dietary preferences of birds and mammals in proximity to Año Nuevo and the Monterey Bay area, with specific emphasis on the total forage base available (including anchovy, krill, rockfish, saury and other forage species – all either not fished or prohibition on take proposed) vs. the relatively small amount of squid harvested in this area. Such analysis should also note that the Año area is also very important seasonally to Monterey's historic wetfish industry. The Greyhound Rock area is among Monterey's most important squid harvest grounds.

Similarly, the EIR should provide quantified documentation how curtailing fisheries for coastal pelagic species in the Soquel Canyon and Portuguese Ledge areas would (or would not) improve bird and mammal populations, when according to best available science, fishing for CPS finfish in these deep-water areas would not impact the habitat or ecosystem. Moreover, recent studies of both marine mammal and bird species in the area indicate increasing population trends in the presence of wetfish fisheries. (In fact, Package 3R, identified as the preferred alternative for the Bay, originally proposed to allow fishing for CPS finfish, although that opportunity may be questioned in the regulatory process.)

- Feasibility, economic viability, and available infrastructure must be determined. The proponent needs to be able to reasonably control the project.

The Department has acknowledged repeatedly that it lacks manpower to adequately implement the MLPA unless substantial additional funding is not only promised but delivered over the long term. Additional funds promised to date are inadequate to continue monitoring and enforcement over time, especially enforcement in remote areas, such as Point Sur. The projected budget for this project far exceeds available and promised funding. This inadequacy must be thoroughly documented in the CEQA analysis.

Enactment of a comprehensive network of MPAs will be a very expensive undertaking. Quantitative analysis of expected ecosystem benefits demonstrates no net increase in abundance and a zero effect on function and diversity of the California Current ecosystem. We are concerned about the lack of long-term commitment to fund a program that will have negligible payoff or broad benefit to the environment. This project will result in a major shift of fishing effort, and perhaps further decline in fishing infrastructure now an essential part of central coast fishing communities. Although socio-economic concerns are not a primary purpose of a CEQA analysis, we note for the record nonetheless that this project may have serious negative impacts on the infrastructure of harbor communities, with resultant negative, perhaps ruinous, consequences both cultural and economic, to the future viability of Monterey's historic fishing industry as well as central coast fishing communities.

- Cumulative effects - potential negative impacts to neighboring areas, are required to be analyzed.

As noted above, to date there has been no attempt to quantify negative environmental impacts caused by removing 40 percent, perhaps as high as 60 percent, of the most important fishing grounds in the study area, i.e. nearshore rocky habitat, kelp beds and headlands. Sixty percent or more of the most productive fishing grounds in the southern portion of the study area has been proposed for closure. As numerous fishermen have testified, all proposals will cause significant displaced fishing effort into smaller areas that would remain open to fishing. However, only Package 1 addresses displaced effort and attempts to minimize it consistent with scientific guidelines.

In addition, as explained in the Hilborn, Parrish, Walters review of the MLPA science advice, the removal of virtually all major and minor headlands may result in a net negative biomass as larvae are entrained far offshore and their dispersal patterns are unknown. This impact should be fully addressed and quantified to the extent possible in the CEQA analysis.

Additionally, recommendations presented in the Hilborn et al review provide important information that should be included in the CEQA analysis. Essential points are highlighted (emphasis added):

Recommendations (General)

- **There is a critical need to develop spatial maps of fishing efforts and impacts for the major California fisheries, using commercial logbook and creel census information along with assistance from knowledgeable fishers (using workshop data synthesis and mapping processes) where quantitative distribution data are not available.**
- **Using such maps, fishing effort displacement should be calculated for each MPA plan proposed, and estimates made of the increase in fishing effort and impact in remaining areas open to fishing.**
- Long-range proposals and plans should be developed for reduction in overall fishing efforts for those fisheries where substantial (20 % or larger) displacement is likely to occur. (This should be evaluated and discussed in the CEQA analysis.)
- Avoid using concepts from terrestrial protected area planning in MPA design, and instead use appropriate models

Recommendations (to improve scientific guidance and analysis)

- **The Scientific Advisory Team should be required to provide specific guidelines for desired levels of protection by habitat type, with precise justification for each of these guidelines and with quantitative predictions (using population dynamics models for a range of representative species) of the consequences of failing to meet them.**
- **The Scientific Advisory Team should develop quantitative classification guidelines to be used to evaluate the levels of protection assigned to MPAs.**
- **The Scientific Advisory Team should develop a list of species to be benefited by MPAs that provides a quantitative assessment of the degree of benefit that each species is expected to receive.**
- *Recommendations (Modeling)*
- **Use the models provided [in the Hilborn, Parrish, Walters review] as a starting point for more careful quantitative analysis and comparison of alternative MPA proposals.**
- Involve stakeholders in game-playing with the models, and in trouble-shooting possible missing model components and functional relationships needed for prediction, as a central part of the adaptive management planning process and as a means to stimulate development of cooperative monitoring programs.
- **Use the models as an aid to development of monitoring designs, both in terms of helping to identify key monitoring variables (i.e. what model predictions do people really look at in comparing policy alternatives) and in design of spatial sampling programs and inside-outside comparisons of open areas versus MPAs.**

[2] Re: identify ways to minimize impacts, we suggest that the CEQA review include discussion on phasing in the network, and provide appropriate benchmarks for expansion. Again, quoting from the Hilborn et al review, the first recommendation is as follows:

"Implement a phased MPA network designed with a variety of MPA sizes and with an adequate long-term monitoring plan and sufficient resources to test MPA theories."

Monitoring recommendations extracted from the Hilborn et al review that should be incorporated into a discussion on phasing, in the context of minimizing potential impacts, include the following:

- Adopt the institutional design framework recommended in the "Final Draft Adaptive Management and Monitoring and Evaluation Framework", but modify it immediately to address the hard-nosed issues of exactly what to monitor, where, and when, and how. Focus on the recommendations in Appendix 3B of that report and incorporate the monitoring recommendations provided in this review. Discard the recommendation in that draft of designing monitoring programs around broad biogeographical regions; there is no need to do that for effective adaptive management based on paired comparison data between nearby protected and fished areas.
- A joint State-Federal task group should be formed to develop a detailed, cooperative monitoring program with costs and cost sharing proposals, taking full account of possible cooperative monitoring efforts that will become feasible given planned changes in fishing property rights and recent support for collaboration between industry and fishery management agencies.
- **Begin monitoring basic ecological response indicators (relative abundances, sizes of representative species, i.e. essential fishery information) ideally at least two years before implementation of each new MPA.**
- **Plan to continue these paired monitoring programs for at least a decade after establishment of each MPA, so as to assess cumulative effects of both the MPA and other management influences and to allow staircase comparisons to MPAs initiated later in time.**
- **There should be a careful enumeration of the total number and kind of field measurements that will need to be taken annually for the foreseeable future as the core of the core adaptive management monitoring program, with particular attention to the need for paired measurements in and near each protected area.**
- A consensus statement should be developed on a basic, key indicator set that must be measured on all experimental (and reference) areas.
- There should be increased funding for and very careful evaluation and encouragement of the cooperative programs between fishers and scientists that are now underway in some locations (e.g. tagging in Channel Islands area), with a view to extending such programs much more widely along the coast.
- **Carry out the same monitoring (same methods, etc.) on at least one "control" or reference area in close proximity to each protected area (treatment-control pairing).**
- **Monitoring programs should attempt to measure both settlement rates of very small juveniles, especially rockfishes, and also net production (recruitment) of larger juveniles out of nursery areas.**
- **Monitoring programs for longer-lived species should regularly collect size-age distribution samples to assess rebuilding of population age structures, and the component of overall abundance increase due to this rebuilding as opposed to increases in recruitment rates.**

- **Monitoring plans for adaptive management should include transect sampling of abundance for a set of indicator species with different movement rates, along transects from well outside MPA boundaries into the middle of the areas.**
- A study team should be formed to evaluate options for large-scale investment in new, automated technologies for ecological monitoring, in particular the deployment of large-scale listening arrays for acoustic tags that would provide an opportunity to measure movement and exploitation patterns directly for a variety of larger species.

[3] Re: evaluating feasible alternatives, we point out the striking similarities in the amount of the best nearshore habitat – including hard bottom, kelp beds and headland areas – proposed for MPAs in Packages 2R, 3R and P. Clearly, the CEQA analysis should include a range of alternatives. As noted above, only Package 1 succeeded in developing a network proposal that meets SAT guidelines and minimizes potential environmental impacts caused by effort shift and congestion in outlying areas. **Package 1 also achieved rare consensus support from virtually the entire central coast fishing community, and it is appropriate that it is included as presented in the CEQA document for analysis.**

Thank you very much for your consideration of these comments.

Sincerely,



Diane Pleschner-Steele
Executive Director

cc: Secretary of Resources Mr. Mike Chrisman
Mr. Ryan Broddrick, Director, CDFG
Mr. Sonke Mastrup, Deputy Director, CDFG
Mr. Gary Stacey, Regional Manager, CDFG

Jeff Thomas

From: william james [halibutbill@msn.com]
Sent: Sunday, August 13, 2006 4:17 PM
To: mlpacomments@dfg.ca.gov
Cc: John Ugoretz
Subject: MLPA - CEQA Scoping Comments

From: William James-707-465 5347

1. How will the DFG complete its other Marine Region Projects and what is the Environmental Impact if it does not complete its current projects and future scheduled project if funds are diverted to the MLPA for the Central Coast?

2. What is going to be the Environmental Impact of the displaced fishing effort caused by the No-Fishing zones as outlined in the MLPA Documents?

3. How can the Environmental Impact be measured if there is not adequate baseline data collected before the MLPA sites are initiated? Baseline data must be collected first.

Jeff Thomas

From: John Ugoretz [jugoretz@dfg.ca.gov]
Sent: Monday, August 14, 2006 10:49 AM
To: Jim Martin
Cc: Gary Stacey; Sonke Mastrup
Subject: Re: MLPA CEQA Comments

Thanks Jim,

You have until the 18th to make CEQA scoping comments.

Please be sure to send them to MLPAComments@dfg.ca.gov so they can be automatically forwarded to the appropriate emails (including mine).

John

John Ugoretz
Nearshore Ecosystem / MLPA Coordinator
California Department of Fish and Game
20 Lower Ragsdale Drive, Suite 100
Monterey, CA 93940
(831) 649-2893
(831) 649-2917 fax
jugoretz@dfg.ca.gov
www.dfg.ca.gov/mrd

>>> Jim Martin <flatland@mcn.org> 8/14/2006 10:04:48 AM >>>
John,

I'm still working on this but wanted to send the draft anyway.

Jim

MLPA CEQA Scoping Comments
c/o Mr. John Ugoretz, Nearshore Ecosystem Coordinator DEPARTMENT OF FISH AND GAME Marine
Region 20 Lower Ragsdale Drive, Suite 100 Monterey, California 93940

Dear John,

Thanks for the opportunity to comment on the CEQA requirements for the MLPA. The Recreational Fishing Alliance offers the following comments regarding the range of alternatives for the implementation of the Marine Life Protection Act:

Since the MLPA will be implemented using, in part, federal funds such

as the Sport Fish Restoration Funds spent on the public process several years ago, and since federal agencies such as the Monterey Bay National Marine Sanctuary have been involved in the current implementation process, we expect that a NEPA document will be prepared in conjunction with the NOA, NOAA, the PFMC and the Sanctuary agencies. When will this NEPA document be completed? There will be significant displaced fishing effort into small areas causing a negative impact to those areas with concentrated fishing. None of the MPA proposals for central California have been analyzed for the environmental impact of fishing effort shift from closed areas to the remaining open areas. RFA members who live and fish in this region tell us that a significant portion of their rockfishing

grounds will be off-limits under all of the MLPA network packages under consideration. Only Package 1 takes effort shift into consideration, and mitigates the potential serial depletion of reef complexes in areas remaining open to fishing. For the purposes of the CEQA analysis, there must be a description of

the existing environment, and in the case of new marine protected areas there must be comprehensive baseline data on fish stocks if any

future evaluation is to be meaningful.

Feasibility, economic viability, and available infrastructure for the

MLPA project must be determined. The proponent needs to be able to reasonably control the project. The Department admits to not having enough staff and admits to the difficulty enforcing some of these reserves specifically Point Sur. Even with the short-term addition of new staff, there will be a shift in the Department's resources from important enforcement issues inland and especially the marine region. The Funding section of the Master Plan calls for an annual budget of "several tens of millions of dollars" but only a fraction of that is contained in the budget. What are the projects the DFG is currently operating that will be cut to adequately fund the MLPA implementation?

The California Fisheries Coalition commissioned a peer review noting the potential of a net loss biomass within some of the proposed reserves, with the design taking so many points and upwelling centers. We find discrepancies between the Department's goals & objectives for

MPAs and the regulations proposed to achieve them. As one example, the goal of protecting sandy beaches is pursued by regulations to ban

fishing. Meanwhile, MPAs designed to protect hard substrate and rockfish habitat do not prohibit anchoring on the habitat. The Master Plan Framework does not address how terrestrial impacts on

marine resources will be regulated and reduced by the regulations for new MPAs. The regulations for all MPAs focus mainly on fishing and do not address all the negative impacts on marine habitats.

The Recreational Fishing Alliance looks forward to your response and thanks you for your consideration.

Respectfully,

Jim Martin
West Coast Regional Director
The Recreational Fishing Alliance
flatland@mcn.org
P.O. Box 2420
Fort Bragg, CA 95437
(707) 964-8326

Cc:
Ryan Broddrick
Sonke Mastrup
Mike Chrisman

DEPARTMENT OF TRANSPORTATION

111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
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FAX (510) 286-5559
TTY (800) 735-2929

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- A. Shea
ARNOLD SCHWARZENEGGER, Governor
orig. to J. Ugoretz



Flex your power!
Be energy efficient!

August 14, 2006

SMGEN044
SCH#2006072060

Mr. John Ugoretz
Fish & Game Commission
1416 Ninth Street
Sacramento, CA 95801

Dear Mr. Ugoretz:

MARINE PROTECTED AREAS – NOTICE OF PREPARATION

Thank you for including the California Department of Transportation (Department) in the early stages of the CEQA process for the Marine Protected Areas project. The following comments are based on the Notice of Preparation. Since the Marine Protected Areas project could potentially affect State Right of Way (ROW), please forward the Draft Environmental Impact Report (DEIR) to the address provided at the end of this letter when it is available.

Cultural Resources

The project DEIR must include documentation of a current archaeological record search from the Northwest Information Center (NIC) of the California Historical Resources Information System (CHRIS) if construction activities are proposed within State ROW. Current searches must be no more than five years old. The Department requires the records search, and if warranted, a cultural resource study by a qualified, professional archaeologist, to ensure compliance with CEQA, Section 5024.5 of the California Public Resources Code, and Volume 2 of the Department's Environmental Handbook. Work subject to these requirements includes, but is not limited to: lane widening, channelization, auxiliary lanes, and/or modification of existing features such as slopes, drainage features, curbs, sidewalks and driveways within or adjacent to State ROW. These requirements, including applicable mitigation, must be fulfilled before an encroachment permit can be issued for project-related work in State ROW. See the website link below for more information regarding the CHRIS – NIC (Click on IC Roster).
<http://ohp.parks.ca.gov>

Encroachment Permit

Please be advised that work that encroaches onto the State ROW requires an encroachment permit that is issued by the Department. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans, clearly indicating State ROW, must be submitted to the address below. Traffic-related mitigation measures will be incorporated into the

construction plans during the encroachment permit process. See the following website link for more information:

<http://www.dot.ca.gov/hq/traffops/developserv/permits/>

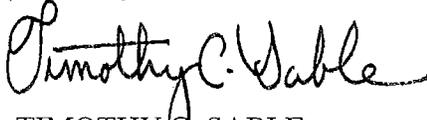
Office of Permits
California DOT, District 4
P.O. Box 23660
Oakland, CA 94623-0660

Please forward at least one hard copy of the DEIR, along with project traffic analysis, including Technical Appendices, and staff report to the address below as soon as they are available.

Patricia Maurice, Associate Transportation Planner
Community Planning Office, Mail Station 10D
California DOT, District 4
P.O. Box 23660
Oakland, CA 94623-0660

Please feel free to call or email Patricia Maurice of my staff at (510) 622-1644 or patricia_maurice@dot.ca.gov with any questions regarding this letter.

Sincerely,



TIMOTHY C. SABLE
District Branch Chief
IGR/CEQA

c: Ms. Terry Roberts, State Clearinghouse

LAW OFFICES OF
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August 15, 2006

JAMES J. COOK
DENNIS M. LAW

TELEPHONE: (831) 373-4131
FROM SALINAS: (831) 757-4131
FACSIMILE: (831) 373-8302

OUR FILE NO. 17.02

MLPA CEQA Scoping Comments
c/o Mr. John Ugoretz
Nearshore Ecosystem Coordinator
State of California - The Resources Agency
Department of Fish and Game
Marine Region
20 Lower Ragsdale Drive, Suite 100
Monterey, CA 93940

Via E-Mail and Regular Mail

RE: Public Scoping Comments - Central Coast Marine Protected Areas Project

Dear Mr. Ugoretz:

This letter submits scoping comments to the California Department of Fish and Game's ("DFG") proposed Central Coast Marine Protected Areas Project ("Project") on behalf of our client, James J. Hill, III, the owner of the El Sur Ranch in Big Sur.

As we understand it from the information gathered at the Project Scoping Meeting held on August 11, 2006, the Project may incorporate a public recreational element through a concurrent joint project with the California Department of Parks and Recreation ("DPR") using public owned lands along the central coast (i.e., Big Sur). We further understand that DPR was invited to assist in developing the scope of the Project as it relates to public recreation, but DPR has not yet elected to participate.

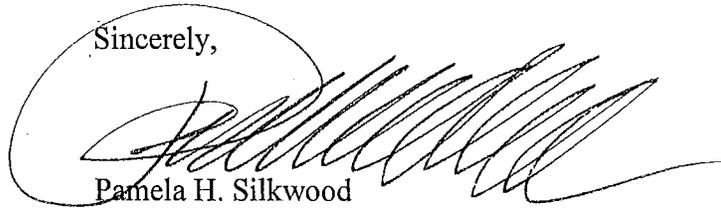
We request that the Project be limited in scope to protecting, maintaining, restoring, enhancing and managing marine resources living in the Pacific Ocean to the mean high tide line, which is within DFG's jurisdiction. Combining the Project to incorporate public recreation in a joint effort with DPR would only complicate and stray away from the primary objective of the Project, which is to protect marine resources.

August 15, 2006
Page 2

If the Project incorporates a public recreational element, then the environmental review must evaluate and propose proper mitigation measures to address impacts to neighboring private lands by visitors and other human disturbance environmental impacts, including impacts to the threatened western snowy plover and other sensitive species, critical viewshed, traffic and safety, erosion, existing agricultural operation, etc. in accordance with the California Environmental Quality Act ("CEQA").

We appreciate this opportunity to comment on the scoping of the Project and wish you success in protecting valuable marine resources.

Sincerely,

A handwritten signature in black ink, appearing to read 'Pamela H. Silkwood', written over a circular stamp or mark.

Pamela H. Silkwood

cc: James J. Hill, III
Mark Blum, Esq.
Aengus Jeffers, Esq.

Jeff Thomas

From: Richard Parrish [clupeid@sbcglobal.net]
Sent: Tuesday, August 15, 2006 10:06 AM
To: Jeff Thomas
Cc: Diane Pleschner-Steele; c.walters@fisheries.ubc.ca; lwbotsford@ucdavis.edu
Subject: Follow up comments to oral presentation at Monterey scoping meeting.



Final_HPW_Review.
pdf (2 MB)

Hello Jeff

I am the retired fisheries biologist that spoke to you at the scoping meeting in Monterey. As you may remember I was a member of the original MLPA Science team.

I was one of three fisheries biologists hired by the California Fisheries Coalition to review the SAT advice and the MLPA process. I have attached a copy of our review.

As you will see we feel that the process suffered from a lack of quantitative analyses or any population dynamics models that could provide context regarding the effects of the MPA networks on either the abundance of species inside and outside of the MPA networks on their total population. As we were only hired for 7 days each, our own modeling was quite limited and we did not attempt to model using fisheries managed by quotas.

The models in the review handled fishing effort by simply keeping the total effort the same as that in the situation without an MPA network and then applying this effort to the area outside of the three different MPA networks. We also ran the model with the very high effort levels that occurred in the 1980s, when some of the stocks were being overfished, and at the greatly reduced present levels. The parameters used in these models were taken from the stock assessment models available on the Pacific Fisheries Management Council's web page.

These models work reasonably well for species managed by traditional management methods, for example abalone, spot prawn, dungeness crab and sand-dabs. As seen in the model output in the review these models suggest that the population effect of the MPA networks is highly dependent upon the mobility of the individual species. Note that the increases in total population size is also negatively related to the annual catch. The less the catch the greater the population size. With this type of management the principal population effect of the MPA networks is that they reduce the total catch thereby increasing the size of the population.

Fortunately, most west coast fisheries are now managed with annual catch quotas based on the application of a harvest control rule to the estimates of current stock size. Essential they determine the percentage of the population that is harvested each year. With this type of management the catch will be the same with or without MPAs. Hence the population size will be essentially unchanged by the MPA networks; however, the abundance of fish inside will MPAs will increase and the abundance outside will decrease. Note that when species are managed by quotas; the reduction in abundance outside the MPA networks is inversely related to the mobility of the species. The more they move the less the adverse impact is outside of the MPAs. A list of the species managed by quotas is included in the attached review.

As I see it the MLPA process was heavily flawed due to the fact that the stakeholders were never informed of the above high important concepts. All through the process I kept telling the fishermen, "Wait

until Loo Botsford's models are presented and it will be clear that the networks will reduce the abundance of fish outside the MPA and have little effect on the total population size" (Loo Botsford is the sole fishery modeler on the present SAT). Botsford's models were never presented or utilized in the process; although I understand that they have been submitted for publication. Perhaps you should ask Botsford why they were not presented.

Now my plea to you is that the environmental impact study should include population dynamics models that assess the impact of the MPA networks on the total population size as well as the reduction in abundance that will occur outside of the MPAs. In my opinion the principal adverse environmental impact of the MPA networks will be the reduction in abundance of exploited species outside of the MPAs. Therefore I feel that Jones and Stokes should put a relatively large amount of effort on the type of analyses described above and in the attached review.

I do not know if you have staff that are experienced in the type of models necessary for this type of analyses. I note that both Loo Botsford and Carl Walters have operational models and they could probably quickly do these analyses for you under a small contract.

"Carl Walters" <c.walters@fisheries.ubc.ca>
"Louis W. Botsford" <lwbotsford@ucdavis.edu>

Thank you

Richard Parrish



Scoping Meeting

Central Coast Marine Protected Areas Project

COMMENT CARD

Comments will be accepted through close of business on Tuesday, August 15, 2006

Please Print

TOM AND SHERI HAFER COMMERCIAL FISHERMAN
Name Title

SOUTH CENTRAL NEARSHORE TRAP ORG.
Organization or business (if applicable)

10400 SANTA ANA RD
Address

ATASCADERO, CA 93422
City, State, Zip

805 461-5323 Same
Phone Fax

SOMETHINGS FISHY@CHARTER.NET
E-Mail

This is your chance to comment on what will be studied during environmental review of the Central Coast Marine Protected Areas Project. Your input on the scope of the project is greatly appreciated. Please write legibly.

1. There must be a comprehensive description of the pre-existing environment. Baseline C.P.U.E's inside and outside reserves (at least) before the reserves are put in place.
2. The project must be feasible, have economic viability, and available infrastructure. The dfg must demonstrate funds available for long term monitoring and enforcement - not only for implementation.
3. Potential negative impacts from displaced fishing needs to be analyzed as well as positive impacts (or potential of) using available science in fishery modelling.
Consideration of taking >50% of hard bottom habitats, multiple upwellings and points that exceeds the requirement of the MLPA

Please leave your comments in the designated comment box or mail to: MLPA Scoping comments, c/o John Ugoretz, Nearshore Ecosystem Coordinator, California Department of Fish and Game, 20 Lower Ragsdale Drive, Suite 100, Monterey, California 93940. Comments may also be e-mailed to mlpacomments@dfg.ca.gov. Comments must be received by Tuesday, August 15, 2006.



Scoping Meeting

Central Coast Marine Protected Areas Project

COMMENT CARD

Comments will be accepted through close of business on Tuesday, August 15, 2006

Please Print

Name: Helen Dowling Title: property-owning taxpayer

Organization or business (if applicable): FOHG (Friends of Harbor Group) Santa Cruz Harbor

Address: 137 Canfield Ave

City, State, Zip: Santa Cruz, CA 95060

Phone: _____ Fax: _____

E-Mail: _____

This is your chance to comment on what will be studied during environmental review of the Central Coast Marine Protected Areas Project. Your input on the scope of the project is greatly appreciated. Please write legibly.

How do you plan to sustain recreation under the MLPA if you aim to shut down portions — HARVE PORTIONS — of the coast?

Who are you to make provisions and/or limits, commercial/recreational endeavors based on your own limited subjective evaluations? You have no statistical data! Given the disastrous mismanagement of MITIGATION river systems — notably the KAMATHA RIVER — how can you make such sweeping, unwarranted limits? WHAT ARE YOU THINKING?

Please leave your comments in the designated comment box or mail to: MLPA Scoping comments, c/o John Ugoretz, Nearshore Ecosystem Coordinator, California Department of Fish and Game, 20 Lower Ragsdale Drive, Suite 100, Monterey, California 93940. Comments may also be e-mailed to mlpacomments@dfg.ca.gov. Comments must be received by Tuesday, August 15, 2006.

If you are so smart how did my family survive in the coast at disaster in Santa Cruz with the mismanagement?



Scoping Meeting

Central Coast Marine Protected Areas Project

COMMENT CARD

Comments will be accepted through close of business on Tuesday, August 15, 2006

Please Print

RODGER ANDERSON

Name

Title

Organization or business (if applicable)

SOG ZANZIBAR ST

Address

MORRO BAY, CA. 93442

City, State, Zip

(805) 772-9612

Phone

Fax

E-Mail

This is your chance to comment on what will be studied during environmental review of the Central Coast Marine Protected Areas Project. Your input on the scope of the project is greatly appreciated. Please write legibly.

PACKAGE 1 IS THE BEST AVAILABLE. IT GREATLY REDUCES FISHED AREAS BUT ALLOWS SOME REASONABLE FISHING TO CONTINUE. LARGE CONCESSIONS ARE BEING MADE BY THE FISHING COMMUNITY. IT WAS THE PACKAGE THAT GOT THE MOST SUPPORT. IT EPITOMIZES COMPROMISE. PLEASE PICK PACKAGE 1. THE SOCIO ECONOMIC IMPACTS OF OTHER CHOICES WOULD BE EVEN MORE DAMAGING THAN ARE WARRANTED.

Please leave your comments in the designated comment box or mail to: MLPA Scoping comments, c/o John Ugoretz, Nearshore Ecosystem Coordinator, California Department of Fish and Game, 20 Lower Ragsdale Drive, Suite 100, Monterey, California 93940. Comments may also be e-mailed to mlpacomments@dfg.ca.gov. Comments must be received by Tuesday, August 15, 2006.



Scoping Meeting

Central Coast Marine Protected Areas Project

COMMENT CARD

Comments will be accepted through close of business on Tuesday, August 15, 2006

Please Print

Name Janice Peters Title Mayor

Organization or business (if applicable) City of Morro Bay

Address 595 Harbor St.

