Executive Summary
Marine Interests Group Progress Report

January 20, 2004

The Marine Interests Group of San Luis Obispo County (MIG) is a focused and effective grass-roots initiative to sustain and enhance marine resources.

Brief Background on the Marine Interests Group of San Luis Obispo County

The MIG began in January 2003 as a forum including elected officials, business people, conservationists, fisherman, scientists and citizens (see the list of Working Committee members) with the following Statement of Purpose:

- Promote understanding of the marine resources off the coast of San Luis Obispo County and the needs and interests of the stakeholders involved with their use and enjoyment.
- Openly examine potential ways to sustain and enhance the resources.
- Recommend desirable courses of action (or no action) as appropriate to support the resources and their sustainable use.

The Working Committee developed a list of shared hopes for the future of the marine resources. These address information and awareness, health of the ecosystem, preservation of the fishing community, and management of the resources. The Committee used these to focus its inquiries and shape its recommendations.

The Committee operated with funds granted from the World Wildlife Fund to support the professional organization and facilitation of the sessions, meeting expenses, and public outreach (web site and videotaping resources). The City of Morro Bay provided meeting facilities and audio-visual equipment. In addition, the County of San Luis Obispo, the Port San Luis Harbor District, and the offices of federal and state elected officials contributed vital support. (See list of ex officio members.)

Major Results Accomplished in 2003

With thousands of hours from dedicated community volunteers and scientific experts and support from contributors, the MIG accomplished the following significant results:

1. ***Eight in-depth public fact finding workshops with both local and national experts.*** Thirty-four local and