City, State, Zip Morro Bay CA 93442

Phone 805-772-4656 Fax _____

E-Mail slamigos@charter.net

This is your chance to comment on what will be studied during environmental review of the Central Coast Marine Protected Areas Project. Your input on the scope of the project is greatly appreciated. Please write legibly.

Please study peer review information. Consider greater environmental ~~and~~ effect of limiting areas, resulting in over-fishing of these areas instead of moving slowly and achieving ecologic balance.

Also consider environmental impacts on more fishing and fish imports from other countries who have no environmental constraints.

Consider public access for recreation and loss of public services in the imperiled infrastructure. Fuel docks, ice machines, fish processing. Look at the long term B/C picture, please.

Please leave your comments in the designated comment box or mail to: MLPA Scoping comments, c/o John Ugoretz, Nearshore Ecosystem Coordinator, California Department of Fish and Game, 20 Lower Ragsdale Drive, Suite 100, Monterey, California 93940. Comments may also be e-mailed to mlpacomments@dfg.ca.gov. Comments must be received by Tuesday, August 15, 2006.

Jeff Thomas

From: henriette groot [hplgroot@kcbx.net]
Sent: Wednesday, August 16, 2006 1:22 PM
To: Paul Reilly; jugoretz@dfg.ca.gov
Subject: Info requested during scopingGentlemen meeting in MB

>Gentlemen,

During the scoping meeting recently held in Morro Bay the public was asked for information on any studies pertaining to the study area. Two items come to mind:

1. The 316b studies done in the Morro Bay Estuary in connection with Duke's Application for Certification to the California Energy Commission, dated around 2000(?).
2. The SLOSEA Ecosystem-based series of studies recently initiated in and around the Morro Bay Estuary, ref. the SLOSEA website.

I was not sure who to send this to so decided to email both of you. Henriette Groot, PhD

>

August 17, 2006

President Michael Flores and Members
California Fish and Game Commission
1416 Ninth Street
P.O. Box 944209
Sacramento, CA 94244-2090

Dear President Flores and Members of the Commission:

Thank you for acting without delay in adopting a preferred Marine Life Protection Act (MLPA) package. We fully recognize how difficult a process it has been to get this far, and we applaud your leadership in getting it done. As the population on the planet increases, it is crucial we take the time now to protect some special places. The population of California alone is projected to reach 40 million in the next 5 years. The pressures from this increasing population further exacerbate the stresses from global warming, highlighting the crucial need to put protections in place today.

At the August 15th California Fish & Game Commission meeting, we gave testimony reflecting our several years' experience to date working on spatial marine management issues on the West Coast and our understanding that the current process is the model for future processes. We identified two elements that must be implemented to ensure that the goals of the MLPA are met: 1) a network of protected areas throughout the region without delay; and 2) a comprehensive public information and monitoring program. Now that the initial steps have been taken towards setting up a network of protected areas, we urge you to move forward with the information and monitoring program and include all important ecological areas identified in the process.

In this regard, we have appended to this document a list of 51 such important ecological areas based on their being sites with a high concentration of features key to the integrity and health of the ecosystem, such as coral and sponge habitat, persistent kelp, and feeding and breeding grounds for marine mammals and seabirds (see Appendix 1). Some of these areas will now receive protection as the Commission's preferred alternative is implemented. Clearly, these designated sites require monitoring measures in place to test their effectiveness in reaching their specific goals and the wider goals of the MLPA. However, equally important is the monitoring and public information of the important ecological areas not picked for immediate specific protective management measures.

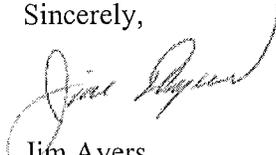
From the work we've done, we'd like to offer our help in bringing data and information to the Commission, California Department of Fish and Game (CDF&G), and Ocean Protection Council (OPC) as the details of the public information and monitoring program are worked out. We recognize the need for consistency in data collection methodology across disciplines and monitoring entities, and so we support the efforts of the OPC and CDF&G to develop

standardized monitoring indicators. We also recognize, however, that specific protections put in place in each area reflect that area's unique purpose within the network of MPAs, and so monitoring goals will also vary from site to site. Thus, we would like to submit to you in the near future our recommended monitoring goals for each of the 51 important ecological areas.

In the meantime we would like to stress the importance of collecting fisheries data as well as biological data. To this end we recommend the appropriate use of measures such as Vessel Monitoring Systems, observers and electronic logbooks, the importance of which has been recognized by the North Pacific and Pacific Fishery Management Councils in their respective essential fish habitat processes.

Again, thank you for moving the process forward in a timely manner. We continue to believe that it is possible and imperative to develop the tools that will allow sustainable personal and recreational use of coastal and fisheries resources while maintaining healthy biodiverse ecosystems.

Sincerely,

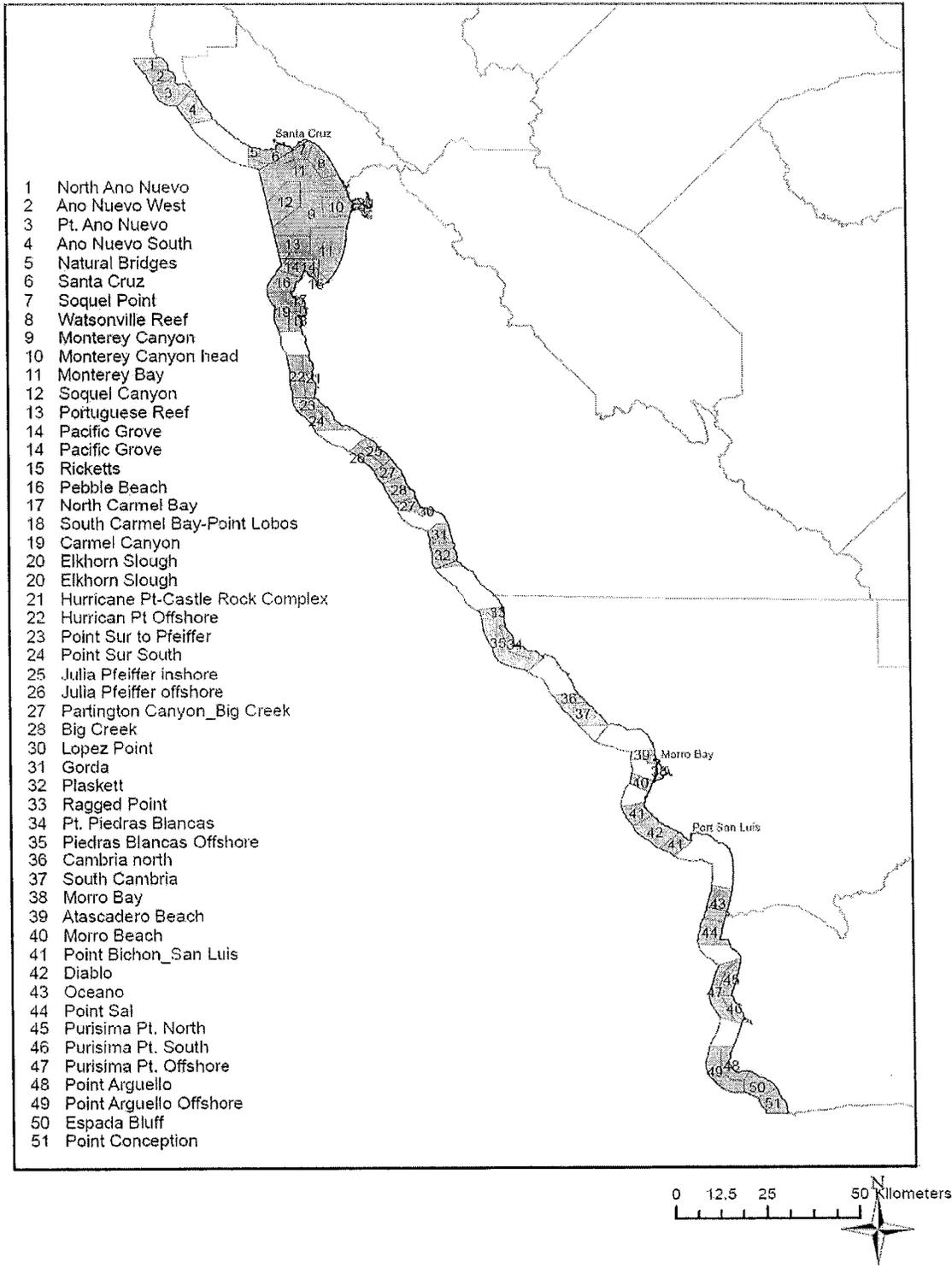


Jim Ayers

Vice President, Oceana

cc: Commissioner Bob Hattoy, Vice President
Commissioner Cindy Gustafson
Commissioner Richard B. Rogers
Commissioner Jim Kellogg
Mr John Carlson, Executive Director

Appendix 1: Overview map and descriptions for 51 important ecological areas on the Central California Coast



- 1) North Ano Nuevo
 - Rocky intertidal • Multiple rocky reefs • High fish/bird diversity
- 2) West Ano Nuevo
 - Buffer to elephant seal rookery • High fish/bird diversity
- 3) Point Ano Nuevo
 - Major elephant seal rookery • Seabird colony • Upwelling center • Nearshore hard substrate • High fish/bird diversity • Kelp
- 4) South Ano Nuevo to El Jarro Point
 - Buffer to elephant seal rookery and seabird colony • Coastal marshes
 - Nearshore hard substrate • Seabird colony • High fish/bird diversity
- 5) Natural Bridges
 - Rocky intertidal • Multiple rocky reefs • High fish/bird diversity
- 6) Santa Cruz nearshore reefs
 - Rocky reefs • Kelp forests • High fish/bird diversity
 - San Lorenzo River freshwater plume
- 7) Soquel Point
 - Known larval retention area • Rocky reef
- 8) Watsonville reefs
 - Rocky reefs • Freshwater plume from Pajaro River
- 9) Monterey Canyon
 - Largest submarine canyon on west coast • Rocky bottom • High depth range
 - High fish/bird diversity • Corals and sponges
- 10) Monterey canyonhead
 - Major canyonhead • Shark habitat • Adjacent to major estuary
 - High fish/bird diversity
- 11) Monterey Bay shelf north
 - Soft bottom habitat • Pajaro River freshwater plume
- 12) Soquel Canyon
 - Rockfish hotspot • Major canyonhead • Corals and sponges
 - High fish/bird diversity
- 13) Portuguese Reef
 - Rocky reef • Rockfish habitat • High fish/bird diversity

- 11b) Monterey Bay shelf south
- Soft bottom habitat with isolated rocky outcrops ◦ Adjacent to major canyons
 - Estuaries, and reef complexes ◦ Salinas River freshwater plume
- 14) Pacific Grove/Monterey reefs
- Shale beds • Rocky reefs at various depths • High fish/bird diversity • High density sea otter habitat
- 15) Hopkins Marine Life Refuge/ Ricketts
- Rocky reef • Metridium fields • High fish diversity • High invertebrate diversity
- 16) Pebble Beach
- Rocky reefs at various depths • Larval seeding area • Offshore rocky canyon
 - Pinnacles • Seabird colony • Kelp forest • high productivity
 - High fish/bird diversity • High density sea otter habitat
- 17) North Carmel Bay
- Pinnacles • Corals and sponges • Kelp forest • Pinnacles
 - High fish/bird diversity • High density sea otter habitat
- 18) South Carmel Bay/Point Lobos
- Major canyonhead reaches shore • Pinnacles • Seabird colonies, pinnacles
 - Coastal marsh and freshwater plume at Carmel River • High fish/bird diversity
 - High density sea otter habitat
- 19) Offshore Carmel Canyon
- Deepwater canyonhead • Corals and sponges • Pinnacles
 - High fish/bird diversity
- 20) Elkhorn Slough
- Only major estuary in region • High diversity • Fish and shark nursery
 - Eelgrass habitat • “Globally Important Bird Area”
- 21) Hurricane Point-Castle Rock Complex nearshore
- Major seabird colony including common murre in decline
 - Nearshore rocky reefs • High fish/bird diversity
- 22) Hurricane Point-Castle Rock Complex offshore
- Buffer for major seabird colony • Upwelling center • High fish/bird diversity
- 23) Point Sur south to Pfeiffer State Beach
- Major upwelling center • Rocky reef extending 3 miles offshore
 - Adjacent to major offshore reef • Extensive kelp forest • High fish/bird diversity
- 24) South Point Sur offshore
- Deepwater hard substrate habitat • Rocky canyonhead • High fish/bird diversity

- 25) Julia Pfeiffer Burns nearshore
 • Major rocky canyonhead • Kelp forest • High fish diversity
- 26) Julia Pfeiffer Burns offshore
 • Deep canyons, buffer to seabird colonies • High fish diversity
- 27) Central Partington slot canyons
 • Seabird colonies • Canyonheads • Corals and sponges • High fish diversity
- 28) Big Creek
 • Rocky reefs • Several canyonheads • Coral and sponge • High fish diversity
- 29) Gamboa Point area
 • Kelp forest • Canyonheads • Rocky reefs • High fish diversity
- 30) Lopez Point
 • Extensive kelp forest • Leeward of major headland • High fish diversity
- 31) Gorda
 • Shelf/slope break • Upwelling zone • Mill Creek Canyon head • Nesting seabirds • High density sea otter habitat • Habitat-forming invertebrates
 • Overfished groundfish habitat • Nearshore finfish habitat • Persistent kelp beds
- 32) Plaskett
 • Shelf/slope break • Upwelling zone • Major nesting seabird colonies
 • High density sea otter habitat • Northern elephant seal rookery
 • Habitat-forming invertebrates • Overfished groundfish habitat
- 33) Ragged Point to San Simeon Point
 • Upwelling zone • Persistent kelp beds • Seabird colonies
 • Marine mammal haulouts
- 34) Point Piedras Blancas
 • Upwelling zone • Northern elephant seal rookery • Major seabird colonies
 • Rhinoceros auklet nesting • High density sea otter habitat
 • Marine mammal haulouts • Overfished groundfish habitat
 • Nearshore finfish habitat • Persistent kelp beds
- 35) Offshore Piedras Blancas
 • Upwelling zone • Overfished groundfish habitat
- 36) Cambria North
 • Upwelling zone • Nearshore finfish habitat • Overfished groundfish habitat
 • Marine mammal haulouts • Persistent kelp beds

- 37) Cambria South
- Upwelling zone • Nearshore finfish habitat • Overfished groundfish habitat
 - Persistent kelp beds
- 38) Morro Bay
- Estuary • Eelgrass • Nursery for fish and invertebrates
 - Nearshore fish and invertebrate habitat • Seabird and waterfowl staging area
 - Pismo clams, sand dollars, and other infauna • Threatened Steelhead
 - Sea otter foraging habitat
- 39) Atascadero Beach
- Nearshore fish and invertebrate habitat • Seabird staging area
 - Snowy Plover nesting • Pismo clams, sand dollars, and other infauna
- 40) Morro Beach
- Nearshore fish and invertebrate habitat • Seabird staging area
 - Pismo clams, sand dollars, and other infauna • Snowy Plover nesting
- 41) Point Buchon to San Luis
- Rocky reefs • Offshore pinnacles • Seabird colony • Marine mammal haulouts
 - Persistent kelp • High density sea otter habitat
- 42) Diablo
- Major Seabird colony • Marine mammal rookery • Marine mammal haulouts
 - High density sea otter habitat • Existing protection at Diablo power plant
- 43) Oceano Beach
- Nearshore fish and invertebrate habitat • Estuary • Freshwater plume
 - Seabird staging area
- 44) Point Sal
- Nearshore hard substrate • Shelf hard substrate • Seabird colony
 - Pinniped haulout
- 45) Purisima Point north
- Nearshore hard substrate • Shelf hard substrate • Seabird colony
- 46) Purisima Point south
- Nearshore hard substrate • Shelf hard substrate • Seabird colony • Estuary
 - Freshwater plume
- 47) Offshore Purisima
- Ecotone between hard substrate and soft bottom habitat
- 48) Point Arguello
- Upwelling zone • Nearshore hard substrate • Shelf hard substrate

- Major seabird nesting colony ◦ High density sea otter habitat
- Existing protection from Vandenberg Base

49) Offshore Point Arguello

- Upwelling zone

50) Espada Bluff

- Upwelling zone • Nearshore hard substrate • Shelf hard substrate
- High density sea otter habitat • Persistent kelp

51) Point Conception

- Upwelling zone • Nearshore hard substrate • Shelf hard substrate
- High density sea otter habitat • Marine mammal rookery



Delivered by email to:
jugoretz@dfg.ca.gov
preilly@dfg.ca.gov

August 17, 2006

MLPA Scoping Comments
c/o John Ugoretz
Nearshore Ecosystem Coordinator
California Department of Fish and Game
20 Lower Ragsdale Drive, Suite 100
Monterey, CA 93940

RE: Scoping Comments for Central Coast Marine Protected Areas Project

Dear Mr. Ugoretz:

On behalf of The Ocean Conservancy and the Natural Resources Defense Council, please accept the following comments regarding the environmental review of the Marine Life Protection Act central coast region marine protected areas project. We respectfully request that the following issues be addressed in the environmental review documents prepared for this project.

1. Inclusion of Marine Protected Area (MPA) Package 2R as one of the project alternatives to be analyzed. The range of protection offered by the MPA Packages that came forward out of the MLPA Initiative process and the Department of Fish and Game is extremely narrow. Package 2R represents the outer bound of protection currently being considered and yet would protect only 13% of the central coast study region in state marine reserves. Ideally, Package AC developed by NRDC and PRBO Conservation Science would be included too, but we recognize the time and workload implications may preclude analysis of this alternative. We request that Package 2R be included in the range of alternatives analyzed during environmental review.
2. Inclusion of the detailed Science Advisory Team (SAT) analysis of any alternatives considered during environmental review. The SAT's analysis of compliance with the science guidelines contained in the Master Plan Framework provide a useful view of how well each alternative meets scientific guidance regarding design of effective MPAs and should be the basis for any further evaluation of the alternatives.

3. Inclusion of analysis of if and how well each alternative meets the legal requirements of the Marine Life Protection Act (MLPA). We specifically request careful analysis of how each alternative meets (or doesn't meet) the requirement in Fish and Game Code Section 2857 to represent and replicate "a representative variety of marine habitat types and communities across a range of depths and environmental conditions." We note that several of the MPA Packages do not seem to comply with requirement to replicate deepwater habitats in state marine reserves. For example, Package P has less than 1% of available deepwater hard bottom habitat contained in state marine reserves. We request that this analysis also consider the habitat availability in the remaining area of the bioregion be assessed to determine the feasibility of complying with this requirement in future phase of MLPA.
4. Analysis of the implications of use of semi-take areas versus no-take areas with regards to both scientific consequences (ecological effectiveness) and administrative consequences (difficulties of enforceability). We urge careful consideration of the implications of allowing take of forage species (such as squid, herring, mackerel and anchovies) in areas designed to benefit the predators of such species. Predator prey interactions are key to protecting ecological function and integrity - a key goal of the MLPA. Thus allowing take of important prey species in an MPA seriously undermines the ability of the MPA to meet the goals of the Act. The various alternatives should be carefully analyzed as to how well each one protects predator-prey interactions in MPAs. Note that the SAT's List of Species Likely to Benefit from MPAs includes seabirds and marine mammals specifically based on the ability of MPAs to protect their forage base. Note also, letters in the FGC record from biologists at PRBO Conservation Science (testimony at hearing on August 15, 2006 and in letter submitted to Fish and Game Commission) and at the University of California at Santa Cruz (Letter from Professor Don Croll dated 8/14/06 submitted to Fish and Game Commission) supporting the scientific value of protecting forage species at sites such as Año Nuevo, Soquel Canyon and Portuguese Ledge.
5. Consideration of level of current fishing activity that occurs in proposed MPA areas in each Package as it relates to monitor and performance expectations. MPA Packages that propose MPAs in areas that currently have very little fishing activity are unlikely to show biological changes if fishing is disallowed. MPAs sited in areas with a higher current level of take may reasonably be expected to achieve improved performance over time.
6. Analysis of ecological consequences of delaying or phasing in implementation of MPAs over time in terms of network performance and monitoring expectations.
7. Analysis of ability of alternatives to facilitate MPA monitoring and adaptive management. For example, some alternatives may provide for more inclusion of existing baseline data sites such as the PISCO sites, LIMPETS sites, the Diablo Canyon Power Plant's monitoring site, etc. MPA network design can also have a significant impact on the ability to effectively monitor and assess MPA (and network) performance. For example, Package 2R includes several state marine reserves that meet the

preferred science guidelines for size and extend from shore to the limits of state waters. The preferred alternative selected by the Fish and Game Commission contains no reserves that meet the preferred science guidelines and extend to state water limits. The SAT has noted that state marine reserves provide the highest likelihood of achieving MLPA goals 1,2, and 4 and that even high protection state marine conservation areas are less likely to achieve these goals than marine reserves. The SAT also noted that marine reserves are needed to compare to other types of MPAs to allow assessment of the consequences of allowing extraction in some MPAs

8. Discussion of the potential benefits of marine protected areas for living marine resources and habitats
9. Discussion the potential benefits of MPAs to non-consumptive users, consumptive users, local businesses and the tourist industry.
10. Discussion of the science of marine reserves and network design.
11. Analysis of the educational benefits of MPAs as places where educators, students and researchers can collect baseline data, study the functioning of ecosystems and analyze how well each of the alternatives provides such opportunities.
12. Consideration of the benefits for enforcement, management, education, and biological resources of siting MPAs adjacent to land parks and refuges.
13. Analysis of trends in fishery capacity over the past decade or two off California and ways those trends mitigate potential impacts of MPAs on adjacent areas. We note in particular the significant decrease in groundfish and spot prawn landings in recent years based on changes in these fisheries.
14. Discussion of the status and trends of living marine resources and habitats affected by fishing off California's coast (see for example, Philip Levin et al, Janet Mason, Becker and Beissinger,¹ and relevant information on overfished species).

Thank you for your consideration of these comments.

Kaitilin Gaffney
The Ocean Conservancy

Karen Garrison
NRDC

¹ Levin, Mason, Janet, Benjamin H. Becker and Steven R. Beissinger, 2006. "Centennial Decline in the Trophic Level of and Endangered Seabird after Fisheries Decline," Conservation Biology Vol 20, No. 2 470-479

Jeff Thomas

From: Garrison, Karen [kgarrison@nrdc.org]
Sent: Thursday, August 17, 2006 3:57 PM
To: jugoretz@dfg.ca.gov; PReilly@dfg.ca.gov
Cc: kgaffney@psinet.com
Subject: Attachment to TOC and NRDC MLPA CEQA Scoping Comments

Please attach to our scoping comments (sent earlier today) this sheet with more complete references: sorry for the garbled footnote on references in the comments themselves. Because we don't have complete cites for a couple of those papers, I'm attaching copies of the papers themselves.

Thanks, Karen Garrison

Karen Garrison
Natural Resources Defense Council
111 Sutter Street, 20th Floor
San Francisco, CA 94104
Tel: 415.875.6100
Fax: 415.875.6161

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Attachment to TOC, NRDC Scoping Comments for MLPA CEQA process

These articles relevant to the MLPA setting supplement those on the DFG MLPA website

Levin, Phillip S., Elizabeth E. Holmes, Kevin R. Piner and Chris J. Harvey, 2006. Shifts in a Pacific Ocean fish assemblage: the potential influence of exploitation. *Conservation Biology*.

Becker, Benjamin H. and Steven R. Beissinger, 2005. Centennial decline in the trophic level of an endangered seabird after fisheries decline. *Conservation Biology*, Vol 20, No 2, 470-479

Mason, Janet E., 1998. Declining Rockfish Lengths in the Monterey Bay, California, Recreational Fishery, 1959-1994.

Declining Rockfish Lengths in the Monterey Bay, California, Recreational Fishery, 1959–94

JANET E. MASON

Introduction

Marine recreational bottom fishing from commercial passenger fishing vessels (CPFV's), known as partyboats and charter boats, has been popular in the Monterey Bay area of central Califor-

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ABSTRACT—California's Monterey Bay area is an important center of recreational fishing for rockfish of various *Sebastes* species. The species composition of commercial passenger fishing vessel catches from 1959 to 1994 varied with changes in fishing location and depth. The shift from shallow nearshore locations to deeper offshore locations in the late 1970's and 1980's changed the emphasis from the blue rockfish, *S. mystinus*, of shallow waters to the deeper, commercially fished chilipepper, *S. goodei*, and bocaccio, *S. paucispinis*. The mean size of rockfish in the catch increased as the latter species were targeted at greater depths but then declined as stocks of older fish disappeared by the mid 1980's. During 1960–94 the mean size of all ten leading species in the recreational catch declined. The declines ranged from 1% for canary rockfish, *S. pinniger*, to 27% for chilipepper. The sizes of the deeper living species declined more than those of shallower species. The low frequency of strong recruitment events and increase in fishing mortality and natural mortality appear to have contributed to the declining mean size. The scarcity of older fish, observed as a drop in mean size to below the size of maturity for 50% of females, leads to concern for future recruitment of the larger species, especially bocaccio, chilipepper, yellowtail rockfish, *S. flavidus*, and canary rockfish.

nia since the late 1920's (Clark and Croker, 1933). Passengers pay a fee to be taken to one or more offshore fishing sites, where they fish while the boat drifts over bottoms from 9 to 274 m deep (Sullivan, 1995). The skipper locates concentrations of fish on the bottom or in midwater, and anglers catch an average of 11–12 fish per day (Karpov et al., 1995). For the purpose of this paper, the Monterey Bay area, approximately 100 km south of San Francisco, includes all sites normally fished by CPFV's from the ports of Santa Cruz, Moss Landing, and Monterey (Fig. 1) and extends from Año Nuevo, about 35 km north of Santa Cruz, to Point Sur, about 35 km south of Monterey. This area received 24% of CPFV effort and produced 43% of CPFV landings in northern California from 1981 to 1986 (Karpov et al., 1995). Most of the fish caught (85%) are of the genus *Sebastes*, commonly called rockfish (Miller and Geibel, 1973; Karpov et al., 1995).

Rockfish have dominated the catch from CPFV's in the Monterey Bay area from the 1950's to the present (Miller and Geibel, 1973; Karpov et al., 1995; Reilly et al.¹; Wilson-Vandenberg et al.²). At least 29 species of rockfish appear in the CPFV catch (Miller and

Geibel, 1973), but the fishery heavily targets the few aggregating species found in limited areas. Over 72% of the catch in 1960–86 (Mason, 1995) and 76% in 1987–91 (Reilly et al.¹) came from six aggregating species: bocaccio, *S. paucispinis*; chilipepper, *S. goodei*; blue rockfish, *S. mystinus*; yellowtail rockfish, *S. flavidus*; widow rockfish, *S. entomelas*; and olive rockfish, *S. serranoides*. Over the years the proportions of these species in the catch have changed from predominantly blue rockfish in the 1950's, to both blue and yellowtail rockfish in the 1960's (Miller and Geibel, 1973), to more chilipepper and bocaccio in the 1980's (Mason, 1995), and back to more blue rockfish in the 1990's (Wilson-Vandenberg et al.^{2,3}; Wilson et al.⁴).

The continuous harvest of rockfish by the CPFV fishery has raised questions about the sustainability and health of this fishery. Some anglers and boat operators believe that rockfish are smaller

¹ Reilly, P. N., D. Wilson-Vandenberg, D. L. Watters, J. E. Hardwick, and D. Short. 1993. On board sampling of the rockfish and lingcod commercial passenger fishing vessel industry in northern and central California, May 1987 to December 1991. Calif. Dep. Fish Game, Mar. Res. Div. Admin. Rep. 93-4, 242 p.

² Wilson-Vandenberg, D., P. N. Reilly, and L. Halko. 1995. Onboard sampling of the rockfish and lingcod commercial passenger fishing vessel industry in northern and central California, January through December 1993. Calif. Dep. Fish Game, Mar. Res. Div. Admin. Rep. 95-2, 122 p.

³ Wilson-Vandenberg, D., P. N. Reilly, and C. E. Wilson. 1996. Onboard sampling of the rockfish and lingcod commercial passenger fishing vessel industry in northern and central California, January through December 1994. Calif. Dep. Fish Game, Mar. Res. Div. Admin. Rep. 96-6, 96 p.

⁴ Wilson, C. E., L. A. Halko, D. Wilson-Vandenberg, and P. N. Reilly. 1996. Onboard sampling of the rockfish and lingcod commercial passenger fishing vessel industry in northern and central California, 1992. Calif. Dep. Fish Game, Mar. Res. Div. Admin. Rep. 96-2, 103 p.

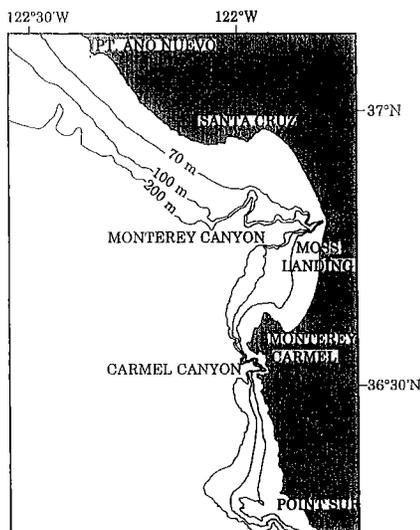


Figure 1.—Extent of the Monterey Bay CPFV fishing area on the central coast of California.

and less available than in the past, especially close to port. Reilly and co-workers¹ studied the species composition, mean length, and catch per angler hour in the fishery from 1987 to 1991. They found variation in the mean length of individual species and recommended a longer study to determine trends. In this paper, I combined 8 years of their studies with earlier data to provide a longer historical perspective on mean lengths of the ten dominant rockfish species over a 34-year period. These changes will be reviewed in light of the relative abundance of the species in the catch and the effect of new recruitment on mean length in the catch.

The relative importance of particular rockfish species has changed with their availability over the years and with the CPFV fleet's response. Blue rockfish dominated the catch in the first CPFV survey by the California Department of Fish and Game (CDFG) in 1959–60 (Miller and Gotshall, 1965). Miller and Gotshall expressed concern about the declining availability of blue rockfish which dropped that year from 54% to 18% of the local Santa Cruz catch. Blue rockfish aggregate in shallow water <70 m deep (Miller and Geibel, 1973). Like most rockfish species, they do not migrate and are therefore easily depleted in local areas.

Miller and Geibel (1973) found that 95% of blue rockfish recaptured from tagging releases inside kelp beds were found at the release site over a 3-year period, and that 85% of recaptured adult blue rockfish from tagging outside kelp beds moved <1.6 km. Length distributions of the catch from fishing areas 15 km apart remained distinct over several years, confirming the isolation of local populations and the lack of replenishment by adults from other areas despite differences in fish density (Miller and Geibel, 1973).

As catches of blue rockfish declined near Santa Cruz in the 1960's, CPFV skippers maintained high catch rates through two strategies: fishing farther from port for blue rockfish or shifting to deeper water to target other species such as yellowtail rockfish (Miller and Geibel, 1973). Boats from Santa Cruz located concentrations of blue rockfish at Año Nuevo, 15 km from port, but after a few years even these distant stocks declined in mean length and in availability. In the area nearer port, yellowtail rockfish became the leading species in the catch, taken in midwater over banks from 66 to 100 m deep (Miller and Gotshall, 1965).

A second shift to fishing in even deeper water occurred by 1977 as chilipepper rockfish, caught near the bottom at depths averaging 116–135 m (Sullivan, 1995), became the dominant species (Mason, 1995). Bocaccio, greenspotted rockfish, *S. chlorostictus*, and greenstriped rockfish, *S. elongatus*, were also caught at these depths. These four species are used in this report as indicators of deepwater fishing (depths of 75 m or deeper). Bocaccio occur in shallow water as juveniles and in deep water as adults, and are considered mixed-depth species in some studies (Karpov et al., 1995). In the Monterey Bay area they are generally taken by CPFV's at 75 m and deeper (Thomas and Bence 1992; Sullivan, 1995; Reilly et al.¹), and thus are deepwater species for this fishery.

The Monterey Bay area had the highest proportion of deepwater species in the total recreational catch of any area in northern and central California during 1981–86 (Karpov et al., 1995). The

proximity of deepwater fishing sites along the Monterey Canyon and Carmel Canyon makes these species more available to CPFV's from Monterey Bay than from other ports. The percentage of CPFV trips to deepwater areas in Monterey Bay recorded by CDFG increased from 56% in 1987 to a maximum of 72% in 1990–91 (Reilly et al.¹, Wilson-Vandenberg et al.^{2,3}; Wilson et al.⁴). Deepwater trips dropped to 28% by 1994 as effort shifted back to blue rockfish in shallow water after 1992 (Wilson-Vandenberg et al.^{2,3}).

The sport and commercial fisheries targeted different species until the 1970's, but as CPFV's moved into deeper water, that distinction disappeared. Chilipepper and bocaccio have dominated commercial rockfish landings in Monterey Bay for more than 100 years. Bocaccio and chilipepper together accounted for 70% of the landings from set lines in 1937–38; yellowtail rockfish, vermilion rockfish, *S. miniatus*, and canary rockfish, *S. pinniger*, totaled another 21% (Phillips, 1939). Bocaccio and chilipepper remained dominant despite changes in commercial fishing gear from set lines in the 1930's, to balloon trawls in the 1950's, to gillnets in the late 1980's (Heimann, 1963; Pearson and Ralston, 1990). From 1980 to 1994 chilipepper and bocaccio have dropped from 80% to 54% of the rockfish catch. The relative importance has shifted from mostly bocaccio before 1984 to mostly chilipepper after 1990. The commercial hook-and-line fishery has increased in both landings and proportion of the commercial catch since 1990 (Pearson and Almany, 1995). A nearshore hook-and-line fishery for live fish has developed throughout the state since 1989 (California Department of Fish and Game, 1998). As the CPFV fleet moved into deep water and the commercial fleet into shallow water, fisheries interactions increased.

Changes in the relative abundance of particular species of rockfish can be inferred from their proportion in the CPFV catch, but relative importance may be affected by trends in abundance of other target species, as well as changes in fishing locations. Another

indicator of the condition of the fishery may be the size of fish caught. The annual mean length of the total CPFV rockfish catch reflects the average size of all species combined, and a drop in this mean may indicate either an increased proportion of smaller species in the catch or a decreased size of the dominant species. It is necessary to look at both the size of individual species and their changing proportions in the catch to evaluate changes in overall size.

A decline in the mean length of a fished species is often considered an indicator of increased fishing mortality. A large proportion of the biomass for unexploited rockfish populations consists of older, larger, slower growing fish (Leaman and Beamish, 1984). Increased fishing pressure removes these older fish more rapidly than they are replaced, so if recruitment and growth are stable, higher fishing mortality will reduce the mean length. In rockfish populations, however, recruitment varies from year to year, and the size distribution of young fish varies with the presence or absence of successful year classes. A strong year class can dominate the catch as it recruits to the fishery, first reducing and then increasing the mean length as the year class grows. If another strong year class recruits to the fishery, the mean length may drop again.

I examined the CPFV fisheries from Monterey Bay for: 1) changes in fishing effort and success, 2) changes in relative importance of species from different depths, 3) changes in the size of the ten leading species, 4) the mean length caught relative to size at maturity, 5) the effects of new recruitment on the mean length of these species, and 6) similar trends in the mean length of species from CPFV and commercial landings.

Methods

Total catch of rockfish was taken from annual summaries of the logbooks submitted by CPFV skippers to the California Department of Fish and Game. Individual rockfish species are not recorded in the logbooks, so I estimated the annual catch by species by multiplying the total rockfish caught by the annual proportion of each species de-

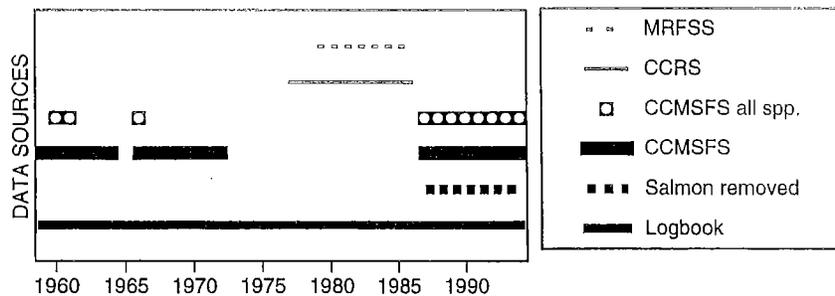


Figure 2.—Sources of data. Logbook data provide total CPFV catch and effort; salmon removed indicates years salmon effort was subtracted from the logbook total to calculate catch and effort for just rockfish trips. Surveys measuring species composition and length frequency in various years include: CCMSFS — Central California Marine Sport Fishing Survey, years when only blue rockfish were measured; CCMSFS all spp., years when all species were measured; CCRS — California Cooperative Rockfish Survey; and MRFSS — Marine Recreational Finfish Statistical Survey.

rived from the sampling programs. The total number of anglers is also recorded in the CPFV logbooks, and since all trips out of the Monterey Bay area are day trips, the number of anglers represents angler days. The years covered by the various sampling programs are displayed in Figure 2.

Catch per angler day (CPAD) was calculated in two ways. Simple CPAD was calculated from the total catch divided by the total anglers. This included all types of CPFV fishing in the Monterey Bay area. CPAD from rockfish trips was what remained after the effort and catch from trips targeting Pacific salmon, *Oncorhynchus* spp., were removed from the total trips. For most of the time series, the effect of salmon trips on CPAD is negligible, but CPFV logbooks indicate more salmon have been caught since 1986. Boats trolling for salmon catch very few rockfish. From 1987 to 1994 CDFG examined the logbook records for each fishing trip and removed salmon trips (CPFV trips that caught salmon and averaged less than 4 fish per angler) from the calculation of rockfishing effort (Reilly et al.¹; Wilson-Vandenberg et al.^{2,3}; Wilson et al.⁴). Data were not available to make this correction for previous years.

The CDFG also compared the number of anglers and fish reported in logbooks for observed trips with the actual numbers observed by CDFG samplers to determine the unreported catch and

effort for 1987–94. Adjusted total rockfish and rockfish effort were calculated from these rates. The CDFG also categorized the trips by fishing depth during this period (Reilly et al.¹; Wilson-Vandenberg et al.^{2,3}; Wilson et al.⁴).

Data on species composition and length frequency were gathered from several sampling programs spanning a 34-year period in the Monterey Bay area (Fig. 2). The earliest data are from the Central California Marine Sport Fish Survey (Miller and Gotshall, 1965; Miller and Geibel, 1973). Species composition and lengths of blue rockfish were recorded each year from 1959 to 1972 except for 1965. Lengths of all rockfish species were sampled from CPFV's only in 1960, 1961, and 1966. The California Cooperative Rockfish Survey collected species composition and length information from CPFV's for 1977–86 for Santa Cruz and Monterey and for 1979–81 for Moss Landing (all Moss Landing CPFV's had moved to Monterey by 1982). The creel census portion of the Marine Recreational Fishery Statistics Survey collected data on species composition and length for 1979–86 for Santa Cruz County and Monterey County ports and overlaps with the previous survey (Holliday, 1984). These data augment reduced sampling by the California Cooperative Rockfish Survey during these years. Data sources through 1986 and numbers of fish sampled are further described by Mason (1995). The Central California

Marine Sport Fish Project again collected samples from 1987 to 1994, and their sampling techniques are described by Reilly et al.¹ In 1990, samples were taken only from January to June, and in 1991 from August to December so these 2 partial years were combined to remove the seasonal differences in species composition.

All sampling programs measured total length of rockfish in millimeters. Frequency distributions were calculated in 0.5 cm length intervals (e.g. 10.0 to 10.4 cm) and grouped to 2 cm for display and labeled by lower limit of interval. Mean lengths for species were calculated from the total lengths for years with at least 20 measured fish of a species. The 10 leading species were used for analysis of mean length because they had nearly complete series. Boundaries for the 10th and 90th percentiles were calculated from 0.5 cm length-frequency categories and used to indicate the size range. Mean lengths were compared to the sizes at which 50% of the females and 50% of the males reach sexual maturity, as described by Wyllie Echeverria (1987) for northern California rockfish.

Length frequencies were expanded by catch by multiplying the total catch of rockfish reported in the CPFV logbooks times that species' proportion in the sampled catch times the proportion in each 2 cm size class. Length frequencies for four species with at least 50 fish per year were used to produce the length-frequency time series.

Only the California Cooperative Rockfish Survey (1977–86) identified the sex of rockfish when collecting lengths from the CPFV's. These lengths were used to examine sexual dimorphism in length frequency for each sex for each of the ten leading species.

Estimated weights of rockfish landed by CPFV's were derived from the estimated annual catch by species to compare CPFV and commercial landings. I calculated weights from the length frequencies by using length-weight parameters calculated from studies in southern California (Love et al., 1990), except for blue rockfish which Miller and Geibel (1973) studied in the Monterey Bay area. I divided the estimated CPFV

species landings by the sum of CPFV landings and expanded commercial landings from the California port sampling program data (Pearson and Ralston, 1990; Pearson and Almany, 1995) to get the percent caught by CPFV's. Logbooks may underestimate the CPFV catch by the proportion of fishing trips that are not reported, so percentages are adjusted to include unreported catch. I also calculated mean lengths of species by commercial gear type from this sampling program for principal species occurring in both the CPFV and commercial fisheries. Total commercial rockfish landings were obtained from the series of annual commercial landings published by the California Department of Fish and Game (1980–95).

Results

Many aspects of the CPFV fishery have changed during the 35 years covered by this report. There have been increases and decreases in effort and in total catch, as well as changes in the species caught and the depths fished. Declines in the proportion of certain species in the catch may reflect reduced availability of these species or increased availability of alternate species. The catch of smaller fish indicates a scarcity of large fish of particular species available to this fishery. All of these changes must be examined in relation to each other to evaluate the condition of the fishery.

Catch and Effort

Total catch by CPFV's increased threefold from 1964 to 1982 (Fig. 3a). Rockfish ranged from 81% to 95% of the catch and averaged 91% from 1959 to 1994. The rise in catch closely reflects the increased fishing effort through 1982 (Fig. 3b). Effort dropped sharply from 1983 to 1985 and catch dropped in 1984–85. As effort dropped in 1983, CPAD peaked (Fig. 3c) but decreased the next year as catch also dropped. Total effort climbed to a second peak in 1988, but total catch did not increase proportionately (Fig. 3a), probably because more effort was directed toward Pacific salmon which became more available after 1985.

When salmon become available, many boats troll for them instead of bottom fishing for rockfish. Salmon availability increased in the local area, and their catch rose from 2,500 (1.0% of CPFV catch) in 1985 to about 10,000 salmon (2.8% of CPFV catch) in 1986 (shown at 10 times actual catch in Fig. 3a). From 1987 to 1994, salmon fishing accounted for an average of 26% of the CPFV effort and a maximum of 34% in the combined 1990–91 seasons.

Catch per angler day differs for trips bottom fishing for rockfish and trips trolling for salmon. Marine anglers in California may keep 20 fish per day, 15 may be one or more species of rockfish, but only two may be salmon. The average catch of rockfish has varied from 8 to 13 fish per angler day (Fig. 3c). Catch per angler day for salmon trips averaged less than 4 fish per angler day. What appears to be a declining trend in catch per angler day after 1982 (Mason, 1995) was calculated from total fish divided by total anglers. When salmon fishing trips are removed after 1986, CPAD for rockfish trips stays at 10–12 fish per day. Salmon effort was negligible in earlier years, except for 1959–62, 1964, 1967, and 1986 when salmon totaled 1% or more of the CPFV catch. The low rockfish CPAD in 1985 reflects both a slight increase in salmon effort and low availability of rockfish.

Total catch and effort for the Monterey Bay area may have declined less than the logbooks indicate. Although skippers are required to report the number of trips along with the number of passengers and the number of fish caught, not all trips are actually reported. Skippers reported 73% of both the actual number of anglers and the fish caught on trips observed by CDFG in the area from 1987 to 1991 (Table 76 in Reilly et al.¹) and only 58% of the number of anglers and 56% of the catch for 1992–94. The percentage of trips reported dropped from a peak of 87% in 1988 to a low of 48% in 1994. The catch reported has also dropped for those years (from 73% to 84%: Wilson-Vandenberg et al.^{2,3}; Wilson et al.⁴). Adjusted total catch and rockfish effort are indicated only after 1986 (Fig. 3, a

and b), since we do not have compliance data for earlier years. Thus the decline in total catch and effort in 1993–94 may be slightly exaggerated by under reporting.

Species Composition

Catch composition has changed over time with changes in the depth and habitat fished. Blue rockfish was the leading species taken in the late 1950's. From 1959 through 1972 blue rockfish and yellowtail rockfish dominated, averaging 35% and 21% of the catch, respectively (Fig. 4). Olive rockfish averaged 6% of the catch and other shallow-water species together averaged only 3% through 1972. Since 1977, four species caught in deeper water (below 75 m) have become very important to the fishery averaging 32% of the catch in 1977–94 as compared to 7% in 1959–72. Most important in this group is chilipepper, which increased from 2% of the catch in 1959–72, to 15% in 1977–85, and 21% in 1986–94. The three other members of the deepwater group (bocaccio, green-spotted rockfish, and greenstriped rockfish) also increased in relative importance after 1977, although from 1991 to 1994 they declined sharply from 38% to 17% of the catch. Species compositions for 1990–91 are averaged from two incomplete sampling years (see Methods).

The relative importance of the different species groups varied more after the expansion into deeper water in 1977 than in earlier years. The fleet did not shift completely away from shallow water, but moved among different fishing areas at different depths, thus targeting a greater variety of species. The most blue rockfish were landed by CPFV's (estimated at 290,000) in 1981 after the fishery diversified into deep water. High fishing effort and good availability of species from all depth ranges contributed to the record total landings in 1981–82 (Fig. 3a). The catch included chilipepper, bocaccio, and widow rockfish from deep water, yellowtail rockfish from intermediate depths, and blue rockfish from shallow water. After 1978, total catch peaked only in years when blue rockfish were available, such as in 1988 and 1993. The

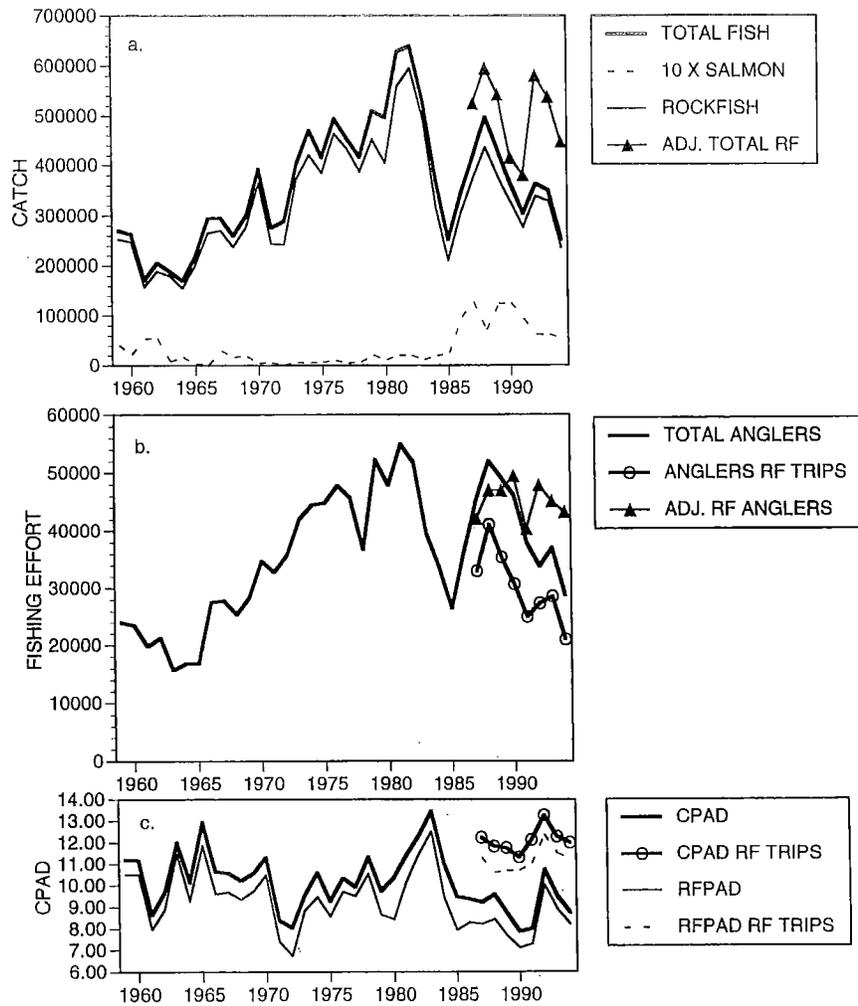


Figure 3a.—Catch from Monterey Bay area CPFV's: TOTAL FISH = Total fish reported; 10 X SALMON = salmon plotted at 10 times reported numbers; ROCKFISH = total rockfish reported; ADJ. TOTAL RF = total rockfish adjusted upwards for percentage not reported in logbooks. 3b.—CPFV effort in Monterey Bay area: TOTAL ANGLERS = total anglers reported; ANGLERS RF TRIPS = anglers from trips targeting rockfish (not salmon trips); ADJ. RF ANGLERS = anglers from rockfish trips adjusted upwards for percentage not reported in logbooks. 3c.—CPFV catch per angler day: CPAD = all fish from all trips; CPAD RF TRIPS = all fish from trips targeting rockfish; RFPAD = rockfish per angler day, all trips; RFPAD RF TRIPS = rockfish per angler day from trips targeting rockfish.

proportion of the catch comprising the four deepwater species has steadily declined since 1986 (Fig. 4) despite increased deepwater trips in 1989–92 (Table 1). The proportion of trips to deep water did not decline appreciably until 1993–94. The ten leading rockfish species are listed by order of abundance in the annual landings for the entire time period in Table 2.

Sexual Dimorphism

Sexual dimorphism in total body length was present in some but not all species of rockfish sampled from 1977 to 1984 (Fig. 5). Sexual dimorphism was pronounced in blue rockfish: only 7% of the males were larger than the mean length of females. Only 4% of chilipepper males were 40 cm or larger

Table 1.—Percentage of CPFV trips to two depth ranges. Trips classified as mixed depth could not be separated into just one depth range.

Year	Trips (%)		
	Shallow (<80 m)	Deep (>80 m)	Mixed depths
1987	17	56	27
1988	22	56	21
1989	19	63	17
1990–91	19	72	9
1992	20	64	16
1993	7	40	53
1994	31	33	36

compared to 52% of females. Only 8% of male olive rockfish were larger than the mean length of females. Only 4% of male greenstriped rockfish were larger than the mean length of females. In all four of these species, the females attained a larger maximum length and a larger mean length than the males.

Some species (bocaccio, widow rockfish, and yellowtail rockfish: Pearson and Ralston, 1990) that are sexually dimorphic at larger sizes were less clearly dimorphic in the sizes taken by the CPFV fishery. The mean length of females was only slightly larger than that of males, but in each of these species females predominated in the largest size classes. Yellowtail rockfish males appeared to have a narrower size distribution than females, but since some sampled fish, especially immature ones, were not categorized by sex, the apparent lack of smaller males may result from a difficulty in identifying immature males. Canary rockfish and rosy rockfish did not display sexual dimorphism in the lengths taken from CPFV's, although Boehlert and Kappenmann (1980) found that canary rockfish females caught by research trawls had a larger mean length, and Pearson and Ralston (1990) found that canary rockfish females were more abundant than males in the larger size range from commercial trawls (>56 cm, a size not occurring in the CPFV samples). The mean length of green spotted rockfish males was slightly larger than the mean length of females, and this is the only species in which males averaged larger than females. Green spotted rockfish and rosy rockfish are not dimorphic in length, according to Lenarz and Wyllie Echeverria (1991).

Table 2.—Rating and percentage contribution of the ten most abundant species in the CPFV catch from 1959–94.

Rank	Common name	Scientific name	Percent contributed
1.	Blue rockfish	<i>S. mystinus</i>	27
2.	Yellowtail rockfish	<i>S. flavidus</i>	16
3.	Chillipepper	<i>S. goodei</i>	11
4.	Bocaccio	<i>S. paucispinis</i>	7
5.	Widow rockfish	<i>S. entomelas</i>	5
6.	Olive rockfish	<i>S. serraoides</i>	5
7.	Rosy rockfish	<i>S. rosaceus</i>	3
8.	Green spotted rockfish	<i>S. chlorostictus</i>	3
9.	Canary rockfish	<i>S. pinniger</i>	3
10.	Green striped rockfish	<i>S. elongatus</i>	2
Total contribution of top ten species			82

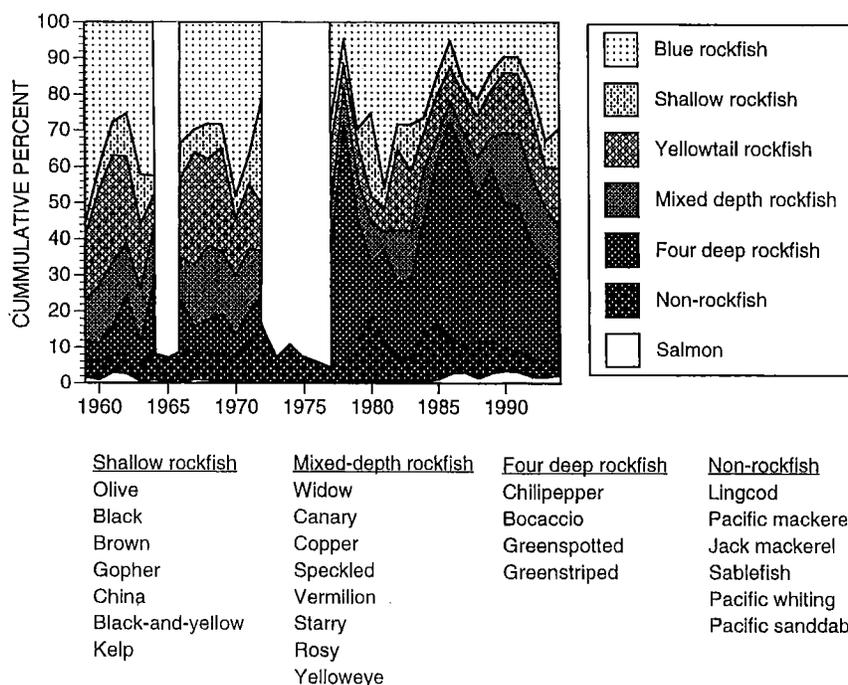


Figure 4.—Cumulative percentage of CPFV-caught rockfish by dominant single species (blue rockfish and yellowtail rockfish) and species groups based on depth. Blank areas are years without sampling of rockfish species.

Lengths

The mean lengths of the ten most abundant rockfish species caught on CPFV's in Monterey Bay between 1960 and 1994 are presented in Fig. 6. The spread between the 10th and 90th percentiles of lengths represents the size range of 80% of the catch. Plots of length frequencies (Fig. 7) display changes in lengths for four species.

The time series of blue rockfish lengths is the most complete because only blue rockfish were sampled

throughout the 1960's (Fig. 6). The sharp drops in mean length and the 10th percentile of length in 1962, 1964, and 1968 reflect small fish recruiting to the fishery. Increasing mean length from 1970 to 1972 can be attributed to the growth of the new recruits observed in 1968 (Fig. 7). Mean length was greatest during the period of highest catches (1977–84). Length frequencies indicate a mode of larger fish at about 34 cm as well as a mode of smaller fish at 26–28 cm visible in 1981; this bimodality could be produced by two or more rela-

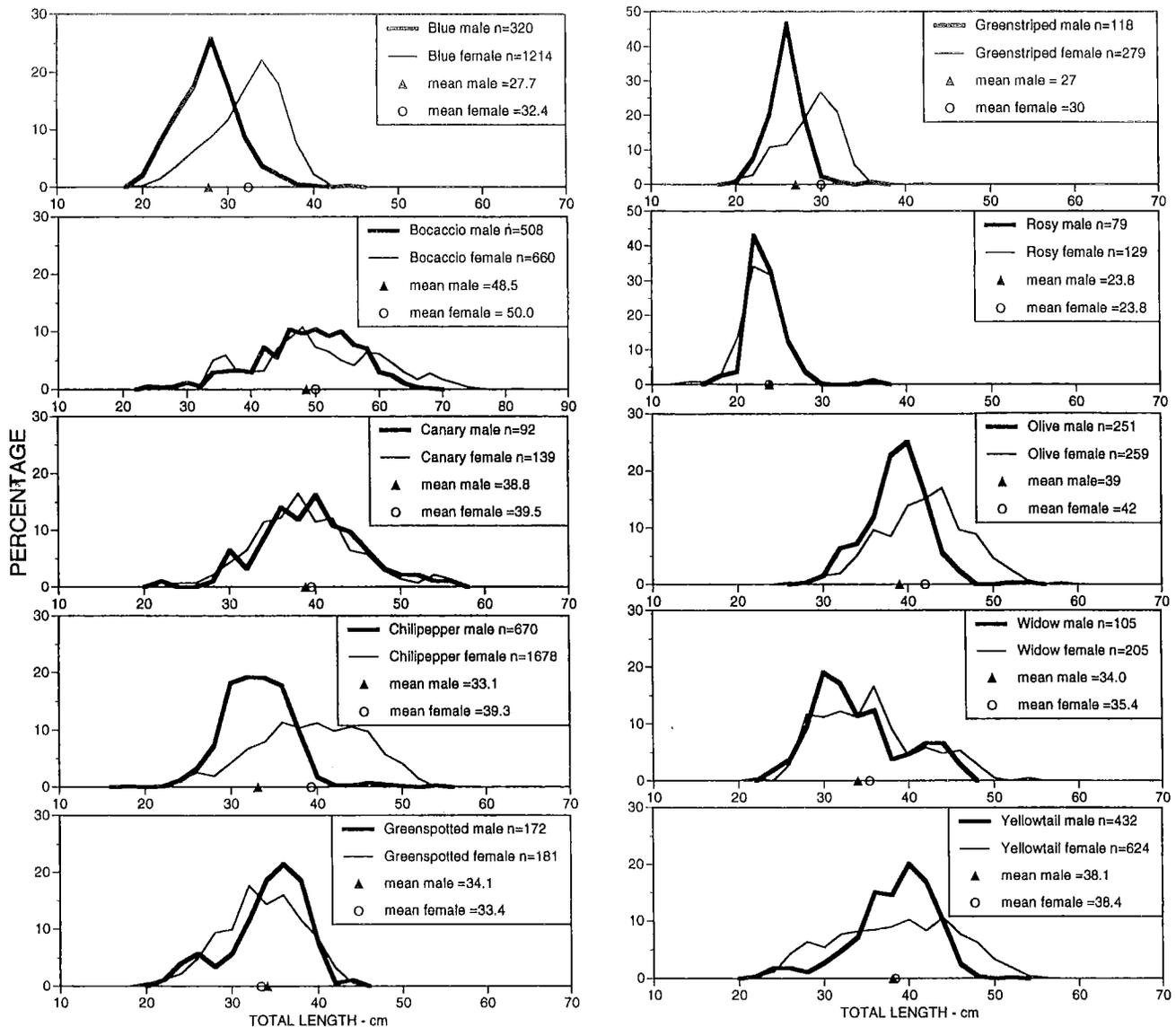


Figure 5.—Sexual dimorphism in length distributions of ten leading rockfish species caught by CPFV's in Monterey Bay in 1977–86 (California Cooperative Rockfish Survey data); each 2 cm group is shown as a fraction of total males or total females (n = number sampled per sex).

tively strong year classes separated by less strong year classes, but also reflects the pronounced sexual dimorphism of this species. Mean length dropped in 1984 as larger fish became less abundant in the catch; after that only 42% of the catch was larger than the size (29 cm) at which half of blue rockfish females mature (Wyllie Echeverria, 1987). In 1977–84, 79% of the fish sampled were female. It is not known if the smaller mean length after that re-

flects more males in the catch or smaller females, but few fish have reached the large sizes present in 1977–83.

Yellowtail rockfish were largest in 1977, 1983, and 1991 (Fig. 6). New recruitment to the fishery appeared as a drop in the length of the 10th percentile in 1978, 1984, and 1987. Growth of these recruits can be tracked in the mean length and in the length frequencies of the catch for the next four years (Fig. 7). Since 1985, large fish have

been scarce and only 32% of the yellowtail rockfish have been above the length (36 cm) at which half of the females reach maturity, compared to 54% from 1977–84. The drop in 1994 to the lowest size for both the mean length and length of the 10th percentile may indicate new recruitment to the fishery, especially since yellowtail rockfish contributed a significant proportion (15%) of the CPFV catch in that year, but also reflects the smaller size of fish caught in

shallow water. Half of the yellowtail rockfish were caught in shallow water in 1994 as compared to 10% in earlier years (Reilly et al.¹; Wilson-Vandenberg et al.³).

Chilipepper had the most dramatic and sustained decline in mean length of the catch, 14 cm from 1960 to 1994 (Fig. 6). The increasing mean length during 1980–82 resembled growth of

recruits but was faster than the growth rates of either males or females described by Wilkins (1980) or Rogers and Bence.⁵ This increase in mean length may indicate several older year classes exploited by an expanding fishery rather than growth of a single year class. The drops in the 10th percentile of length in 1986 and in mean length and 90th per-

centile in 1987 indicate a surge of new recruits, which can easily be seen in the length frequencies (Fig. 7). Catches of chilipepper soared in 1987 with a strong single mode of fish that remained dominant for the next 2 years. The growth rate in this period is consistent with growth rates for females described by Wilkins (1980) and Rogers and Bence.⁵ By 1989, the peak broadened as male growth slowed, but by 1990 this mode's contribution had greatly declined and catches of chilipepper decreased. After 1984 there was a noticeable lack of larger fish; only 48% were 34 cm or larger (the size of maturity for half of the females) when compared to 74% during 1977–84. The proportion of females in the catch after 1986 is not known, but during 1977–86, 71% of the identified fish were female. Since 1992, the mean length has been below the length at maturity (34 cm) for 50% of females (Fig. 6). Although this drop may be caused by recruitment, the number of chilipepper in the catch has continued to decline, indicating that recruitment was only moderate.

Bocaccio had the largest mean length and 90th percentile of the ten leading species and also the greatest fluctuation in mean length in the catch. The mean length of bocaccio dropped dramatically from its largest mean in 1983 to its smallest just 2 years later. This drop in mean length and in the 10th percentile in 1985 reflected new recruitment to the fishery, and these new recruits dominated the bocaccio catch for the next 4 years (Fig. 7). Noticeable recruitment to the fishery also occurred in 1979, 1981, and 1990. Fish larger than the size of maturity of 50% of females (48 cm) have constituted 41% of the bocaccio catch since 1984, but before that they contributed 65%. Mean length has been below the size of maturity of 50% of females but above the length at

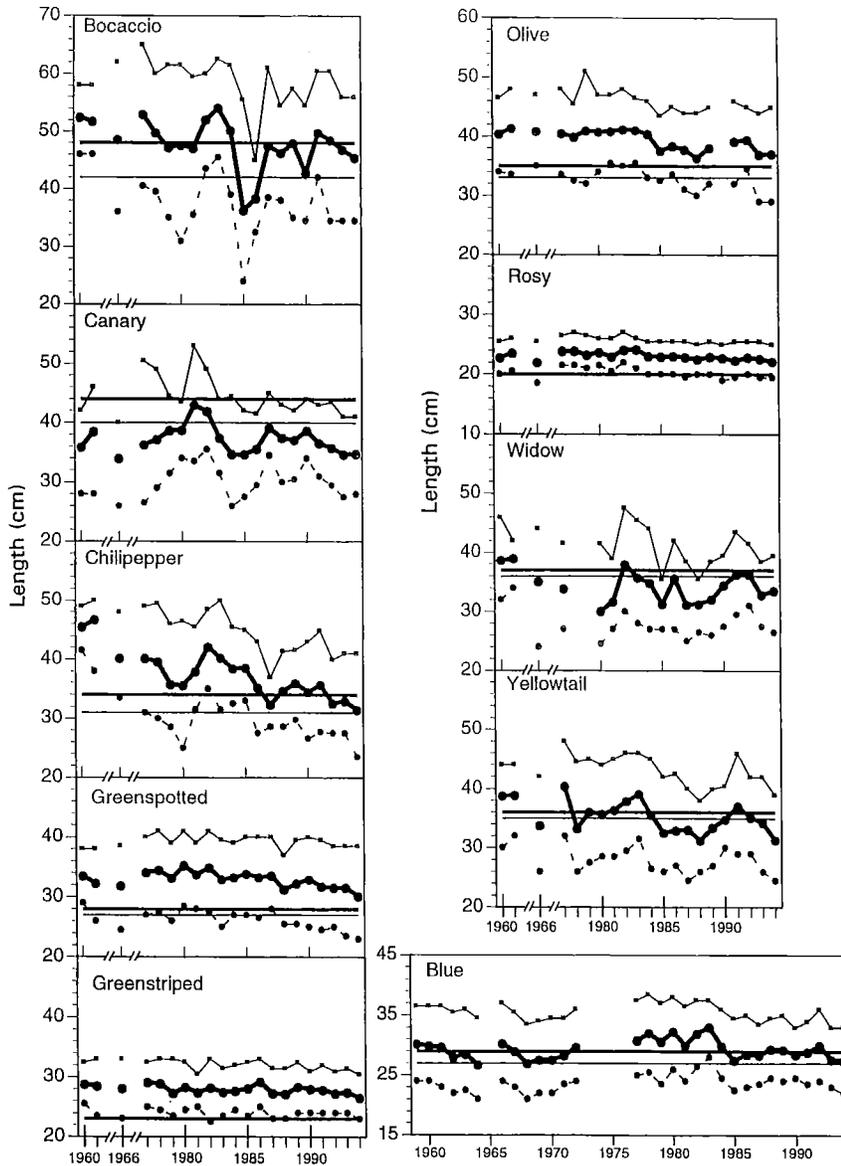


Figure 6.—Changes in length over time for ten leading species of rockfish: mean length, heavy line; 10th percentile, dashes; 90th percentile, light line. Breaks in lines indicate missing or insufficient data. Data are discontinuous for all species except blue rockfish in 1962–65 and 1967–76. Size at maturity for 50% of species is indicated by horizontal lines: female = heavy line; male (if different from female) = light line.

⁵Rogers, J. B., and J. R. Bence. 1992. Review of the fishery and auxiliary data for chilipepper rockfish in the Conception/Monterey/Eureka INPFC areas: a qualitative assessment of the status of the stock in 1992. In Appendices to the status of Pacific groundfish fishery through 1992 and recommended acceptable biological catches for 1993: Stock assessment and fishery evaluation. Pac. Fish. Manage. Council, Portland, Oreg. 18 p.

maturity of 50% of males in all but 2 years since 1987 (Fig. 6).

The longest mean lengths for widow rockfish were recorded in 1960–61 and 1982 (Fig. 6). In 1982 an increased catch of large widow rockfish raised the length of the 90th percentile and contributed more to the increase in mean length than did the growth of smaller fish. Fewer than 20 widow rockfish were measured per year in 1978–79, so these years (when widow rockfish constituted less than 1% of the catch) are not included in the graph. The drop in the mean length and in the 10th percentile in 1987, followed by increasing mean length through 1992, indicate a pulse of recruitment to the fishery. Widow rockfish reached their highest percentage in the catch in 1988, as these new recruits were targeted. The return to smaller fish in 1993–94 may indicate new recruitment. More than half of the widow rockfish caught by CPFV's are juveniles; the mean length has been at or below the length at maturity for 50% of females (37 cm) and males (36 cm) since 1983.

The mean length of olive rockfish remained constant at about 40 cm from 1977 to 1984, but then it declined (Fig. 6). New recruitment to the fishery was apparent in 1988, followed by an increase in mean length to 1992. The drop in the 10th percentile of length in 1993–94 reflects recruitment of small fish. The percentage of olive rockfish in the catch is generally less than 5%, but it jumped to 18% in 1980 and to 9% in 1983. These increases in catch did not coincide with pulses of new recruitment as they did for bocaccio and chilipepper.

The mean length has remained above the length of maturity (35 cm) for 50% of females throughout the period examined. Rosy rockfish had the smallest mean length of the ten most abundant species (Fig. 6). Mean length of rosy rockfish varied little, but it dropped 1 cm from 1982 to 1983 and then gradually declined to 1994. The 10th percentile of length also declined by 2 cm and may have been affected by the discard of small fish. Rosy rockfish are not targeted by the fishery but are a smaller species caught incidentally to other species. Small fish are sometimes thrown back as "too small" even though expan-

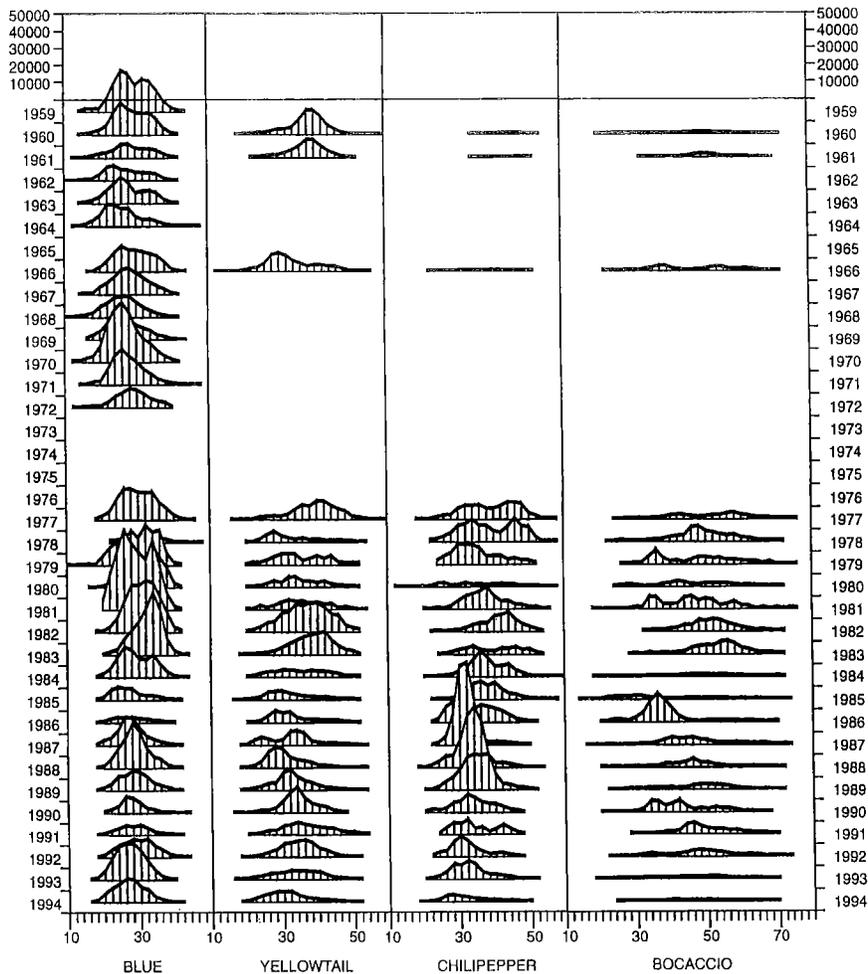


Figure 7.—Estimated annual CPFV catch for four leading species of rockfish by 2 cm length-frequency categories, 1959 at top to 1994 at bottom. The vertical scale at top displays the number of fish indicated by the height within each curve.

sion of their air bladder from rapid decompression causes them to float and die. The percentage of rosy rockfish retained (not discarded) in 1987–91 does not have an obvious trend but has varied between 84% and 93% in the Monterey Bay area (Reilly et al.¹; Wilson-Vandenberg et al.^{2,3}; Wilson et al.⁴). Earlier discard rates might have been higher. Almost all of the rosy rockfish sampled were above the length at maturity (20 cm) for 50% of the females throughout the time series.

Greenspotted rockfish mean length was larger in 1977–83 than in 1960, and it declined after 1987 to its lowest size in 1994. There are no apparent periods of recruitment and growth. The 10th

percentile of length has declined despite the high retention rate of this species (97–99% in 1987–94). In all years, the mean length was above the length at maturity (28 cm) for 50% of the females.

Canary rockfish mean length varied over the study period and was largest in 1981–82. Periods of recruitment to the fishery in 1977 and 1984 are indicated by sharp 1-year declines followed by sustained increases in the 10th percentile and mean length. The most recent drop in mean length has been continuous since 1990. Canary rockfish mean length has been below the length at maturity of 50% of females throughout the study, and since 1983, 90% of the canary rockfish caught in the CPFV

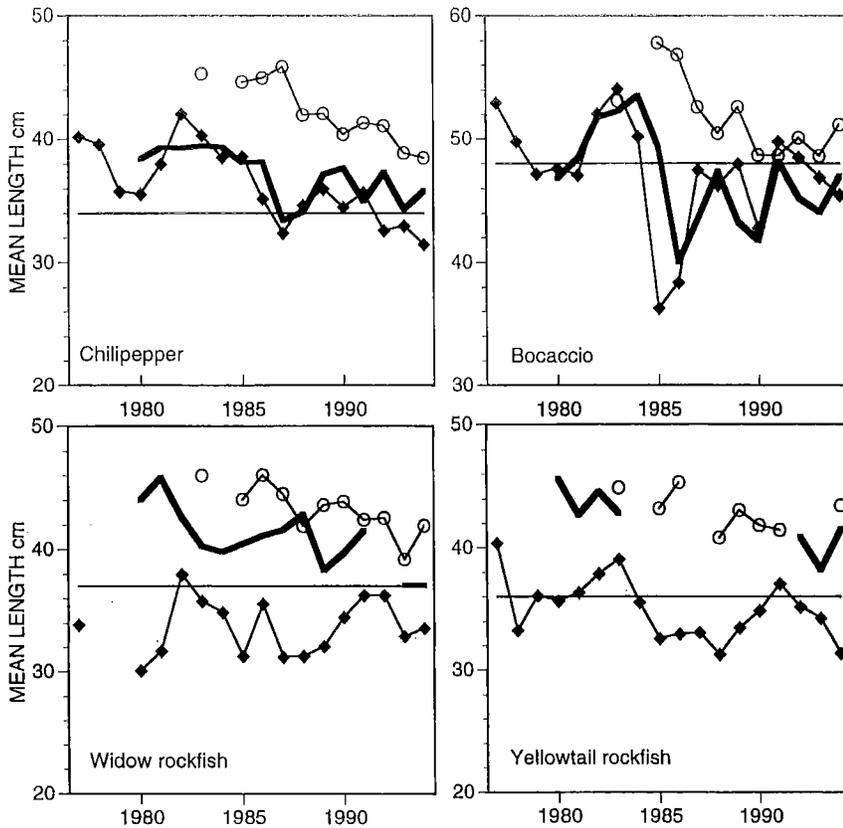


Figure 8.—Mean lengths of four rockfish species from two commercial fishing gears compared to means from CPFV. Heavy line represents mean from bottom trawls; circles represent mean from gillnets; diamonds represent means from CPFV's. Horizontal lines are as described in Figure 6.

fishery have been juveniles, below the length at maturity of 50% of females (44 cm) and 50% of males (40 cm).

The mean length of greenstriped rockfish fluctuated only slightly over the study period. The species is caught incidentally to targeted deepwater species such as chilipepper and bocaccio, and the mean length was the second smallest of the ten most abundant species in the catch. The mean length has declined steadily from 1989 to 1994. Despite their relatively small size, most of the greenstriped rockfish were retained: 96% in 1987–91 (Reilly et al.¹) and 93% in 1994 (Wilson-Vandenberg et al.³). Over 90% of them were larger than the length at maturity for 50% of females and males (both 23 cm).

There has been a net decline in the mean length of all ten dominant species between 1960 and 1994 (Table 3). The decline occurred after 1977 for all but

two of the species. Eight of the ten species dropped at least 4% in mean length during this period. Chilipepper, bocaccio, widow rockfish, and yellowtail rockfish declined the most, dropping more than 10% in mean length from 1960 to 1994.

Mean Lengths From Commercial Fisheries

The declining mean length trends of chilipepper and bocaccio from the CPFV fishery were also present in the catch from the commercial trawl and gillnet fisheries (Fig. 8). The new recruitment evident in the CPFV fishery in 1985–87 can also be identified by a drop in mean length in the trawl and the gillnet fisheries. Gillnet mesh size selects larger fish which explains the larger mean length caught by this fishery and the delay in recruitment until fish reach gear-selected size. The de-

Table 3.—Percentage of change in total length for top ten rockfish species from CPFV's over two time periods. Negative numbers indicate declining size.

Species	Percent change	
	1960–77	1960–94
Blue rockfish	3.01	-6.84
Yellowtail rockfish	4.12	-12.07
Chilipepper	-11.65	-27.31
Bocaccio	0.95	-12.28
Widow rockfish	-12.40	-11.35
Olive rockfish	0.25	-8.91
Rosy rockfish	4.82	-1.93
Greenspotted rockfish	1.79	-4.12
Canary rockfish	1.11	-1.35
Greenstriped rockfish	1.04	-4.28

cline in mean length of chilipepper rockfish was more gradual in the trawl fishery, where escapement related to mesh size or processor preference may limit the minimum size, than in the CPFV or gillnet fisheries.

The mean lengths of widow and yellowtail rockfish from CPFV's were noticeably smaller than the means from trawls and gillnets and may reflect escapement of smaller fish and the ontogenetic movement of older fish to deeper water (Love et al., 1990). Yellowtail rockfish are not targeted by trawlers in Monterey Bay and contribute only 5%, on average, of the commercial rockfish catch, so data are less complete. Mean lengths for commercially caught widow and yellowtail rockfish declined over time, coming closer to the mean lengths from CPFV's.

Grouped Species Lengths

Grouping rockfish species together in different ways can reveal the larger trends in the fishery. The mean length of all rockfish caught on CPFV's was 3 cm (8%) larger in 1977 than in 1960–61, but varied before dropping sharply in 1994 to 10% below the 1960–61 mean (Fig. 9).

Comparing the relative contribution of larger and smaller species to the fishery reveals periods in which shifting proportions of these two groups affected mean length. Two size categories of species were created based on average mean length from 1960–94. As expected, the five species with average mean lengths of 35 cm or larger (bocaccio, chilipepper, canary rockfish, olive rockfish, and yellowtail rockfish) in-

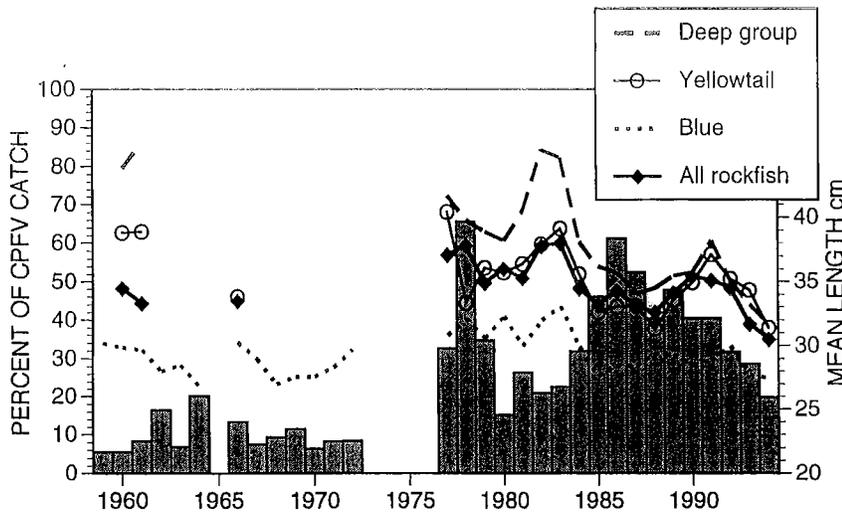


Figure 9.—Proportion of the four deep-water rockfish species (bocaccio, chilipepper, greenspotted rockfish, and greenstriped rockfish) in the total CPFV catch indicated by columns, scale on left. Mean length indicated by scale on right: dashes = group of four deep-water rockfish species, circles = yellowtail rockfish, dotted line = blue rockfish, and line with diamonds = total rockfish.

creased in the catch from 41% in 1959–72 to 48% in 1977–85, when mean length of total rockfish was high. As large species continued to increase in importance (to 53% of the catch in the 1985–94 period), however, the mean length of total rockfish dropped. The proportion of large species remained high until the proportion of blue rockfish increased (in 1993–94), at which point the mean length dropped even more. The mean length decreased from 1983 to 1992 despite an increased proportion of large species.

Grouping the species together by fishing depths reveals the influence of deepwater species on the overall mean length (Fig. 9). In 1960, when blue rockfish and yellowtail rockfish contributed about 60% of the catch, the mean length fell between the means of these two species. As the catch shifted to deepwater species by 1977, the mean length increased. Four key species (bocaccio, chilipepper, greenstriped rockfish, and greenspotted rockfish) caught in deeper water increased from 7% to 32% of the catch between 1972 and 1977. The mean length of the deepwater group was over 40 cm (11 cm larger than the mean length of blue rockfish in 1977).

The mean length for all combined rockfish was bounded by the means of

the deepwater group and blue rockfish from 1977 to 1987 (Fig. 9). Deepwater species decreased in mean length from 1977 to 1980, as young bocaccio and chilipepper recruited to the fishery, but then increased in length to a maximum in 1982–83. Bocaccio contributed significantly from 1981 to 1983 and their larger size during this period is reflected in the longest mean length for total rockfish. Blue rockfish were also at their largest size from 1977 to 1983 and contributed to higher total means. The mean lengths of all the important groups decreased in 1984–85 with a scarcity of large fish, and remained low through 1987. Despite the increased proportion of deepwater species (columns in Fig. 9), the overall mean length was reduced in this period by the smaller size of the dominant species.

Both yellowtail rockfish and the deepwater species group increased in size in 1989–91 with the growth of young fish, and their high proportion in the catch kept the mean length of all combined rockfish close to that of the deepwater group. The length of the deepwater species group declined after 1991 with the reduced proportion of bocaccio and declining size of chilipepper, greenspotted rockfish, and greenstriped rockfish; yellowtail rockfish size also de-

clined. The difference in size between the deepwater group and blue rockfish shrank from 10 cm in 1991 to only 5 cm by 1994. The mean length for all combined rockfish reached its lowest recorded level in 1994 as smaller blue rockfish contributed more to the catch. The smaller size of the deepwater species has noticeably affected the overall mean length.

Discussion

Reduction of the mean length of fish caught by a fishery is often used as an indicator of increased mortality rate. In the Monterey Bay area CPFV fishery, the mean length of rockfish has declined; however, the interpretation of this trend is complicated by the changes in species composition of the fishery. The decline in size results from a decline in the mean length of the dominant species as well as from shifts in the relative contribution of various species to the catch. Several factors which vary over time contribute to the declining overall size of rockfish caught by CPFV's: 1) changes in target species, 2) removal of larger fish by both CPFV's and commercial fisheries, 3) environmental effects on mortality and recruitment, and 4) declining proportion of spawning adults.

The change in target species from shallow-water species to deepwater species in 1977–78 increased the mean length of combined rockfish in the catch. Large chilipepper and bocaccio were available in these deeper areas through 1983, but a shift back to shallow-water fishing for blue rockfish in 1979–84 moderated the mean length (Fig. 9). The return to deepwater fishing in 1985–89 did not increase the overall mean length, because the size of fish in the deepwater group had dropped. Although the mean length of the group of deepwater species was larger than that of the shallow-water species (blue rockfish), the periods after 1977 with higher proportions of deepwater species did not correspond with the largest mean lengths for total rockfish. Changes in target species explain only the 1977–81 changes in total mean length.

Variability in the size of dominant species affected the overall mean length

more than species composition after 1981. One component of that mean length is the proportion of large fish in the catch. The mean length of several important species (bocaccio, chilipepper, blue rockfish, widow rockfish, and yellowtail rockfish) reached a maximum in 1982–83 from both growth of young fish and accumulation of larger fish from abundant year classes produced in the mid-1970's or earlier (Beamish, 1993; Rogers and Bence⁵; Ralston et al.⁶). For example, large chilipeppers (40–50 cm) composed half of the chilipepper catch in 1977–78. Chilipeppers of this size, estimated at 7–15 years old by von Bertalanffy age-at-length equations (Rogers and Bence⁵), were produced before 1971, when both recreational and commercial fishing was less intense. In the first few years that CPFV's fished in deep water, many locations had accumulations of large fish. Fishing pressure, as indicated by landings of rockfish, peaked in 1982 in the Monterey Bay area for both CPFV (Fig. 3a) and commercial fisheries. As fishing pressure increased, large fish were caught and removed more rapidly than they were replaced, and smaller fish dominated the catch. CPFV's could no longer find locations with unexploited populations of large fish. The proportion of large fish in the catch dropped from 1983 to 1985 as indicated by the reduced size of the 90th percentile of bocaccio, chilipepper, yellowtail rockfish, canary rockfish, and widow rockfish. Declining mean lengths for bocaccio and chilipepper in the trawl and gillnet fisheries indicated fewer large fish in commercial fisheries as well (Fig. 8).

Although both CPFV's and commercial fisheries remove large rockfish, their relative impact differs among species. Bocaccio are heavily exploited by

commercial fisheries; their annual take for 1982–94 has been estimated at 20–30% of the biomass, and by 1994 the estimated biomass had dropped to about 17% of its 1980 level (Ralston et al.⁶). Bocaccio has experienced the most dramatic decline in biomass of the commercial rockfish species in the Monterey Bay area, but sustained fishing pressure has also resulted in decreased mean lengths of commercially caught chilipepper and widow rockfish (Fig. 8) and reduced the availability of large fish to CPFV's.

The larger deepwater species (bocaccio and chilipepper) are harvested mostly by the commercial fisheries. Average estimated percent landed by CPFV's of the combined CPFV and commercial landings for 1980–94 are displayed in Table 4. CPFV's took no more than 18% of chilipepper and 27% of bocaccio in any year. CPFV's also took less widow rockfish than were taken by commercial fisheries.

Shallower species such as blue rockfish have been taken primarily by the recreational fishery. CPFV's also took a high percentage of mid-depth yellowtail rockfish and canary rockfish; these species are commonly caught by commercial trawlers at ports farther north, but yellowtail rockfish averaged only 5% and canary rockfish only 0.5% of the commercial rockfish catch in the Monterey Bay area from 1980 to 1994. Thus, CPFV landings have a large local impact on blue, yellowtail, and canary rockfish, but commercial fisheries have a greater effect on bocaccio, chilipepper, and widow rockfish.

Increased natural mortality as well as increased fishing mortality during the

northern El Niño of 1982–83 may have reduced the proportion of large rockfish. Yellowtail rockfish and widow rockfish grew more slowly, and yellowtail rockfish, chilipepper, and blue rockfish weighed less relative to their length during strong El Niño events (Lenarz et al., 1995; VenTresca et al., 1995). These species appear to be stressed when changes in ocean circulation reduced the nutrient levels and available food. Zooplankton volumes were reduced in 1982–83 (McGowan, 1985), and primary productivity and euphausiid abundance were below normal during the 1992 El Niño (Lenarz et al., 1995). The pattern of strong upwelling alternating with periods of onshore advection, important to the production of macrozooplankton prey for blue rockfish (Hobson and Chess, 1988), was disrupted during the 1982–83 El Niño (Norton et al., 1985). These factors indicate reduced prey for rockfish, which increased feeding stress, decreased their fitness, and may have increased mortality. The lack of food may have also made rockfish of all sizes more vulnerable to CPFV hook and line fishing; overall catch per unit of effort was highest in 1982–83.

In addition to increased natural mortality of adults, El Niño environmental conditions also reduced first-year recruitment of most rockfish species (Lenarz et al., 1995). Wide variations in abundance of young-of-the-year recruits have been observed over 10 years from both midwater juvenile trawls and from *in situ* counts of settled juveniles (Ralston and Howard, 1995). Years such as 1983 with high sea surface temperatures produce particularly poor year classes for most rockfish species studied. Recruitment for many of these species improved after the El Niño; average oceanic conditions returned producing a surge of young-of-the-year in 1984 and 1985. These year classes first appeared in the fishery as drops in the 10th percentile and mean length. Bocaccio, the fastest growing species, was the first to appear in the fishery with a few small fish in 1985 and more in 1986. Chilipepper appeared in 1986–87, and yellowtail rockfish in 1987–88. The growth of these new recruits was the dominant

Table 4.—Estimated percentage of weight taken by CPFV's from combined commercial and CPFV landings 1980–94. Values adjusted for under-reporting of catch in CPFV logbooks.

Common name	Scientific name	Weight taken (%)
Blue rockfish	<i>S. mystinus</i>	83
Yellowtail rockfish	<i>S. flavidus</i>	40
Chilipepper	<i>S. goodei</i>	9
Bocaccio	<i>S. paucispinis</i>	9
Widow rockfish	<i>S. entomelas</i>	11
Greenspotted rockfish	<i>S. chlorostictus</i>	65
Canary rockfish	<i>S. pinniger</i>	63

⁶ Ralston, S., J. N. Ianelli, R. A. Miller, D. E. Pearson, D. Thomas, and M. E. Wilkins. 1996. Status of bocaccio in the Conception/Monterey/Bureka INPFC areas in 1996 and recommendations for management in 1997. In J. Glock and S. K. Krause (Editors), Appendix Volume 1: Status of Pacific groundfish fishery through 1996 and recommended acceptable biological catches for 1997: Stock assessment and fishery evaluation, p. B1–B48. Pac. Fish. Manage. Council, Portland, Oreg.

cause of increasing mean lengths until 1991.

Variable success of year classes is a significant characteristic of rockfish populations (Leaman and Beamish, 1984). Several dominant rockfish species in the CPFV catch, especially chilipepper, bocaccio, yellowtail rockfish, and widow rockfish, recruited strongly to the fishery in 1977–80 from year classes produced in the mid-1970's, and in 1985–87 from 1984–85 year classes. The fishery appears to have depended on these strong recruitment events for most of the catch after 1984 (Fig. 7). Strong recruitment pulses are not apparent in the less heavily targeted rockfish species such as olive, green-striped, greenspotted, and rosy rockfish, because they have a reserve of older year classes to buffer the effect of new recruitment. Without the reserve of older fish, the targeted species are highly vulnerable to recruitment variability.

Recruitment success may vary with environmental conditions between decades as well as between years. Ocean surface temperature off California changed from below average to above average around 1976 (Smith, 1995). This change produced more than a decade of warm conditions that may have limited recruitment of colder-water species to central California, similar to the reduced recruitment of blue rockfish and olive rockfish at the edge of their range in southern California during 1978–81 (Stephens et al., 1984). So instead of a few years between successful recruitment, some species may have experienced longer periods with little recruitment (Hollowed and Wooster, 1995). The accumulated larger bocaccio, chilipepper, yellowtail rockfish, and blue rockfish in 1977–83 may have been the product of several years of successful recruitment during the colder years before 1976. Relatively large year classes appear to be less frequent after 1985.

Rockfish are generally long lived, with over half of the species reaching maximum ages of 60 years or more (Love et al., 1990). They take an average of 5 years to reach sexual maturity (Wyllie-Echeverria, 1987). The prolonged reproductive phase for unexploited popu-

lations (from about age 5 to 60) serves as a buffer against periods of recruitment failure due to environmental variations (Leaman and Beamish, 1984). In the CPFV fishery, half of the catch of the large rockfish species (bocaccio, chilipepper, yellowtail rockfish, and widow rockfish) and 90% of canary rockfish are now taken before sexual maturity. Only smaller species such as rosy and greenstriped rockfish usually reach sexual maturity before they are caught. Fishing down the reservoir of older, sexually mature fish removes the buffer and increases the risk of prolonged recruitment failure.

A similar decline in the availability of large rockfish was noted by Love et al. (1998) in the Southern California CPFV catch. They noted a dramatic decline in the catch from 3.0 to 0.4 rockfish per hour for 21 target species from 1980 to 1996, and they noted a shift from predominantly larger species to smaller species. The catch rate declined for most large species including bocaccio and chilipepper, and the mean size declined for several large species including chilipepper, vermilion rockfish, copper rockfish, and greenspotted rockfish. They noted a lack of adult fish in the catch of several species. These changes in Southern California indicate the declining size and availability of rockfish in California is widespread and not localized to the Monterey Bay area.

Fishery managers should be concerned for the health and sustainability of species with mean length at or below that of maturity. Bocaccio, chilipepper, yellowtail rockfish, and canary rockfish all fall into this category in the Monterey Bay area. If significant new recruitment is the cause of the recent declines in mean size, it should be traceable in the length frequency modes of fish from 1994 onward. If there is no strong mode of young fish, we must assume that recruitment is not keeping up with removals by the combined recreational and commercial fisheries.

Summary

The mean length of rockfish caught in the late 1970's increased as CPFV's moved into deeper water. The mean length was generally larger for deep-

water species than for shallow-water species, and large individuals were caught from 1977 through 1983. A surge of new recruitment after the 1982–83 El Niño produced a sharp drop in mean length of several important species and a decline in combined rockfish mean length. Mean lengths did not recover to the high levels of 1982–83 despite the growth of these recruits and the continued emphasis on deepwater species through 1991.

Fish were harvested by both the CPFV and commercial fisheries at smaller sizes after 1982, and mean length and total landings have dropped in both fisheries. CPFV's shifted back toward shallow water as the difference in size between the deepwater and shallow-water species decreased in 1992–94. The mean length of bocaccio, chilipepper, and yellowtail, canary, and blue rockfish caught on CPFV's has dropped below the size at which 50% of the females mature.

Since 1984, the period between highly successful recruitment events seems to have been longer for the dominant species in the catch, and recruits have been harvested by CPFV's and commercial fisheries (depending on species) at smaller sizes than in the past, within a few years of entering the fishery. Since new recruits often appear in the CPFV catch at least 1 year ahead of the commercial catch, the CPFV fishery could serve as an indicator of the relative strength of new recruitment.

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Shifts in a Pacific Ocean Fish Assemblage: the Potential Influence of Exploitation

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Abstract: *As in many regions of the world, marine fishes and invertebrates along the Pacific coast of the United States have long been subjected to overexploitation. Despite this history, however, we lack basic information on the current status of many fishes along this coastline. We used data from a quarter century of fishery-independent, coast-wide trawl surveys to study systematically the demersal fish assemblages along the U.S. Pacific coast. We documented fundamental shifts in this fish assemblage. Average fish size, across a diversity of species, has declined 45% in 21 years. There have been major shifts in the constituent species of the assemblage, with some species achieving annual population growth rates of > 10% and others declining in excess of 10% per year. Annual rate of change in population size appeared to be a function of life history interacting with fishing pressure. Negative trends in population size were particularly apparent in rockfish (*Sebastes* spp.). However, across all taxa examined, trends in population size were associated with size of maturity, maximum size, and growth rate. Trends in population size were associated inversely with harvest levels, but stocks that mature late tended to decline faster than would be predicted by catch rates alone. Our results are disquieting because they raise the possibility that fishing-induced phase shifts in fish communities may affect the recovery of fishes, even after the implementation of severe fishing restrictions.*

Keywords: body size spectrum, fisheries, marine conservation, overfishing, phase shift, rockfish, *Sebastes*

Cambios en un Ensamble de Peces del Océano Pacífico: la Influencia Potencial de la Explotación

Resumen: *Como en muchas regiones del mundo, los peces e invertebrados marinos a lo largo de la Costa del Pacífico de los Estados Unidos han sido sujetos a la sobreexplotación. Sin embargo, a pesar de esta historia carecemos de información básica sobre el estado actual de muchos peces a lo largo de esta costa. Utilizamos datos de un cuarto de siglo de muestreos con redes de arrastre, independientes de pesquerías, para estudiar a los ensambles de peces demersales a lo largo de la Costa del Pacífico de E.U.A. Documentamos cambios fundamentales en este ensamble de peces. La talla corporal promedio, de una diversidad de especies, ha declinado 45% en 21 años. Ha habido cambios mayores en las especies que componen el ensamble, con algunas especies alcanzando tasas de crecimiento poblacional de > 10% y otras declinando más de 10% por año. La tasa anual de cambio en el tamaño poblacional pareció ser una función de la historia de vida interactuando con la presión de pesca. Las tendencias negativas del tamaño poblacional fueron particularmente aparentes en los peces piedra (*Sebastes* spp.). Sin embargo, en todos los taxa examinados, las tendencias en el tamaño poblacional se asociaron con la talla a la madurez, la talla máxima y el crecimiento poblacional. Las tendencias en el tamaño poblacional se asociaron inversamente con los niveles de explotación, pero las existencias que maduran tardíamente tendieron a declinar más rápidamente que lo predicho sólo por las tasas de captura. Nuestros resultados son inquietantes porque aumentan la posibilidad de que los cambios de fase inducidos por la pesca en las comunidades de peces pueden afectar a la recuperación de los peces, aun después de la implementación de severas restricciones de pesca.*

Palabras Clave: Cambio de fase, conservación marina, espectro de tamaño corporal, pesquerías, pez piedra, *Sebastes*, sobrepesca

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Introduction

As in many regions of the world, marine fishes and invertebrates along the West coast of the United States have long been subjected to overexploitation. The collapse of the California sardine fishery is infamous and foreshadowed the nature of fisheries crises for much of the twentieth century (Wolf 1992; Rodriguez-Sanchez et al. 2002). Perhaps less well known are substantial historic declines in a variety of fish populations along the U.S. Pacific coast. For example, black and white seabass (*Stereolepis gigas* and *Atractoscion nobilis*, respectively) and perhaps yellowtail (*Seriola lalandi*), were heavily fished and considerably depleted in southern California waters in the 1920s and 1930s (MacCall 1996; Dayton et al. 1998); soupfin (*Galeorhinus galeus*), basking (*Cetorhinus maximus*), and dogfish (*Squalus acanthias*) sharks were severely depleted during World War II (Ripley 1946; Ketchen 1986; Holts 1988) and northern anchovy (*Engraulis mordax*) stocks declined dramatically under high rates of exploitation in combination with a reduction of ocean productivity (Rodriguez-Sanchez et al. 2002). In recent years, concern over a number of rockfishes (*Sebastes* spp.; Parker et al. 2000) has resulted in the implementation of large-scale fishery closures along the continental shelf, with an expected annual cost to coastal communities of about \$60 million (PFMC 2003a). Although it is clear that many fish species along the U.S. Pacific coast are in trouble, there is generally a lack of information on the current status of west coast fishes. The federal agency charged with managing fish stocks, National Oceanic and Atmospheric Administration (NOAA) Fisheries, has formally assessed the status of only 20% of the nearly 90 demersal fishes it manages along this coast (NMFS 2003).

Gathering the data required to use traditional assessment methodologies to evaluate the status of unassessed populations of groundfish species is a daunting task that is unlikely to be accomplished in the foreseeable future. Even so, the demise of fisheries around the globe (Baum et al. 2003; Christensen et al. 2003; Myers & Worm 2003) demands that we should evaluate the status of all exploited fishes—not just those few for which detailed data are available. Additionally, as the tenets of ecosystem-based management begin to be adopted, it is clear that the entire fish community, not just species targeted by fisheries, will need to be assessed. Here, we present an analysis of the status of the demersal fish assemblage along the U.S. Pacific coast. We used simple count data from fishery-independent trawls to examine general trends in numbers and weights of 31 fish species along the continental shelf. Although not as detailed as traditional stock assessments, our approach allows us to move beyond the few species that have been assessed formally to provide the first synthetic study of the status of the groundfish assemblage of the U.S. West coast.

Fishery and Ecology Overview

The federally managed “groundfish” (i.e., fish species typically associated with the sea floor) fishery occurs on the continental shelf and slope off the states of California, Oregon, and Washington. The fishery is managed according to the Pacific Coast Groundfish Fishery Management Plan by the Pacific Fishery Management Council and NOAA Fisheries (PFMC 2004). Eighty-nine fish species are included in the plan, including 62 scorpaenids (59 of which are rockfish, genus *Sebastes*), 12 species of flatfish, 6 cartilaginous fishes, 1 chimaerid, 1 morid, 1 grenadier, and 6 roundfish (notably Pacific hake [*Merluccius productus*]) and sablefish (*Anoplopoma fimbria*). The dominant taxa retained are hake, rockfish, sablefish, and flatfish.

Annual commercial landings in the fishery have averaged approximately 233,000 tonnes since 1981 (Pacific Coast Fisheries Information Network, <http://www.psmfc.org/pacfin/pfmc.html>, accessed February 2005), the majority of which comes from the limited-entry trawl fleet. Several management tools are in place to regulate harvest, minimize bycatch, and decrease the probability of overfishing. For example, time/space closures are enacted when certain species reach defined quotas in a season or year. Recently, there have been several large-scale closures in areas throughout the continental shelf. The primary purpose of these closures has been to limit bycatch of several species of overfished rockfish. Managers have also restricted the size of footropes on shelf trawls to prevent trawling in rocky habitats (Hannah 2003). Additionally, a buyback of trawl permits and vessels in the limited entry fishery began in 2003 with the goal of reducing fishing effort on groundfish by roughly one-third (and also to increase financial stability among the fishing community).

A species is considered “overfished” when the spawning stock biomass declines below 25% of the estimated unfished biomass (PFMC 2004), and under this criterion, bocaccio (*Sebastes paucispinis*), canary rockfish (*S. pinniger*), cowcod (*S. levis*), darkblotched rockfish (*S. crameri*), Pacific ocean perch (*S. alutus*), widow rockfish (*S. entomelas*), and yelloweye rockfish (*S. ruberrimus*) are considered overfished (PFMC 2003b).

Rockfish occupy a broad range of habitats and trophic roles. They are most often associated with some type of substrate, including rocks, kelp, and soft sediments, but they may be found in midwater habitats. Their prey range from gelatinous zooplankton to fish; in turn, rockfish are preyed upon by other groundfish, pelagic piscivorous fishes, marine mammals, and birds (Love et al. 2002). In general, rockfish have long life spans, often exceeding 50 years. Rockfish are slow to mature and have very low first-year survival, resulting in long generation times. For example, generation times of some assessed species range from 14 years (bocaccio) to 44 years (yelloweye) (PFMC 2003b). Juvenile and adult flatfishes mostly eat

benthic invertebrates and some fish, and are preyed upon by sharks, marine mammals, sablefish, and other flatfish. The flatfishes we investigated reach maturity at 2–4 years of age and have lifespans ranging from 15 years to 25 years. The cartilaginous fishes we studied are an eclectic group with diverse life histories and ecologies. Most of these cartilaginous fishes are benthic and feed on invertebrates and benthic fish.

Methods

Trawl surveys of Pacific Northwest groundfish were performed triennially on the continental shelf by NOAA Fisheries from 1977 to 2001 (Weinberg et al. 2002). During the surveys, trawl samples were taken from 55 to 366 m and from 34°N to the U.S.–Canada border. Tow locations have typically been assigned using a stratified design (latitude and depth). These surveys were operated during summer (June–August) with a NOAA research vessel in the early part of the time series and chartered commercial trawl vessels in more recent years. Vessels were equipped

with a Nor'easter bottom trawl with a 27.2-m headrope, 37.4-m footrope, and 567-kg steel V-doors. Hauls were approximately 30 minutes in duration. Tows in which the net was not reliably on the bottom (Zimmermann et al. 2003) were excluded from the analysis. The survey history and potential shortcomings of the survey are detailed by Weinberg et al. (2002), and Zimmermann (2003) and Zimmermann et al. (2003). For each trawl, the distance traveled and the total weight and count for each species were recorded. By dividing the total weight by the count, we estimated the average weight of individuals for each species.

We focused on 16 species of rockfish, 8 species of flatfish, and 7 species of cartilaginous fishes that appear regularly within the groundfish survey on the continental shelf (Table 1). Although many species were sampled during the survey, we focused on those species that were effectively sampled by the gear and whose depth and latitudinal distribution substantially overlapped that of the trawl survey. We calculated the sample mean density of individuals in the West coast survey region (by species) with stratified means (Gunderson 1993) within

Table 1. The average annual change in population abundance (trend) for each of the 31 focal species in the study.

<i>Taxonomic group and common name</i>	<i>Scientific name</i>	<i>Trend</i>	<i>Trend 95% CI</i>	<i>Trend SD</i>
Flatfish				
arrowtooth flounder	<i>Atheresthes stomias</i>	0.018924	0.021627	0.010792
Pacific sandbar	<i>Citharichthys sordidus</i>	0.170964	0.021321	0.011065
petrale sole	<i>Eopsetta jordani</i>	0.054887	0.011886	0.005937
rex sole	<i>Glyptocephalus zachirus</i>	0.084377	0.009583	0.004729
flathead sole	<i>Hippoglossoides elassodon</i>	0.096504	0.030489	0.014964
rock sole	<i>Pleuronectes bilineatus</i>	0.075822	0.060711	0.031578
curlfin sole	<i>Pleuronectes decurrens</i>	0.118919	0.031162	0.016141
English sole	<i>Pleuronectes vetulus</i>	0.112866	0.017007	0.008775
Rockfish				
rougeye rockfish	<i>Sebastes aleutianus</i>	0.050788	0.031813	0.016951
Pacific ocean Perch	<i>Sebastes alutus</i>	-0.03534	0.038925	0.020426
redbanded rockfish	<i>Sebastes babcocki</i>	-0.01913	0.017365	0.008643
darkblotched rockfish	<i>Sebastes cramerii</i>	-0.00360	0.016683	0.009273
splintnose rockfish	<i>Sebastes diploproa</i>	0.047421	0.030464	0.016246
greenstriped rockfish	<i>Sebastes elongatus</i>	0.079216	0.015452	0.008427
widow rockfish	<i>Sebastes entomelas</i>	0.005409	0.045298	0.023318
yellowtail rockfish	<i>Sebastes flavidus</i>	0.005899	0.054768	0.027395
chilipepper rockfish	<i>Sebastes goodii</i>	0.049808	0.047625	0.024123
rosethorn rockfish	<i>Sebastes helvomiculatus</i>	0.016333	0.031446	0.015005
shortbelly rockfish	<i>Sebastes jordani</i>	0.086525	0.070355	0.036701
bocaccio	<i>Sebastes paucispinus</i>	-0.16940	0.025994	0.013034
canary rockfish	<i>Sebastes pinniger</i>	-0.10901	0.028202	0.016463
yelloweye rockfish	<i>Sebastes ruberrimus</i>	-0.01309	0.037454	0.019561
stripetail rockfish	<i>Sebastes saxicola</i>	0.029298	0.046559	0.025501
sharpchin rockfish	<i>Sebastes zacentrus</i>	0.01178	0.043794	0.021474
Cartilaginous fish				
brown catshark	<i>Apristurus brunneus</i>	0.141425	0.057333	0.028017
Bering skate	<i>Bathyraja interrupta</i>	0.047625	0.01332	0.00664
spotted ratfish	<i>Hydrolagus colliei</i>	0.056807	0.013107	0.006893
big skate	<i>Raja binoculata</i>	0.023585	0.030974	0.015663
longnose skate	<i>Raja rbina</i>	0.072149	0.008876	0.005117
spiny dogfish	<i>Squalus acanthias</i>	0.051628	0.025186	0.013635
Pacific electric ray	<i>Torpedo californica</i>	0.01507	0.023372	0.012111

five latitude regions and three depth strata (Weinberg et al. 2002). Catch data from trawl surveys are typically delta distributed (similar to a lognormal distribution but with zeros) (Pennington 1996). Pennington (1996) used the sample mean, \bar{y} , and variance, s^2 , of the logged nonzero trawl samples to determine minimum variance estimates for the mean and variance from a delta distribution. We used Eq. 1 in Pennington (1996) to calculate the mean density, c , and Eq. 4 in Pennington (1996) to calculate the variance of the mean, $\text{var}_{\text{est}}(c)$.

We first examined each species' trend in density (c) from 1977 to 2001 with a weighted linear regression of \log of c against year, where the $\log(c)$ at year t was weighted by $\text{var}_{\text{est}}(c)$ at year t . The confidence intervals of the estimated trend were calculated by parametric bootstrapping. We then examined how trends in the log mean density differed among species in different taxa with different sizes of maturity and histories of exploitation.

Density Changes as a Function of Taxonomy and Life History

To examine the association of trends in density with life-history traits we performed two analyses. Because size at maturity is a metric available for all the species we examined, and is a correlate of a number of life-history traits in fishes (Jennings et al. 1998), we first performed an analysis of covariance (ANCOVA) in which taxon was the main effect and the length of 50% maturity (Froese & Pauly 2002) was a covariate. We obtained lengths at maturity from Love et al. (2002) and Froese and Pauly (2002). To augment this analysis, we performed a principal components analysis (PCA) with a number of life-history parameters that were available for several of the rockfish and flatfish we examined. Specifically, maximum age, age at maturity, maximum size, size at maturity, average life-time fecundity, and the growth coefficient (k) from the von Bertalanffy growth function were available for 4 flatfish and 15 rockfish species (Love et al. 2002). We ran these six life-history variables through a PCA. We used the resulting PC score as a covariate in an ANCOVA in which taxon was the main effect. This approach allowed us to reduce the number of independent variables while recognizing that there were high levels of correlation among our life-history variables.

Density Changes as a Function of Harvest Level

To investigate the association of trends in density with harvest, we used an ANCOVA in which taxon (flatfish or rockfish) was the main effect and commercial landings from 1980 to 2001 (log transformed) was a covariate. We did not include bycatch in this analysis. We selected 1980 as a starting point because this is the first year for which catch data are available. Cartilaginous fishes were excluded from the analysis because catch data were not available for this group. We used a standardized measure of catch as a covariate in our model. To standardize catch, we multi-

plied the mean annual commercial landing for each species by the catchability of species and then divided by the catch-per-unit effort estimated from the NOAA trawl surveys. For flatfishes, catchabilities were available for petrale sole (0.30) and dover sole (0.26) from stock assessments. For other flatfishes we used 0.28, the average of the two available catchabilities. For rockfishes, we used catchabilities estimated by Millar and Methot (2002) for bocaccio (0.25), canary (0.28), chilipepper (0.15), widow (0.05), and yellowtail rockfishes (0.25). For other rockfishes associated with hard substrate, we used 0.22, the average of the preceding species excluding widow rockfish (which appear to have unusually low catchability). For rockfishes associated with soft substrate we used 0.28; the same value we used for flatfishes.

We next asked whether trends in abundance of fishes with specific life-history attributes tended to decline more than expected from their historic catch rates. To accomplish this we first determined the residuals from the regression between the trends in abundance and standardized catch rates. These residuals were then regressed against female length at maturity. A significant negative relationship between residuals from the trend-catch curve and length at maturity indicates fish that mature at larger sizes decline faster than would be predicted by historic catch rates alone. In this analysis, we used only length at maturity as a response variable (i.e., not the PC score) because this metric was available for all the species we used in the analysis.

Results

Density and Size Changes by Taxonomic Group

Trends in population density differed dramatically among the taxa we examined (Table 1). The average annual change in abundance for flatfishes and cartilaginous fishes was 9.2% (SD 4.5%) and 5.8% (SD 4.2%), respectively (Table 1). This corresponds to an average circa eightfold increase in flatfish numbers between 1977 and 2001 and an average twofold increase in cartilaginous fishes. Although there was variability in population growth rates among species, the increasing trend was consistent across these two taxa: none of the eight flatfishes or seven cartilaginous fishes showed a declining trend (Table 1). Although numbers of flatfishes and cartilaginous fishes increased, the average weight of individual fish declined since 1980 (Fig. 1). (We used 1980 for comparison because not all fish were weighed in 1977.) However, there was a great deal of variability in this pattern among species (Fig. 1). The average flatfish caught in 2001 weighed 57% of average flatfish caught in 1980. Similarly, the average cartilaginous fish weighed 67% of average 1980 weight.

In contrast to the population trends of flatfishes and cartilaginous fishes, the average annual decline of rockfishes was 8.7% (SD 6.6%) from 1977 to 2001 (Table 1).

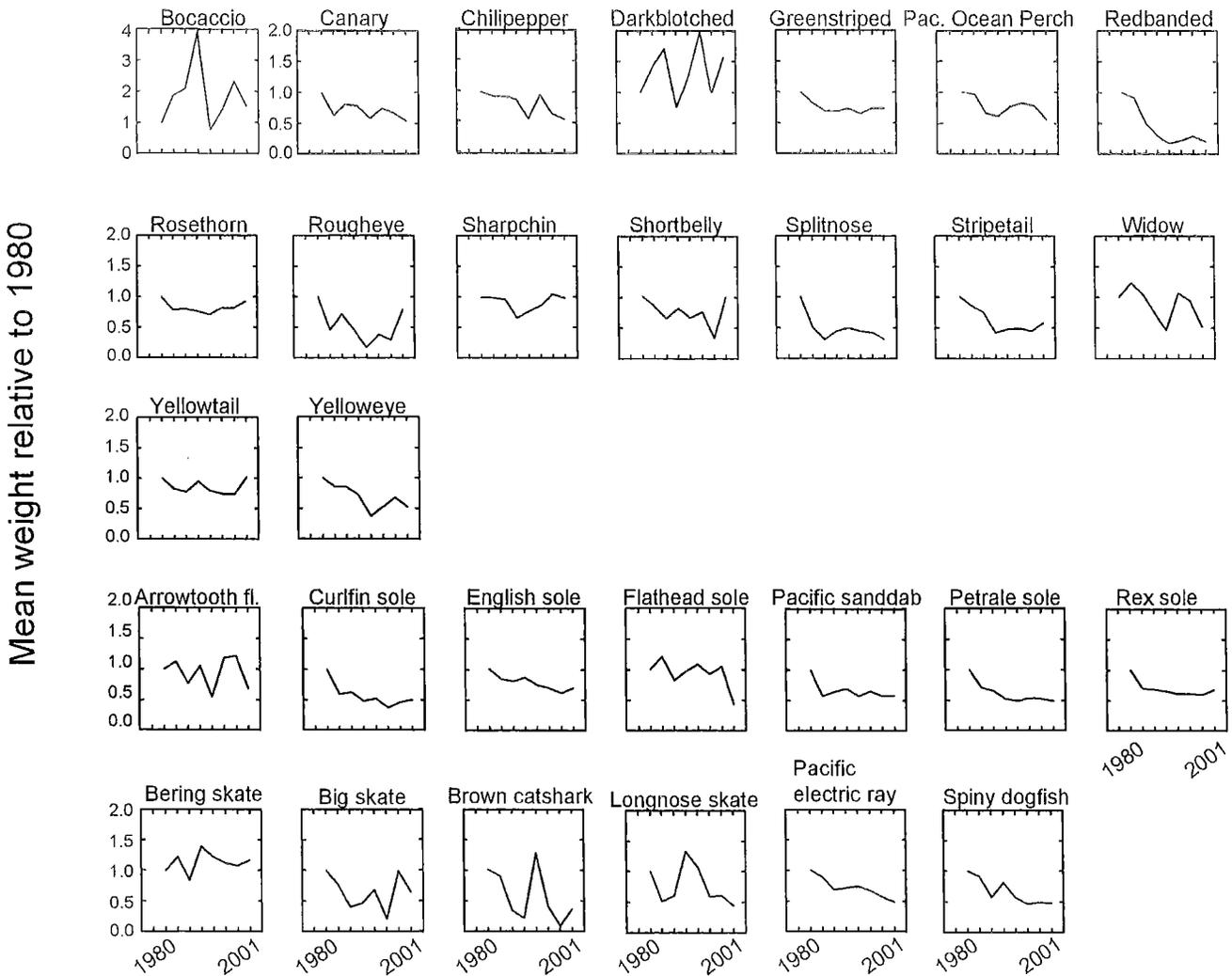


Figure 1. Species-specific changes in mean weight of rockfishes, flatfishes, and cartilaginous fishes relative to 1980. Spotted ratfish and rock sole are not included because data were not available for all years. The y-axis scale for the bocaccio differs from other species.

However, there was tremendous variability among rockfish species (Table 1). Many of the smaller rockfishes, such as the greenstriped, splitnose, and chilipepper, increased annually by >6%/year, whereas most of the larger species showed significant declines averaging from 5% to even 17% per year. Two rockfish species in particular, the canary and bocaccio, experienced 85% and 96% declines, respectively, since 1977. Additionally, like the other taxa we examined, the average weight of rockfish declined. Average rockfish weight in 2001 was 35% lower than in 1980 (Fig. 1), but again the magnitude of this pattern varied among species (Fig. 1).

Life-History Influences

In flatfishes and rockfishes there was an inverse relationship of trends in population density and length at maturity ($F_{1,23} = 8.45, p < 0.001$), and the slopes of the regression

lines were similar for the two taxa ($p = 0.41$; Fig. 2). In flatfishes, 90% of the variance in population trend was explained by length at maturity, and in rockfishes 54% of the variance in trend was explained by length at maturity. In contrast, no association between population trends and length at maturity was evident in cartilaginous fishes (Fig. 2).

Our PCA provided two principal components from the six variables we examined (Fig. 3), and these two PCs explained >70% of the variance in the variables. The ANCOVA revealed an association between PC 1 and average trend in abundance (Fig. 4), but this relationship was weakened by an outlier (rougheye rockfish, studentized residual = 2.697). When this outlier was removed from the analysis, the relationship between the PC and average trend in abundance was highly significant ($p = 0.004$) and similar for both taxa (taxon \times PC interaction, $p = 0.88$).

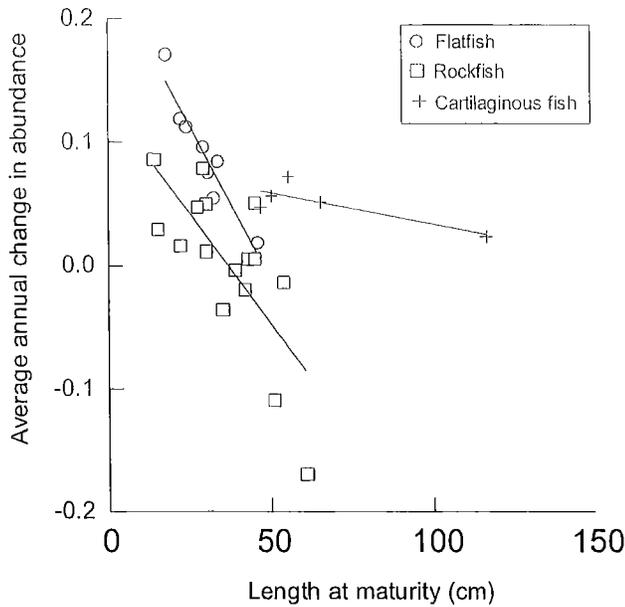


Figure 2. The relationship between length (cm) at maturity and annual changes in population size for Pacific rockfish, flatfishes, and elasmobranchs.

Influences of Harvest Pressure

We observed the expected negative relationship between fishing level and trends in population density ($p = 0.007$). The nature of this relationship was similar for flatfishes and rockfishes (taxon \times total catch interaction $p = 0.82$);

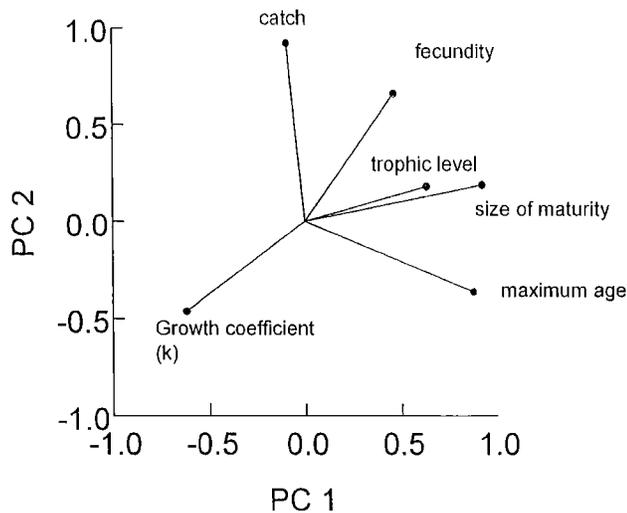


Figure 3. Component loadings for the two principal components generated from a principal component analysis of six life-history variables: maximum age, age at maturity, maximum size, size at maturity, average life-time fecundity, and the growth coefficient (k) from the von Bertalanffy growth function for 4 flatfish and 15 rockfish species.

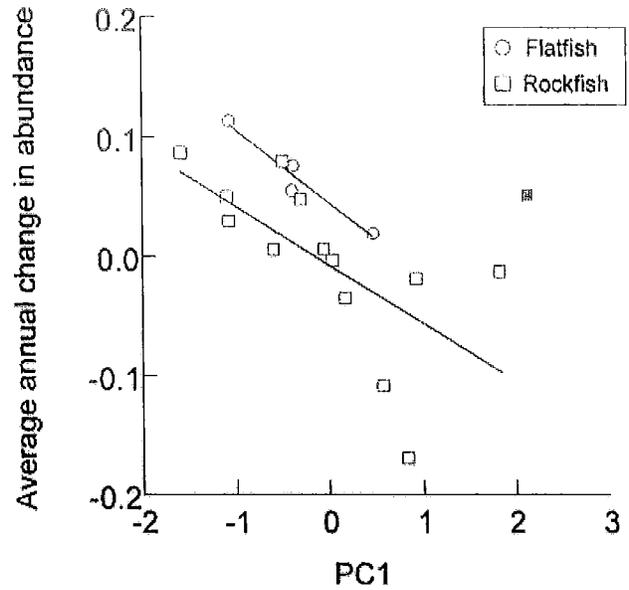


Figure 4. The relationship between annual changes in population size for Pacific rockfish and flatfish with the principal component from a principal component analysis of the following life-history variables: maximum age, age at maturity, maximum size, size at maturity, average life-time fecundity, and the growth coefficient (k) from the von Bertalanffy growth function. The shaded square is rough-eye rockfish that was identified as an outlier in the analysis.

however, the amount of variance in abundance trends explained by catch varied between taxa. In flatfishes, 59% of the variation in average trends was explained by the catch, whereas in rockfishes 36% of the variation was explained.

In some cases, stocks that mature at larger sizes decline faster than would be predicted by catch rates alone. We observed a nonsignificant relationship between residuals and length at maturity in rockfishes ($p = 0.09$) when we included all species in our analysis (Fig. 5). However, when we analyzed those species with negative residuals separately from those with positive residuals, the potential interactive effects of life history and fishing became clearer. For those rockfish species with trends in abundance that were below that predicted by the trend-catch relationship (i.e., residuals < 0), there was a strong ($r^2 = 0.90$) and significant ($p = 0.004$) negative relationship between residuals and length at maturity (Fig. 5). However, for those rockfishes with positive residuals, there was no association between the residuals and length at maturity ($r^2 = 0.04$; $p = 0.62$; Fig. 5).

A negative relationship between residuals from the trend-catch curve and length at maturity also existed for flatfish (Fig 5). The relationship between residuals and length at maturity was significant ($p = 0.02$), and length at maturity explained 61% of the variance of the residuals.

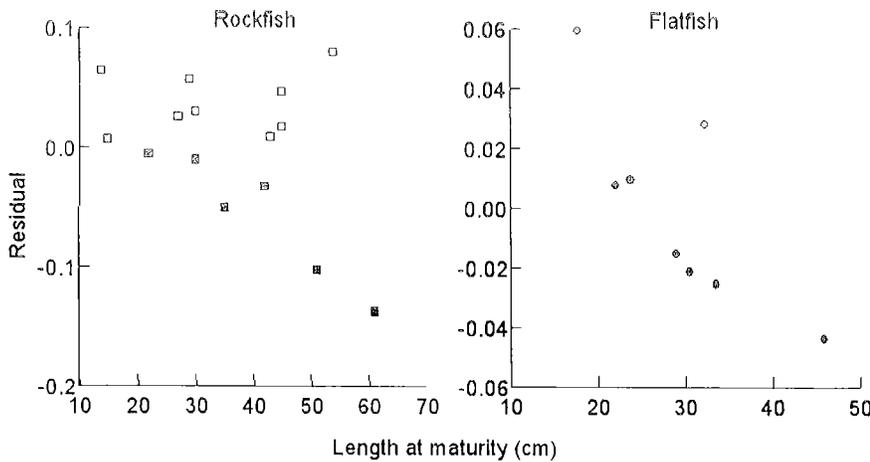


Figure 5. Association of residuals from the regression between the average annual change in abundance and standardized catch rates and length at maturity (cm) in Pacific rockfishes and flatfishes. In the rockfish panel, open squares indicate residuals > 0 , whereas filled squares identify residuals < 0 .

The petrale sole was an outlier in this relationship (studentized residual = 2.392), and when this species was removed from the analysis the r^2 increased to 0.79 ($p = 0.007$).

Discussion

Our analyses suggest that over the last 25 years there have been fundamental changes in the fish assemblage on the continental shelf of the U.S. Pacific coast. Flatfish and cartilaginous fish abundances have increased, in some cases dramatically. Similarly, populations of small rockfishes associated with soft substrate have expanded at rapid rates. In contrast, populations of large rockfishes associated with hard-substrate habitats have fallen at alarming rates. Indeed, in 1977, rockfishes were more than 60% of the fish captured in the survey, whereas flatfishes were 34% of the catch. However, by 2001 rockfishes declined to 17% of the catch and flatfishes had increased to nearly 80%. Our analysis of the residuals from the trend-catch curve (Fig. 5) implicates fishing as a cause for some of the changes in the fish assemblages we report. Thus, we propose that fishing has played a large role in the changes we documented, that the changes are related to the size and life histories of the taxa involved, and that the community ecology of the system has been profoundly altered as a result.

Recent declines (and extinctions) of species are clearly not phylogenetically random (Purvis et al. 2000; Levin & Levin 2002). In a number of taxa, large-bodied species have lower reproductive rates than do smaller members of the taxon (Fisher & Owens 2004), and this may make them more susceptible to human exploitation and/or less able to compensate for the increased mortality imposed by harvest (e.g., Owens & Bennett 2000; Johnson 2002; Cardillo 2003). For instance, Johnson (2002) demonstrated that the risk of extinction of mammals dur-

ing the Late Quaternary was related to reproductive rates and suggested that those slow-reproducing species that survived this extinction bottleneck occurred in habitats inaccessible to human hunters. Similarly, fish species with "slow" life histories are also less resilient to exploitation (Jennings et al. 1998, 1999; Denney et al. 2002). For instance, Jennings et al. (1999) demonstrated that those fish stocks in the North sea that have declined due to fishing tended to be larger and mature later than phylogenetically related species that did not decline. Intrinsic rates of increase of some of the rockfish species we examined may be so low that even modest rates of fishing mortality may lead to severe declines in abundance (Parker et al. 2000). For example, Tolimieri and Levin (2005) showed that the bocaccio would have had an annual population growth rate of 1.009 over the last 25 years in the absence of fishing. Thus, even the slight levels of fishing mortality that bocaccio experience could produce the large declines in abundance that we documented here.

Although fishing likely played a significant role in the patterns we documented, climatic forcing is an additional plausible mechanism for some of the species we investigated (Francis et al. 1998; Hare & Mantua 2000). For instance, temporal trends in flatfish production in the Eastern Bering sea are consistent with decadal-scale climate influences on survival during early life history (Wilderbuer et al. 2002). Similarly, the El Niño Southern Oscillation has a large influence on the early life history of some rockfish populations (Tolimieri & Levin 2005). Thus, although fishing is a likely suspect for some, if not all, of the changes we report, a correlative study such as this cannot rule out environmental causes for some of the observed changes.

Historically, overfishing has been viewed as declines of single species (Rosenberg 2003), and it would be a simple matter to summarize our results as the trends for each species separately. However, such an approach to fisheries problems ignores that communities are more than just a group of populations. Fishing affects more than the

trends of individual species; it influences the state of the entire community (Steneck et al. 2002). In this paper, we have not only shown changes in populations, but we have also documented a shift in the fish assemblage from large to small species of rockfishes and from rockfish to flatfish domination. To the extent that fishing caused these shifts, it has clearly affected not only individual populations, but has also disturbed the entire community. The species that have come to dominate this assemblage have vastly different trophic roles and life-history strategies than the species they replaced. Whether changes in relative fish abundances will result in change throughout the community is a matter of speculation; however, community-level changes as a consequence of overfishing have been observed in other systems. For example, Worm and Myers (2003) demonstrated that the demise of cod stocks in the North Atlantic ocean led to increases in their prey, the northern shrimp (*Pandalus borealis*). Similarly, Zabel et al. (2003) suggest that even moderate levels of fishing of cod in the Baltic sea resulted in major shifts in the relative abundance of species at lower trophic levels. At present we lack the data necessary to parameterize detailed food-web models that would allow us to determine whether a shift from large- to small-bodied rockfish would alter the benthic invertebrate community; however, this possibility exists.

Although one might expect the reduction of fishing effort either through traditional fisheries management or marine protected areas to restore dwindling rockfish populations, such expectations ignore potential interactions among members of the fish community (Zabel et al. 2003; Mangel & Levin 2005). Because even smaller species of rockfish may be able to consume or outcompete recruiting juveniles of larger species (e.g., Shulman et al. 1983; Yoklavich et al. 2000) and because many rockfishes overlap greatly in their patterns of resource use (Love et al. 2002), it is possible that fishing is a disturbance that has shifted the rockfish assemblage to an alternate state (Mangel & Levin 2005). As a result, even large reductions in fishing may not result in recovery of overfished larger species. Similarly, in the northeastern Atlantic, Dulvy et al. (2000) showed a shift in skate assemblages harvested over a 40-year period. Large-bodied species with long generation times have declined and smaller species have increased in abundance. Dulvy et al. (2000) argued that larger skates historically outcompeted smaller species for food and that overfishing of larger species released the small skates from competition. Fogarty and Murawski (1998) also suggest that competitive release results in a phase shift from teleost-dominated to elasmobranch-dominated communities in the northwestern Atlantic.

Many researchers agree that natural shifts in the composition of marine communities can be heightened by fisheries that sequentially discover and then deplete the most valuable fish species. However, the appropriate response to such serial depletion is a matter of much debate (e.g.,

compare Pauly et al. 2002; Hilborn et al. 2004). Hilborn et al. (2004) clearly illustrate the crux of the problem for the mixed-stock groundfish fishery on the U.S. West coast. If one maximizes yield from the ecosystem by maximizing the sum of single-species benefits, then overfishing will always occur. In contrast, if one manages an assemblage of fishes to prevent some stocks from becoming overexploited, then fishers will clearly have to forgo harvest of strong stocks. Lessening the tradeoff between overfishing and lost fishing opportunities requires movement beyond single species thinking and development of approaches for exploiting productive stocks while protecting species that are less productive. Edwards et al. (2004) proposed one solution to this dilemma based on the management of portfolios of fish stocks. Portfolios of fish species interact ecologically and are captured jointly. Managers then manage a portfolio to balance the expected combined return of the fishery portfolio against risks associated with life-history attributes or other uncertainties. The objectives of such an approach could be economic or ecological. In either case the goal of such an approach would be to achieve multispecies objectives within clearly defined ecological safeguards.

Implementing a portfolio approach to fisheries depends critically on understanding ecological interactions among species within the portfolio, knowledge of covariance in the response of species to environmental variability, and the dynamics of key components of the ecosystem. Although the data demands of a portfolio approach seem formidable, emerging analytical techniques, such as first-order multivariate autoregressive models, make it possible to understand which species within portfolios have relatively large impacts on other species or which species are most sensitive to particular environmental factors (Ives et al. 2003). Importantly, such techniques require only basic data of the sort already collected by fisheries agencies; thus, implementing a portfolio approach may be scientifically achievable. However, to be successful, this approach must be combined with management approaches that assess value of assets in the ecosystem, manage conflicting uses, and reconcile economic objectives of an ecosystem with constraints inherent in the environment (Edwards et al. 2004; Hilborn et al. 2004). Exactly how to respond to the drastic changes in fish abundance and size that we have documented here has been a matter of much debate; however, our results make a strong case for the value of a holistic, ecosystem approach to fisheries.

Acknowledgments

We are greatly indebted to dozens of researchers from the National Marine Fisheries Service who conducted the thousands of trawl tows upon which this paper is based. We appreciate discussions with or comments by

R. Methot, T. Helser, R. Zabel, N. Tolimieri, J. Field, and M. Mangel, which improved the manuscript. P. S. L. gratefully acknowledges G. Hincapie for leading the way and the support of a Nature Conservancy David H. Smith Senior Scholarship.

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Coastside Fishing Club
666 Brighton Road, Pacifica, CA 94044

To: California Fish and Game Commission
Date: August 17, 2006
Re: MLPA/CEQA Process

Dear Commissioners,

The Coastside Fishing Club, with its more than 12,000 members, is a grass-roots organization dedicated to protecting the rights of recreational anglers in California. We would like to take this opportunity to bring to the Commissions attention possible environmental impacts that may result from the MLPA process. The California Environmental Quality Act (CEQA) requires such considerations be addressed resulting from the promulgation of new regulations such as those put forth under the MLPA Initiative.

We are very concerned that the creation of a significant number of no-fishing areas (state marine reserves, conservation areas, and parks) will result in a dramatic effort shift in both commercial and recreational fisheries. Such a resulting effort shift has the potential to have dramatic impacts on the environmental health of areas outside of no-fishing areas. Furthermore, little is understood about how such an environmental impact would affect populations inside no-fishing areas. There can be no dispute that the proposed regulations will have – or are intended to have – significant effects on the environment within and without the MPAs. Moreover, these environmental effects will be accompanied by major adverse economic and social impacts on Californians now recreating on these public waters.

For these reasons we request that the State of California do two things: 1) scale back the proposed package of MPAs along the central coast and, 2) phase in the implementation so as to provide enough time to study the impacts of shifted effort due to the creation of no-fishing areas.

Thank you for the opportunity to comment on the MLPA/CEQA process.

Sincerely,

Ben Sleeter
Coastside Fishing Club

California Fisheries Coalition

August 18, 2006

MLPA Scoping Comments
Mr. John Ugoretz
Nearshore Ecosystem Coordinator
California Department of Fish and Game
20 Lower Ragsdale Drive, Suite 100
Monterey, CA 93940

Dear John: SUBJECT: Scoping the MLPA Environmental Impact Report

The California Fisheries Coalition is pleased to submit the following comments for use in determining the scope of the Environmental Impact Report required by the California Environmental Quality Act before establishing Marine Protected Areas (MPAs) along the central California coast.

The statewide goals and purpose of the Marine Life Protection Act are well known. It is significant that the legislature established these goals with a view to the ultimate statewide implementation of the Act: protect the abundance of marine species and the structure, function and integrity of ecosystems; help sustain, conserve and protect populations; improve recreational, educational and study opportunities consistent with protecting biodiversity; and protect marine natural heritage in California waters; ensure California's MPAs have clearly defined objectives, management, and enforcement; and ensure the State's MPAs are designed and managed as a network.

1. It goes without saying that in order to determine how the proposed project will impact the above goals and resources it will be necessary to carefully and comprehensively describe the proposed project in its entirety. Not only must the current project be accurately described, the project description and the related impact assessment, should also account for reasonably foreseeable future phases of the project.

It is clearly understood that the Legislature's intent and the intent of the Administration is to implement the MLPA statewide in the near future, indeed funds for the next round of MPA designations have already been appropriated and it is expected that additional funds will be made available as necessary to continue designating MPAs until the full project of establishing MPAs along the entire coast of California is completed. Likewise the Department of Fish and Game and the Fish and Game Commission have already initiated steps to determine which area of the State's coast will be included in the next phase and the time frame for adding this next phase to the overall project.

The environmental impact report should address the potential significant impacts that may occur statewide from central coast MPAs and all MPAs that will eventually be established within the State. Nearly all species affected by MPAs range well beyond the borders of MPAs and even well beyond the current central coast study region. Likewise persons participating in fishing activities, whether for commercial or recreational purposes, engage in multiple fisheries and fisheries that extend beyond their local area. Impacts resulting from the proposed first phase of the project will likely extend beyond the limited central coast range.

Marine species and fishing activities will be impacted by future phases of this project which could result in far greater environmental impacts, as described below, than may result just from Central coast MPAs. The environmental report must review all direct, indirect and cumulative impacts resulting from establishing MPAs statewide including any other reasonably foreseeable plans and programs that may modify or impact the current proposed action. This analysis should include the phases, staging and interaction of the proposed project with reference to direct and cumulative impacts.

2. A draft environmental assessment must include a description of the environment in the vicinity and region of the project, including a detailed description of existing resources affected and habitat in which the proposal will be implemented and the extent and condition of these resources and habitat throughout the state. In this case an accurate description of current population abundance and ecosystem structure, function and integrity is a necessity to give the public an ability to understand the full ramifications of the proposal. This must be done for each MPA site, and neighboring areas of similar habitat. How else would one know if MPAs benefit, or harm, the marine life and ecosystem they are supposed to protect?

It will be necessary to develop specific guidelines and models to define the current status of the ecosystem regarding such things as abundance, structure, and function. Using these models and models depicting the dynamics of marine populations the outcomes and impacts of the project and different alternatives should be quantified. Such an analysis can also serve to guide the development of mitigation measures by testing for efficient and effective mitigation.

3. The draft assessment must identify direct, indirect and cumulative significant impacts that may occur as a result of the project. In order to accurately do so it should also discuss the environmental specifics of the affected area; the resources involved; potential related health and safety problems; human uses of the area and public services and goods affected.

The proposed project will likely result in many direct and indirect impacts that will need to be evaluated. Closing vast areas to fishing will lead to shifting fishing effort from those closed areas to remaining open areas. With fish already concentrated into certain preferred areas of the ocean (e.g., rocky reefs) that have been and continue to be highly productive areas, closing any of these areas could significantly increase the concentration

of fishing effort. The extent of this concentration and its effect on these remaining areas must be determined. It should be noted that NONE of the areas proposed to become MPAs are considered to be overfished, and scientists from NOAA Fisheries have testified that new MPAs are not needed to rebuild the six remaining ground fish stocks that are considered to be in low abundance.

Stated differently, the project is likely to result in a redistribution of marine species throughout the ocean, e.g., increased populations within MPAs and a decrease in populations outside of MPAs. The effect of this phenomenon must be assessed to determine its impact on structure, function and integrity of marine ecosystems and long-term sustainability of resources. The only reliable way to scientifically determine these long-term effects would be development of rigorous analytical tools and models.

The consequences of the likely redistribution of marine species must be carefully evaluated. With the likely depletion of neighboring areas of habitat similar to the habitat in MPAs, there exists the distinct possibility that top-end predators will congregate within MPAs, because that is where the food is. This consequence will not only undermine the abundance and biodiversity goals of the MLPA (and National Marine Sanctuary Act), but for species like the threatened southern sea otter and protected species like harbor seals, California sea lions, and elephant seals, could lead to human actions changing their behavior away from their natural feeding distribution - potentially amounting to a "taking" of these animals. This would be a violation of federal law.

The potential imbalance in marine species populations is contrary to the ecosystem function goals of the MLPA, and also the Marine Life Management Act and the federal National Marine Sanctuary Act (for the portion of the study region within the MBNMS)

The effects of crowding more fishing vessels into smaller areas on the ocean need to be assessed. These could involve a concentration of air emissions, oil and fuel leaks and spills from normal vessel operations or an increase in vessel accidents.

If near harbor areas are included in MPAs, vessels may need to travel further to get to fishable areas resulting in increased fuel consumption and emissions and increased exposure to hazardous oceans creating heightened public safety concerns, including the risk of vessel strandings and sinkings causing potentially significant environmental harm.

A potential reduction in fishing activities and economic returns to individual fishermen, local business, and local economies could have significant indirect environmental effects. Reduced income will reduce the ability of vessel owners to maintain vessels and increase the public safety concerns and the environmental consequences of losing vessels at sea or even in harbors (e.g., oil and fuel spills in harbors or bays and other environmental effects of ship wrecks). Both the Cities of Monterey and Morro Bay have already documented an increase in derelict and or abandoned fishing vessels as a result of fishermen and fishing related businesses losing income. Small localized oil or fuel spills into the Monterey Bay National Marine Sanctuary or other important areas could expose

marine wildlife populations or human populations to potential harm.

The proposed project could reduce fishing activities and the economic activities associated with fishing. This economic effect reaches beyond the initial commercial sale of fish to include the processor, wholesaler, retailer and all of the supporting businesses, as well as all the various businesses that directly and indirectly support recreational fishing. Businesses will be affected and physical impacts could be generated by the demise of boat building and repair facilities, fuel and gear suppliers, restaurants and hotels, and other industries that support commercial and recreational fishing. When businesses go out of business buildings sit empty and local agencies are unable to maintain local infrastructure including water front areas, harbors and fishing wharfs. Such facilities experiencing physical deterioration easily become environmental and public safety problems. CEQA requires that these secondary and indirect environmental effects be assessed (*Citizens for Quality Growth v. City of Mount Shasta* (3rd Dist. 1988) 198 Cal.App.3d 433, 445-446 [243 Cal.Rptr. 727]).

If the proposed project results in higher costs to continue fishing operations and thereby disrupts competition and normal business operations, such impacts must be assessed. Indeed, according to CEQA guidelines, secondary and indirect economic and social consequences may be relevant in determining whether related environmental impacts are "significant" for CEQA purposes and therefore must be avoided or mitigated. (Guidelines Sec. 15131, subd.(b))

The potential for the project to lead to concentration of fishing effort, depletion of localized resources, social and economic consequences, dilapidated community infrastructure and resulting environmental problems all must be assessed in the draft environmental impact report.

While not all impacts are significant, the courts have held that a rigorous analysis and concrete substantial evidence is needed to declare a project impact (direct or indirect) insignificant. (*Kings County Farm Bureau et al. V. City of Hanford* (5th Dist. 1990) 221 Cal.App.3d 692 [270 Cal.Rptr. 6540]).

4. The environmental impact report must discuss how the project is consistent with other authorities of the project applicant and other state, federal and local laws, policies and programs that relate to the resources impacted. How will the proposed project be integrated with the guiding principle of the California Coastal Act that calls for orderly, balanced utilization of coastal resources taking into account the social and economic needs of the state and requires the economic, commercial, and recreational importance of fishing activities be recognized in carrying out the Act? (Sections 30001.5 and 30234.5, PRC)

Further the assessment should discuss and analyze the impacts of the project on local land use authorities and land use plans, historical and current local land use patterns,

and local infrastructure needs and upkeep. Many local coastal communities economies and public facilities depend on coastal access and recreational and commercial fishing activities.

The assessment should discuss the capacity of the Department to fully carry out the project over the long-term. What staff and funding resources is the Department assured of having to enable full management, monitoring and enforcement of MPAs once they are designated? If funds and staff are not adequately available what will be the consequences? If resources are redirected from other Department work what will be the environmental consequences as a result of inadequate resource management, monitoring, and law enforcement in other areas of the state?

5. The environmental impact report should make a clear delineation of all funding for carrying out, implementing, and managing this project and all ancillary projects or programs. Such a delineation should fully identify all state, federal, local and non-governmental funds reasonably anticipated in both the short and long-term. If a potential exists that federal moneys of any kind maybe used, the lead federal agency should be urged to immediately issue a Notice of Intent to prepare an Environmental Impact Statement pursuant to the National Environmental Policy Act.

Thank you for the opportunity to submit these comments. We urge your full attention to them and trust they will contribute to a comprehensive and valuable environmental impact report. Please contact us if we can clarify any of our statements or be of any further assistance.

Sincerely,

Trustees of the California Fisheries Coalition

Bob Fletcher
Sportfishing Association of California

Peter Halmay
California Sea Urchin Commission

Jim Martin
Recreational Fishing Alliance

Diane Pleschner-Steele
California Wetfish Producers Association

Kathy Fosmark
Alliance of Communities for Sustainable Fisheries



RECREATIONAL FISHING ALLIANCE

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Friday, August 18, 2006

MLPA CEQA Scoping Comments
c/o Mr. John Ugoretz, Nearshore Ecosystem Coordinator
Department of Fish and Game – Marine Region
20 Lower Ragsdale Drive, Suite 100
Monterey, CA 93940
Sent via e-mail to mlpacomments@dfg.ca.gov

Dear John,

I'm writing to you on behalf of the Southern California Chapter of the Recreational Fishing Alliance, our board of directors, our regional advisory councils, affiliated clubs and organizations throughout the SoCal region as well as our affiliated tackle shops, sport boat operators and general membership. Many of us down here have been directly involved in one capacity or another with the MLPA process from the outset, including the current MLPA Initiative. Our interest in the CENTRAL COAST MARINE PROTECTED AREAS PROJECT is by no means remote, since the current scoping project, the subsequent evaluation by the Department and development of the EIR has profound implications throughout the state and will set the stage for success or failure as the MLPA Initiative visits the rest of the California Coast.

Rather than burden you with a repetitive lengthy list of all the environmental and socio-economic impacts that we believe must be thoroughly addressed in the MLPA environmental review and CEQA analysis, I will simplify your task somewhat by stating that we wholeheartedly support the scoping comments that you have already received from Jim Martin, RFA West Coast Director. Additionally, we also endorse the comments submitted on behalf of the California Fisheries Coalition (CFC). We are proud to be one of the founding members of the CFC.

- I do want to put special emphasis on what we believe to be perhaps the greatest source of potential negative impacts of the CENTRAL COAST MARINE PROTECTED AREAS PROJECT. Simply stated, the Department lacks the fiscal and staff resources at present to deal with a full complement of new MPAs in a manner that is responsive to the overarching requirement of the MLPA that mandates the highest regard to adaptive management, monitoring, evaluation and enforcement.
- The Department needs to make a detailed evaluation of the effects of this likely budget drain, as all the other environmentally urgent programs in which the Department is engaged are likely to suffer from budget shortfalls, to say nothing of enforcement assets as the Department struggles with implementation of an overly ambitious MLPA project all at the same time.

This is a very easy problem to state, but one that is extremely difficult to quantify. I believe it is the most important issue that the MLPA environmental review and CEQA analysis must address with extreme thoroughness, even if it means a complete inventory of all the programs that the Department administers. Should the CENTRAL COAST MARINE PROTECTED AREAS PROJECT be implemented in a manner that is not mindful and cautious of Department resources, the MLPA Initiative will fail to accomplish the goals of the Act and the negative impacts many of the Departments activities will be severe.

- In the spirit of the scoping process, it isn't sufficient to merely point out negative impact, but it behooves those of us who comment to suggest possible mitigation. In that regard RFA SoCal recommends that very serious consideration be given to a gradual phasing of any and all new MPAs. Not only is this a scientifically sound approach, but also it may be the only means possible for the Department to stretch its available resources to minimize profound negative impacts and successfully implement the Act in a truly effective manner.

I have attached here a peer reviewed and journal published analysis that originated from NOAA and gives broad support from the science community for the efficacy of MPA project phasing. This really should be part of the EIR.

All of us at RFA appreciate your time and attention to this commentary.

Sincerely,



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Seeking Consensus on Designing Marine Protected Areas: Keeping the Fishing Community Engaged

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A community group was formed to consider establishing marine reserves within the Channel Islands National Marine Sanctuary in southern California. Membership included representatives from resource agencies, environmental organizations, commercial and recreational fishing interests, and the general public. While the group agreed on several areas for fishing closures, members could not reach consensus on a specific network design. Several factors interfered with the group's effort in attaining agreement resulting in the endeavor subsequently being replaced by a "top-down" approach that lacks the support of the fishing community. Lessons learned from the project emphasize the need by marine protected area participants to recognize irreconcilable impasses early in the process and to seek solutions to maneuver around them. The importance of keeping the fishing community fully engaged is discussed.

Keywords Channel Islands, community participation, MPAs, marine reserves

Introduction

While protecting marine habitats from fishing dates back centuries to the island communities of the South Pacific Ocean (Johannes, 1978), the use of marine protected areas (MPAs) has only become popular in the last several decades. One version of this conservation tool that fully protects areas from all harvest activity (i.e., harvest refugia, marine reserves, or no-take MPAs), has rapidly emerged as the MPA of choice (e.g., Allison, Lubchenco, & Carr, 1998; Guénette, Lauck, & Clark, 1998; Murray et al., 1999; Lubchenco et al., 2003). In 1999, the California Fish and Game Commission (Commission) was approached by the Channel Islands Marine Resource Restoration Committee, a group of concerned citizens, to consider setting aside 20% of the shoreline and waters to 1 mile within the 1,252 nmi² boundaries of the National Oceanic and Atmospheric Administration's

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(NOAA) Channel Islands National Marine Sanctuary (Sanctuary)¹ as a “no-take” marine reserve (Ugoretz, 2002). In response, the Commission directed the California Department of Fish and Game (CDFG) to work with Sanctuary staff to consider marine reserves within the Sanctuary’s boundaries. The Commission’s request was facilitated by the Sanctuary’s Advisory Council (SAC). The SAC, an advisory body to the Sanctuary manager, is composed of 20 members representing a variety of local user groups, the general public, and local, state, and federal governmental jurisdictions. They appointed a multi-stakeholder Marine Reserves Working Group (MRWG) to develop and forward to them a consensus recommendation for establishing marine reserves within the Sanctuary.

The MRWG was formalized in July 1999, and its 17 members represented a broad array of community responsibilities and perspectives, including state and federal resource agencies, the public-at-large, commercial fishing, kelp harvesters, commercial passenger fishing vessels, recreational fishermen and divers, and environmental organizations.

The SAC also formed a Science Advisory Panel (SAP) and a Socio-Economic Team (SET) to support the MRWG in its decision making. The 15-member SAP defined scientific criteria, evaluated ecological data, and critiqued the scientific merits of different reserve scenarios provided by the MRWG. The five-member SET provided baseline socioeconomic information and conducted an impact analysis on use values associated with various marine reserve scenarios and their potential costs.

The MRWG operated on a common set of self-imposed ground rules that procedurally directed its decision making (Figure 1). Decisions were based on consensus (i.e., unanimity) that required all members to at least reach a predetermined level of agreement for a proposal to be adopted. Using these guidelines, the MRWG corroborated on several issues, including adopting problem and mission statements, a set of implementation recommendations, and five goals. Of the goals, two focused specifically on the biological outcomes of marine conservation and sustainable fisheries. The remaining three addressed socioeconomic, heritage and educational concepts (Table 1). The MRWG agreed to neither prioritize nor weight the five goals.

The MRWG operated for 22 months, from July 1999 to May 2001. The monthly, day-long meetings were managed by two professional facilitators. Despite this well-organized effort, the group disbanded without reaching consensus on a marine reserve network to forward to the SAC. While the group did agree on fishing closures at nine locations within the Sanctuary, it was unable to agree on the size of each. Over a period of several months, these common “areas of overlap,” totaling 18% of the Sanctuary boundaries, represented the maximum area MPA critics were willing to concede, but of insufficient size to accommodate concerns expressed by MPA proponents.² Consequently, a composite map illustrating both positions was prepared and forwarded to the SAC (Figure 2).

Due to this impasse, the SAC acknowledged it was unprepared to complete the MRWG’s task and recommended to the Sanctuary manager that Sanctuary staff collaborate with CDFG staff to formulate a marine reserve design based upon the substantial work products prepared by and for the MRWG. This task subsequently resulted in an MPA network design affecting 25% of the Sanctuary’s boundaries that includes both no-take and limited-take fishing areas. Nineteen percent of this network occurs in State of California waters (shoreline to 3 nmi), and the remaining 6% in the Federal waters portion (3–6 nmi) of the Sanctuary. The State’s portion was implemented in April 2003. The Federal portion is currently advancing through the National Environmental Policy Act process.

Why was the MRWG unable to reach consensus on a single map, thereby losing the support of the fishing community? The stalemate can be traced to a number of factors that interfered with the group’s decision making. Certain decisions and events occurred early in the process that directly or cumulatively impeded the MRWG’s ability to look

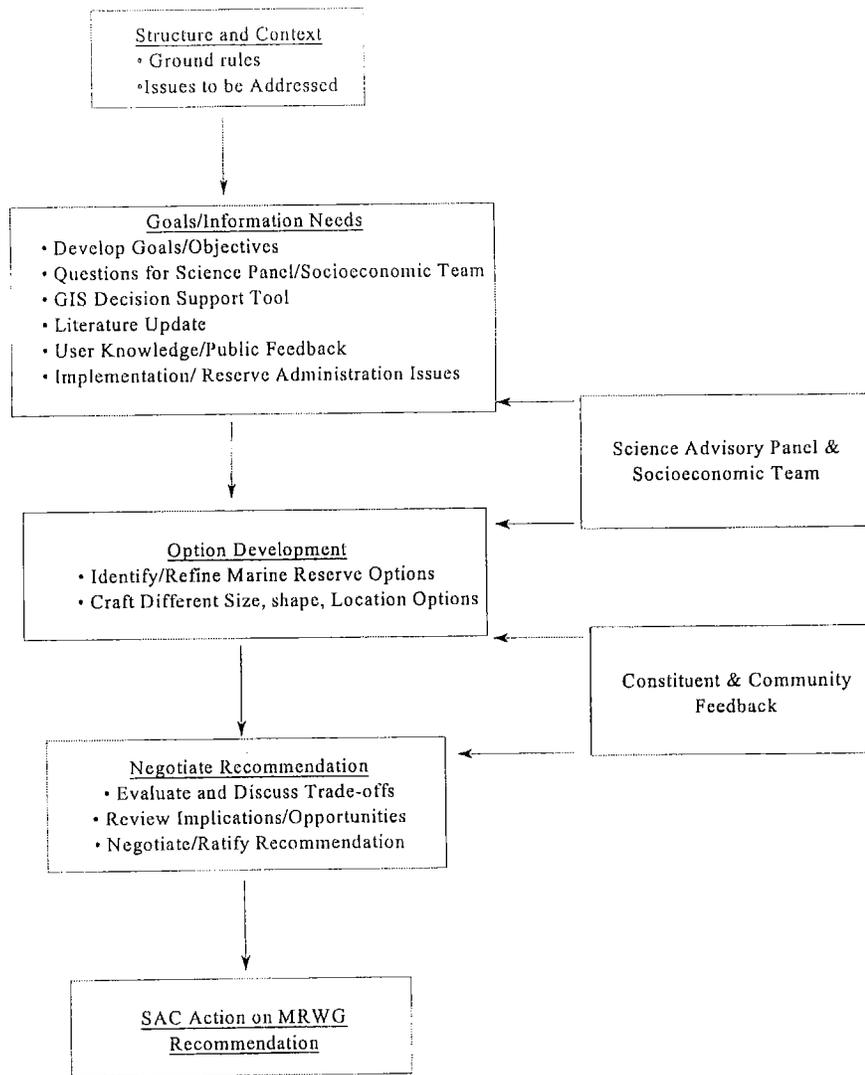


Figure 1. Schematic of the marine reserve working group (MRWG) planning process.

beyond differences of opinion and seek solutions to its disagreements over such a complex management issue. This commentary attempts to present six findings that address particular issues that in one way or another affected the MRWG's ability to reach unanimity on a single map. It also reviews the success and failures arising out of the MRWG project. The paper concludes by suggesting ways the group might have maneuvered around its impasse and what future MPA efforts need to consider to preserve full community participation.

Findings

Inadvertently Weighting the Ecosystem Biodiversity Goal

One exercise undertaken early in the MRWG process was identifying particular organisms that would benefit from the creation of a marine reserve network in the Sanctuary.

Table 1
Goals for marine reserves adopted by the Marine Reserve Working Group
(adopted from Jostes and Eng, 2001)

Goal	Goal definition
Biological	
Ecosystem biodiversity	To protect representative and unique marine habitats, ecological processes, and populations of interest.
Sustainable fisheries	To achieve sustainable fisheries by integrating marine reserves into fisheries management.
Social and Economic	To maintain long-term socioeconomic viability while minimizing short-term socioeconomic losses to all users and dependent parties.
Natural and Cultural Heritage	To maintain areas for visitor, spiritual, and recreational opportunities, which include cultural and ecological features and their associated values.
Educational	To foster stewardship of the marine environment by providing educational opportunities to increase awareness and encourage responsible use of resources.

The group prepared a list of seven criteria to guide an iterative process that eventually produced a diverse list of 119 plant, invertebrate, fish, seabird, and marine mammal "species of interest" (Table 2). The list represented both unharvested organisms, including corals, gorgonians, barnacles, seals, sea otters, and marine birds, as well as harvested fish and plant species (e.g., kelp).

The creation of the species list essentially established the scale of the marine ecosystem under which the MRWG and its advisory panels would operate. Considering ecosystems are defined as the network of interactions amongst and between organisms and their environment within a given area, the expansive species list represented a broad system even including a pelagic component of migratory fish species (e.g., white sea bass, Pacific sardine and northern anchovy). Although the MRWG intentionally decided against weighting its five goals, the expansive species list inadvertently placed a greater emphasis on the ecosystem biodiversity goal from the very outset of its deliberations.

To accommodate the full complement of species, the SAP suggested using suitable habitat types as a proxy for spatial distributions, as the latter information was unavailable for many species (Table 3). The SAP also identified three biogeographical zones or regions to frame the oceanographic variability operating within the Sanctuary. These regions were the colder waters of the northern Oregonian Bioregion, the warmer waters of the southern California Bioregion, and the middle Transition Zone (Airamé et al., 2003). With the three regions in mind, the SAP recommended that the representative habitat types be included in each to ensure habitat coverage for the full complement of species (Airamé et al., 2003). Consequently, the MRWG was challenged to thrice replicate protection for the various habitat types in each region rather than once over the range of the Sanctuary. This guidance further reinforced a predisposition towards

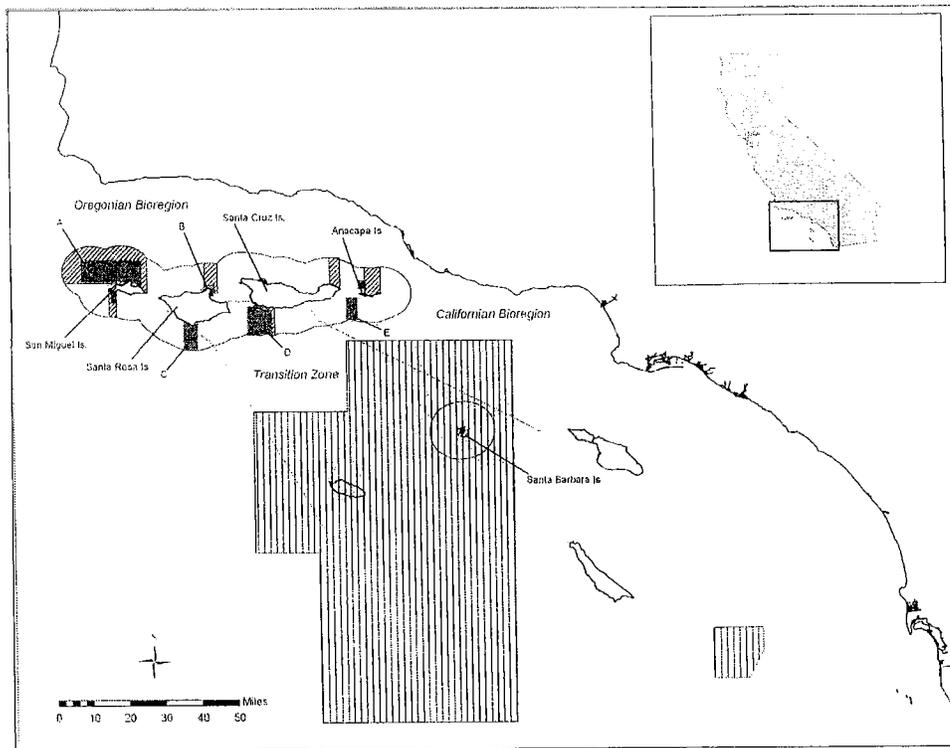


Figure 2. Composite map of areas of overlap (darkened areas) and nonoverlap (cross-hatch) developed by the Marine Reserves Working Group (MRWG) at the Channel Islands National Marine Sanctuary and the Pacific Fishery Management Council's "cowcod conservation area" (vertical-hatch). Lettered areas are: A = Richardson Rock; B = Carrington Point; C = South Point; D = Gull Island; E = Footprint.

the ecosystem biodiversity goal and complicated attempts to seek balance amongst the five goals.

Establishing Policy on Habitat Quantity

Early in its process, the MRWG requested that the SAP recommend a marine reserve scenario supporting the two biological goals of ecosystem biodiversity and sustainable fisheries. Upon conducting a review of the scientific literature, the SAP reported a wide array of optimal marine reserve sizes ranging from 5–80% of the available habitat listed in the studies. The SAP disclosed that most of the literature indicated a minimum of 10–40% of marine habitats would need protection to conserve ecosystem biodiversity. For the sustainable fisheries goal, it noted that most studies suggested a need to protect 30–60% of existing fishing grounds. Based on this review and the intent to achieve both biological goals, the SAP suggested that at least 30% and possibly 50% of each of the representative marine habitats in each of the three zones be established in the Sanctuary (SAP, 2001; Airamé et al., 2003).

Given the extensive species list, the limited information on the distributions and movements of many of the species of interest, and the complexity of the three interacting biogeographical water masses, the SAP provided its best estimate for the total size of no-take reserves. While the list of studies reviewed by the SAP in its decision was

Table 2
Species of interest in the northern Channel Islands
for consideration by the Marine Reserve Working Group

Species	Scientific name
Plants	
Giant kelp	<i>Macrocystis pyrifera</i>
Feather boa kelp	<i>Egregia menziesii</i> and <i>E. laevigata</i> (Setchell 1925)
Elk kelp	<i>Pelagophycus porra</i>
Oar weed	<i>Laminaria farlowii</i>
Brown algae	<i>Agarum fimbriatum</i>
Southern sea palm	<i>Eisenia arborea</i>
Stalked brown algae	<i>Pterygophora californica</i>
Scoulder surfgrass	<i>Phyllospadix scoulei</i>
Torrey surfgrass	<i>P. torreyi</i>
Eelgrass	<i>Zostera</i> spp.
Invertebrates	
California hydrocoral	<i>Allopora californica</i>
Hydroid	<i>Abietinaria</i> spp.
Ostrich-plume hydroid	<i>Aglaophenia latirostris</i>
Ostrich-plume hydroid	<i>A. struthionides</i>
Hydroid	<i>Clytia bakeri</i>
Hydroid	<i>Garveia annulata</i>
Hydroid	<i>Obelia</i> spp.
Hydroid	<i>Sarsia</i> spp.
Hydroid	<i>Sertularella turgida</i>
Hydroid	<i>Sertularia frucata</i>
Hydroid	<i>Tubularia crocea</i>
Red gorgonian	<i>Lophogorgia chilensis</i>
California golden gorgonian	<i>Muricea californica</i>
Brown gorgonian	<i>M. fructicosa</i>
Colonial sand tube worm	<i>Phragmatopoma californica</i>
Giant acorn barnacle	<i>Balanus nubilus</i>
Aggregating anemone	<i>Anthopleura elegantissima</i>
Giant starfish	<i>Pisaster giganteus</i>
Ochre starfish	<i>P. ochraceus</i>
California sea cucumber	<i>Parastichopus californicus</i>
Warty sea cucumber	<i>P. parvamensis</i>
Red sea urchin	<i>Strongylocentrotus franciscanus</i>
Purple sea urchin	<i>S. purpuratus</i>
Pink abalone	<i>Haliotis corrugata</i>
Black abalone	<i>H. cracherodii</i>
Green abalone	<i>H. fulgens</i>
Red abalone	<i>H. rufescens</i>
White abalone	<i>H. sorenseni</i>
Owl limpet	<i>Lottia gigantea</i>
Wavy turban snail	<i>Lithopoma undosa</i>
Kellett's whelk	<i>Kelletia kelletii</i>

Table 2
Species of interest in the northern Channel Islands
for consideration by the Marine Reserve Working Group (*Continued*)

Species	Scientific name
Invertebrates (Continued)	
California mussel	<i>Mytilus californianus</i>
Rock scallop	<i>Hinnites giganteus (multirugosus)</i>
Pismo clam	<i>Tivela stultorum</i>
Geoduck clam	<i>Panopea generosa</i>
Market squid	<i>Loligo opalescens</i>
California spiny lobster	<i>Panulirus interruptus</i>
Red rock shrimp	<i>Lysmata californica</i>
Spot prawn	<i>Pandalus platyceros</i>
Ridgeback shrimp	<i>Sicyonia ingentis</i>
Red crab	<i>Cancer productus</i>
Rock crab	<i>C. antennarius</i>
Sheep crab	<i>Loxorhynchus grandis</i>
Fish	
Leopard shark	<i>Triakis semifasciata</i>
Pacific angel shark	<i>Squatina californica</i>
Soupfin shark	<i>Galeorhinus galeus</i>
Thornback ray	<i>Platyrrhinoidis triseriata</i>
Pacific herring	<i>Clupea pallasii</i>
Pacific sardine	<i>Sardinops sagax</i>
Northern anchovy	<i>Engraulis mordax</i>
Pacific cod	<i>Gadus macrocephalus</i>
California grunion	<i>Leuresthes tenuis</i>
California scorpionfish	<i>Scorpaena guttata</i>
Pacific ocean perch	<i>Sebastes alutus</i>
Kelp rockfish	<i>S. atrovirens</i>
Brown rockfish	<i>S. auriculatus</i>
Gopher rockfish	<i>S. carnatus</i>
Copper rockfish	<i>S. caurinus</i>
Greenspotted rockfish	<i>S. chlorostictus</i>
Black and yellow rockfish	<i>S. chrysomelas</i>
Darkblotched rockfish	<i>S. crameri</i>
Starry rockfish	<i>S. constellatus</i>
Calico rockfish	<i>S. dallii</i>
Widow rockfish	<i>S. entomelas</i>
Cowcod	<i>S. levis</i>
Black rockfish	<i>S. melanops</i>
Vermilion rockfish	<i>S. miniatus</i>
Sebastes miniatus	<i>S. mystinus</i>
Speckled rockfish	<i>S. ovalis</i>
Bocaccio rockfish	<i>S. paucispinis</i>
Canary rockfish	<i>S. pinniger</i>
Grass rockfish	<i>S. rastrelliger</i>

(Table continues next page)

Table 2
Species of interest in the northern Channel Islands
for consideration by the Marine Reserve Working Group (*Continued*)

Species	Scientific name
Fish (<i>Continued</i>)	
Yelloweye rockfish	<i>S. ruberrimus</i>
Flag rockfish	<i>S. rubrivinctus</i>
Olive rockfish	<i>S. serranoides</i>
Treefish	<i>S. serriceps</i>
Honeycomb rockfish	<i>S. umbrosus</i>
Shortspine thornyhead	<i>Sebastolobus alascanus</i>
Lingcod	<i>Ophiodon elongatus</i>
Cabezon	<i>Scorpaenichthys marmoratus</i>
Giant sea bass	<i>Stereolepis gigas</i>
Broomtail grouper	<i>Mycteroperca xenarcha</i>
Kelp bass	<i>Paralabrax clathratus</i>
Ocean whitefish	<i>Caulolatilus princeps</i>
White seabass	<i>Atractoscion nobilis</i>
Halfmoon	<i>Medialuna californiensis</i>
Black surfperch	<i>Embiotoca jacksoni</i>
Barred surfperch	<i>Amphistichus argenteus</i>
Shiner surfperch	<i>Cymatogaster aggregata</i>
Walleye surfperch	<i>Hyperprosopon argenteum</i>
Silver surfperch	<i>H. ellipticum</i>
Rubberlip surfperch	<i>Rhacochilus toxotes</i>
Blacksmith	<i>Chromis punctipinnis</i>
Garibaldi	<i>Hypsypops rubicundus</i>
California sheephead	<i>Semicossyphus pulcher</i>
Tidewater goby	<i>Eucyclogobius newberryi</i>
California halibut	<i>Paralichthys californicus</i>
Starry flounder	<i>Platichthys stellatus</i>
C-O turbot	<i>Pleuronichthys coenosus</i>
Birds	
California least tern	<i>Sterna antillarum browni</i>
Pigeon guillemont	<i>Cephus columba</i>
Xantus' gurrelet	<i>Synthliboramphus hypoleucus</i>
Cassin's auklet	<i>Ptychoramphus aleuticus</i>
Marine mammals	
Harbor seal	<i>Phoca vitulina</i>
Northern fur seal	<i>Callorhinus ursinus</i>
Southern sea otter	<i>Enhydra lutris nereis</i>

Note. The list was prepared based on the following criteria: (1) economically and/or recreationally important species, (2) keystone or dominant species, (3) species listed or proposed for listing under the Endangered Species Act (ESA), (4) species showing long-term declines in harvest and/or size structure, (5) habitat-forming species, (6) indicator or sensitive species, and (7) important prey species.

Table 3

List of representative and unique marine habitats considered by the Marine Reserves Working Group

Sandy coasts
 Rocky coasts (protected)
 Rocky coasts (exposed)
 Soft sediment (0–30 m)
 Hard sediment (0–30 m)
 Soft sediment (30–100 m)
 Hard sediment (30–100 m)
 Soft sediment (100–200 m)
 Hard sediment (100–200 m)
 Soft sediment (>200 m)
 Hard sediment (>200 m)
 Emergent rocks (nearshore)
 Emergent rocks (offshore)
 Submarine canyons
 Kelp forest
 Eelgrass
 Surfgrass

documented (SAP, 2001), the derivation of the 30–50% range was not disclosed. The approach taken by the SAP seems to contradict the notion that allocating habitat to marine reserves requires implementing a consistent, logical procedure rather than a simple single number (Mangel, 2000a) or, as in this case, a particular range. Considering that science is a process based upon rigorous methodologies and empirically justifiable outcomes, the 30–50% recommendation appeared more as a statement of policy. The Pacific Fishery Management Council's (Pacific Council) Science and Statistical Committee (SSC) advisory body reviewed the SAP's size recommendation and concluded this to be the case (PFMC, 2001).

Given the SAP's recommendation, habitat quantity soon became the overarching issue in the reserve design debate and essentially became a goal unto itself. Some members of the MRWG readily accepted the 30–50% recommendation as "best available science" and sought a minimum size threshold close to the 30% level. In contrast, MPA critics, not inclined to endorse the recommendation, were content with a size closer to the original 20% proposal placed before the Commission in 1998. The opposing positions that were beginning to emerge on the size issue would subsequently interfere with opportunities to negotiate compromise between the two sides.

Not Acknowledging the Uncertainty of Fishery Benefits

When closing areas to fishing, benefits can be separated into the ecological responses occurring within the reserve and the potentially improved fishery yields outside. Yet, the evidence supporting both outcomes is not analogous. A sizable number of studies have documented the significant positive changes occurring within reserves, and these have been summarized in several reviews (Roberts & Polunin, 1991; Dugan & Davis, 1993; Guénette, Lauck, & Clark, 1998; Sumaila et al., 2000; Halpern, 2003). In general, these examinations report that marine reserves lead to increases in density, biomass, indi-

vidual size, and diversity for most fish and invertebrate species, although some exceptions do exist (Zeller & Russ, 1998).

A similar level of documentation on fishery benefits does not exist. Although empirical evidence documenting fishery responses outside of reserves is emerging (McClannahan & Mangi, 2000; Murawski et al., 2000; Roberts et al., 2001; White, Courtney, & Salamanca, 2002), it is acknowledged that there is a clear shortage of scientifically defensible studies (Crowder et al., 2000; Soh, Gunderson, & Ito, 2001; Jamieson & Levings, 2001; Polunin, 2002; Willis et al., 2003). Further, modeling efforts have shown various and sometimes conflicting results, and their potential benefits to fisheries are not yet predictable (Willis et al., 2003). Conclusions drawn from these efforts depend on several poorly understood life history parameters, including larval survivorship, fecundity-size relationships (Sladek Nowlis & Roberts, 1999), and larval dispersal and behavior (Stobutzki, 2001; Botsford, Micheli, & Hastings, 2003). Further, other little known parameters that can influence reserve function such as home range size and spillover rates must also be factored into the design process (Kramer & Chapman, 1999; Jennings, 2001).

Absent from the MRWG discussions was acknowledgment of the differences in scientific certainty between the inside and outside benefits. The effectiveness of marine reserves in fisheries management is poorly understood and concepts regarding their use are for the most part untested (Soh, Gunderson, & Ito, 2001; Polunin, 2002; Willis et al., 2003). Proponents of MPAs, while correctly maintaining reserves to be an effective tool for ecosystem protection, stated a desire for maximum closures without apparently accounting for the ambiguous and unproven benefits to fisheries. The MPA critics took a more skeptical view of the purported fishery benefits and were not eager to concede large areas for closure. Polunin (2002) noted that such a doubtful position "is well justified on scientific grounds." However, this skepticism may have also reflected a frustration with accepting another form of fishing prohibition at a time when the Pacific Council had adopted highly restrictive limits on the shelf rockfish group (Rogers-Bennett, 2001).

Overlooking the Expertise of Fishery Scientists

The composition of the SAP represented a wide range of scientific expertise. These experts were identified by a subgroup of the SAC that matched potential candidates with a set of prepared criteria.³ Although scientists from two fishery agencies did participate and many SAP members were knowledgeable in fishery biology, specific expertise in stock assessment science and existing fishery management measures and fishing practices was missing.

Because the issue of marine reserves deals with regulating fisheries, participation by fishery scientists with the aforementioned competence could have ensured that fishery policies were appropriately identified and correctly interpreted. For example, the SAP contended that the 30–50% reserve size recommendation was equivalent to the Pacific Council's 40% default harvest rate policy, a policy designed to maintain groundfish biomass at 40% of the unfished level. However, while setting aside 40% of the available habitat might afford protection to 40% of the stock, no accounting of the stock residing outside the reserve was made. Consequently, the 30–50% recommendation may have underestimated the aggregate level of abundance, thereby invalidating its equivalency to the default harvest policy (PFMC, 2001).

The input of fishery science may have also highlighted the importance of considering existing fishing practices and regulations operating within and beyond the Sanctuary's boundaries. One of the strong arguments in favor of marine reserves is that they can complement traditional fisheries management aimed at controlling effort (Dugan & Davis, 1993; Bohnsack, 1998; Guénette & Pitcher, 1999; Soh, Gunderson, & Ito, 2001). Such a

strategy requires accommodating spatial closures with catch and effort controls outside of closed areas as part of the design blueprint. As the SAP internally debated the marine reserve size issue, opportunities for developing a design scheme that incorporated existing fishing restrictions were missed. For example, a portion of the Sanctuary resides within the “cowcod conservation area,” a limited-take MPA, established by the Pacific Council in 2000, that closed fishing for all species of rockfish (i.e., *Sebastes* spp.) lingcod (*Ophiodon elongatus*), California scorpionfish (*Scorpaena guttata*), and ocean whitefish (*Caulolatilus princeps*) in waters deeper than 20 fathoms (Figure 2). The presence of this 4200 mi² MPA was not factored into the SAP’s marine reserve size percentage recommendation, nor were the restrictive measures on shelf rockfish mentioned earlier. As observed by the SSC, attempts to integrate existing fishing effort controls with the SAP’s 30–50% recommendation were apparently not made (PFMC, 2001).

Fishery scientists may have also been able to identify the benefits of marine reserves to particular fisheries. Modeling studies (Polacheck, 1990; DeMartini, 1993) and empirical evidence (McClanahan & Mangi, 2000; Roberts et al., 2001) suggest that fishery yields will improve for species with moderate movements that move across reserve boundaries as opposed to sedentary or highly mobile species (but see Bohnsack, 1999; Guénette & Pitcher 1999; Apostolaki et al., 2002). Specifically, highly mobile species should derive little benefit from marine reserves because they spend too much time outside of reserves to be afforded adequate protection (Kramer & Chapman, 1999; Parrish, 1999; Botsford, Micheli, & Hastings, 2003). Consequently, migratory species on the “species of interest” list, including northern anchovy, sardine and white seabass may be more successfully managed with traditional methods and not reserves (Parrish, 1999).

Timing the Presentation of Socioeconomic Analyses

While marine reserves can generate particular ecosystem benefits and “non-use values,” they do incur socioeconomic or “opportunity” costs to affected users (Thomson, 1998). Costs can be measured along numerous dimensions, including hardships on local fishermen and fishery-dependent businesses, disproportionate impacts on bordering coastal communities, loss of customary fishing areas, and customary rights of access (NRC, 2001). Understanding how people interact with the marine ecosystem and how they may respond to fishing closures needs to be part of the decision-making process for reserve design and implementation (Fiske, 1992; Thomson, 1998; Pomeroy, 1999).

The importance of the socioeconomic consequences of marine reserve implementation was acknowledged by the SAC when it sanctioned the creation of the SET. The SET collected ethnographic data as well as demographic information on the total amount of usage, spatial distribution of usage, and revenues generated by the various commercial and recreational fishing industries including private household boaters operating within the Sanctuary. The intent of this information was to aid the MRWG in its reserve design deliberations so it could realize its socioeconomic goal of maintaining long-term socioeconomic viability while minimizing short-term socioeconomic losses to all users and dependent parties (Table 1). However, the SET encountered delays in getting started. As a result, it did not provide a complete impact analysis to the MRWG until six months after the SAP had already unveiled its 30–50% recommendation and after the MRWG had spent months mapping numerous reserve scenarios. While the various design options were consistently refined as new ecological information came forward, the SET was only able to provide periodic updates on the status of its different studies. Relative to the momentum generated by the continual refinement of map scenarios, the delayed release of the SET’s impact analyses made it difficult for socioeconomic concerns to gain any credible traction in the MRWG’s discussions. Consequently, consideration of

socioeconomic information was neither afforded an equivalent role in the design process nor fully integrated into decision making as was ecological information.

Impediments to Negotiating Compromise

It is not unusual in complex negotiations that competing positions emerge between the diverse interests and backgrounds represented. In this effort, MPA proponents expressed an interest in maximum protection of habitat to fulfill the ecosystem biodiversity goal. This desire to set aside as much area within the Sanctuary as possible to approach the 30–50% size recommendation directly rivaled the MPA critics' position centering on the socioeconomic goal for minimizing short-term economic hardships.

The ability to balance competing goals requires skill in seeking tradeoffs and incorporating strategies that facilitate compromise by both sides. There was some effort to do this by members of the MRWG. For example, the concept of "phasing" in reserves over time was introduced as a way to temper short-term economic hardships to fishermen, as had been suggested by Bohnsack (1999). However, as competing arguments were raised, efforts to move this strategy forward were impeded by concerns over the size of the initial phase and the certainty of future phases (Jostes & Eng, 2001). The facilitation team was also inconsistent in enforcing one of the adopted ground rules requiring MRWG dissenters to offer viable alternatives when disagreements surfaced. The MRWG was also impeded by the inflexible instructions given by the SAC to only examine complete, that is, no-take, fishing closures. Consequently, less stringent management measures such as allowing some limited fishing to occur in an area (e.g., surface fishing for pelagic species), although discussed by the MRWG, were actually unavailable as bargaining tools. This may have been an unfortunate oversight. While limited-take zones do reduce the probability of protecting resources, they are less detrimental to the fishing community (Hilborn et al., 2001) and can be viewed as a way to accommodate multiple users (Agardy et al., 2003). Certainly, this management option was on the minds of Sanctuary and CDFG planners when they included some limited-take parcels in the MPA configuration currently in place.

Despite its design impasse, the MRWG did reach agreement on an extended list of "Monitoring, Evaluation, and Assessment Recommendations" in anticipation of finalizing a single design. The guidelines were intended to lay the foundation for future implementation activities. One concept captured in these recommendations and readily embraced by the MRWG was the method of adaptive management. A thorough familiarity with adaptive management may have compelled the group to treat their effort more as an experiment where decisions are considered ecosystem hypotheses and any subsequent management actions are considered treatments (Gunderson, 1999). For example, rather than becoming immersed in the size issue, the group could have settled on the areas of overlap as a starting point from which to begin an adaptive management experiment. Admittedly, changing the size of reserves may subsequently be difficult, if not impossible (Parma, NCEAS Working Group, 1998). However, there was little discussion on how adaptive management could be utilized as part of a design scheme suggesting, that the MRWG may have been impeded by not fully comprehending its potential use.

Discussion

Success or Failure?

Given the set of circumstances it created as well as those presented to them, the MRWG's effort eventually became embroiled in the question of marine reserve size. It was this

impasse that precluded the group from arriving at consensus on a single map. By not accomplishing its assigned task of forwarding a single, marine reserve design to the SAC, it would be easy to assert that the MRWG effort was in many ways a failure.

In which ways was the effort a failure? First, habitat protection for the Channel Islands was delayed. The time between the MRWG disbanding and the eventual implementation of the current MPA network was postponed nearly two years. Second, an opportunity for the full group of stakeholders to produce an acceptable product was lost. The time dedicated by the MRWG participants to ensure that their respective conservation, sustainability, socioeconomic, cultural and educational interests would be assimilated into a specific reserve design never came to fruition. Lastly, the current MPA network is not supported by the full community as evidenced by the results of this alternative process currently being challenged in the courts by a coalition formed by commercial and recreational fishermen in southern California. In summary, what could have been a full, community-based, "bottom-up" strategy for designing a network of fishing set-asides at the Channel Islands was inverted to a "top-down" approach that alienated many in the fishing community.

Yet there were successes as well. While marine reserve size did become the primary obstacle in reaching a single map consensus, it is important to make the distinction between areas identified for potential closure and the total size of the proposed network. Credit is due the MRWG for agreeing upon nine different locations with the Sanctuary for potential fishing closures. In the numerous attempts to prepare a consensus map, the MRWG always started with the west end of the Sanctuary (i.e., San Miguel Island) and proceeded eastward in determining which areas to close. Proposed parcels at San Miguel, Santa Rosa, and portions of Santa Cruz Islands proceeded almost effortlessly. The really contentious debates did not occur until potential closures at Anacapa Island, the western tip of Santa Cruz Island, and Santa Barbara Island were discussed. These areas were favored fishing grounds by the recreational sector of the fishing community due primarily to their logistical proximity to mainland harbors. The recreational fishing sector was less willing to concede large parcels for closure at these islands. Confounding the debate was the fact that Santa Barbara Island was already receiving partial harvest restrictions as part of the "cowcod conservation area" (Figure 2). Because it was not a full fishing closure, as prescribed in SAC's instructions, many members of the MRWG argued for additional closures at this island. While some areas of agreement were located at Anacapa and Santa Cruz Islands, none were identified at Santa Barbara Island.

Despite the lapse in agreement at the western part of the Sanctuary, the areas of overlap can be viewed as one of the successes of the MRWG and illustrates the value of using fishermen's knowledge and experience in MPA design (Neis, 1995; Johannes, Freeman, & Hamilton, 2000; Manson & Die, 2001). Up until its last meeting, these areas represented 18% of the Sanctuary's boundaries. As mentioned, this proportion was reduced during the final hours of the meeting and consequently never received the benefit of discussion among the MRWG as to whether other locations could be closed to offset the suggested changes. This last-minute change illustrates the viewpoints of particular fisheries that had not been actively involved in the process and highlights the importance of maximum outreach throughout the process.

Maneuvering around the Impasse

In retrospect, it is unfortunate that the deadlock over total reserve size was not recognized as an insurmountable obstacle early in the MRWG process. As the group became handicapped over the habitat quantity issue, they apparently did not consider approaching their task differently.

One approach they could have considered was to critique the quality of the habitat in the areas of overlap. Habitat quality forms an integral aspect in MPA design, and while not empirically tested, high quality habitats are likely to sustain higher rates of recovery than lower quality habitats (Rodwell et al., 2003). In the context of generating fishery benefits, marine reserves theoretically serve as a source of replenishment for the fishery by the export of larval recruits and the spillover of adults from the reserve into adjacent fishing areas (Roberts & Polunin, 1991; Carr & Reed, 1993; Rowley, 1994; Sladek Nowlis & Roberts, 1999). To maximize this mechanism requires protecting locations known to contain the highest concentrations of adult fish, because such locations support nursery and spawning functions (Dugan & Davis, 1993; Piet & Rijnsdorp 1998; Guénette, Lauck, & Clark, 1998; Mangel, 2000b; Crowder et al., 2000, NRC, 2001). These areas may also be considered "source" locations (*sensu* Pulliam, 1988), that is, sites with net exportation of individuals⁴ as opposed to sites with net importation or "sinks." Source habitats may be more appropriate for locating reserves rather than situating them randomly or mistakenly placing them in "sink" locations (Guénette, Lauck, & Clark, 1998; Crowder et al., 2000; Tuya, Soboil, & Kido, 2000; Jamieson & Levings, 2001).

What was the quality of the areas conceded by the fishermen during the months of map preparation? Several sites known to be productive were identified by a collaborative process utilizing a GIS-based siting algorithm (Airamé et al., 2003) complemented with input from the fishing community. These areas included the Richardson Rock area off San Miguel Island, areas off Carrington Point and South Point on Santa Rosa Island, the Gull Island area off Santa Cruz Island, and the "Footprint" area between Anacapa and Santa Cruz Islands. Admittedly, some of the sites were logistically inconvenient to reach. Also, some areas (e.g., the "Footprint" area) may not have been as productive in recent years, possibly resulting from fishing pressure, episodic shifts in oceanographic regimes, or a combination of the two. Regardless, these locations were productive fishing grounds or had the potential to recover. Obviously, fishermen can identify areas where they are most likely to catch fish and these areas are likely to be population "sources" (Crowder et al., 2000; Sumaila et al. 2000).

Another basic question the MRWG could have asked themselves to reconcile their stalemate was whether a consensus design would be treated as an experiment or as a final solution. This query would have introduced the notion of accommodating an adaptive management approach into the design process. The group may have come to terms with approving a consensus map had they an understanding that adjustments, based on monitoring feedback and set performance measures, would be part of any design agreement. Such an approach would have also allowed examining potential impacts from a redistribution of fishing effort (Holland, 2002). It could be argued that had the group taken a habitat quality approach and arranged to experimentally manage proposed closed areas, their chances of reaching agreement on a single map may have improved.

Continuing MPA Efforts

The purpose of this article has been to examine particular decisions and courses of action taken by the MRWG that ultimately interfered with its ability to prepare a consensus map. Collectively, these events created a working situation making it exceedingly difficult for the MRWG to reach agreement on a single map. However, the MRWG's efforts may have been ill-fated from the very outset due to their directive to only consider "no-take" marine reserves as the sole MPA option. The consideration of just "no-take" areas seems to have originated with the Channel Islands Marine Resource Restoration Committee's initial proposal to the Commission. This approach remained unchanged

as instructions were passed from the Commission through the SAC and ultimately to the MRWG. Agardy et al. (2003) argued that "multiple-use" MPAs, that is, areas with mixed, restricted, or exclusive harvest prohibitions, may be one approach to accommodate the various demands of the community. But this may be a difficult concept to advance. Certain opinions expressed by some MPA proponents during the MRWG effort suggest the existence of strong convictions that anything less than complete fishing closures are inadequate for achieving the ecosystem biodiversity goal.

Are complete fishing closures the only approach for attaining biodiversity? The question is beyond the scope of this paper but it certainly needs to be a topic at the forefront of the MPA debate. Simultaneously, MPA proponents need to recognize that regardless of the intended outcomes of ecosystem biodiversity or sustainable fishery goals, the means to accomplish both are the same: fishermen are regulated. Consequently, it may be unreasonable to expect fishermen to sacrifice excessively large areas when other fishery management measures are already in place and the efficacy of marine reserves is still poorly understood (Soh, Gunderson, & Ito, 2001; Polunin, 2002; Willis et al., 2003). This underscores the need to not treat MPA efforts independently of existing fishery management regulations, but rather to effectively integrate and manage them adaptively. Integration and adaptive management may be key tactics for removing the fishing community's perception that they are being unfairly targeted and excessively regulated. This is an important point to note, especially as various states, NOAA's National Marine Sanctuary Program, and the Fishery Management Councils continue efforts to improve marine conservation by considering spatial closures. These various endeavors similarly need to address whether both goals can be accomplished by closing the same areas and the degree that fishing practices need to be curtailed in these areas.

As MPA efforts proceed, the importance of keeping the fishing community engaged remains critical as the alternative becomes counterproductive to marine conservation. For example, the new fishing coalition formed in southern California not only represents a new level of collaboration between these divergent fisheries, but also challenges the legal merits of the MPA network currently in place. While it can be claimed that the Channel Islands National Marine Sanctuary represents one of the largest MPA networks in U.S. waters, its status remains unsettled in the courts. One could also infer that the backlash from the fishing community has interfered with California's efforts to simultaneously implement the Marine Life Protection Act (MLPA) along its shoreline. Not only was the initial attempt at designating MPAs in this state process discarded, but implementation of a revised effort has been placed on indefinite hold due to the state's budgetary crisis. It is reasonable to assume that the MLPA effort was ranked lower in the state's budget priorities due to criticisms arising from a galvanized fishing community. Similarly, efforts to establish greater habitat protection at NOAA's three other National Marine Sanctuaries in California will now face rigorous scrutiny.

There is another aspect that highlights the importance of keeping the fishing community engaged. The assistance of fishermen in locating source sites is absolutely crucial to any MPA process and conforms with the view that participants in the fishery have a responsibility to provide information required to manage fisheries in a sustainable manner (NMFS, 1999). Likewise, their support is needed to achieve effective compliance once an MPA design is implemented. Without their continued involvement, the chances of successfully achieving biodiversity and sustainable fishery goals are reduced (Manson & Die, 2001; Agardy et al., 2003). Consequently, MPA proponents should utilize fishermen's knowledge but also remain reasonable in their demands of what they should concede. Proponents also need to recognize that by exclusively focusing on living marine resources, they overlook the risk of collapse in the fishing community (Hilborn et al., 2001).

Efforts to foster marine conservation will always face stiff challenges. Differences of opinion will need to be confronted on a case-by-case basis and negotiations need to include the full community. MPA planners will also need to develop effective outreach mechanisms to ensure that all sectors of the fishing community are involved beyond just those participating at the planning table. This was an oversight that manifested itself with last-minute changes at the MRWG's last meeting. Serious consideration should also be given to employing the array of options in the MPA toolkit specific to their circumstances and not just focusing on "no-take" marine reserves (Agardy et al., 2003). Planners and managers involved will need to look for warning signs so that impending obstacles to progress are recognized and managed early in the process.

Notes

1. The Sanctuary is located 22 nmi off the coast of Santa Barbara, California and extends 6 nmi offshore of the waters surrounding the northern Channel Islands of Anacapa, Santa Cruz, Santa Rosa, San Miguel, and Santa Barbara.
2. The 18% figure endured over a several-month period in the MRWG discussions until the last hours of its last meeting, when concerns expressed by some fisheries whittled the areas of agreement down to 12%. This last-minute modification received neither the benefit of any MRWG discussion nor the opportunity for alternative options to be proposed and reviewed by the group. For discussion purposes, the 18% figure is used as the basis of this article.
3. The criteria included local knowledge, expertise in ecological and physical processes, a geographic and institutional balance, participation on the NCEAS Reserve Theory Working Group, and availability. Consideration was also given to institutional representation from state and federal natural resource agencies.
4. These productive areas mirror the NOAA Fisheries concept of "habitat areas of particular concern" (HAPC) as defined in the Essential Fish Habitat (EFH) regulations under the Magnuson-Stevens Act for habitats that provide important ecological functions.

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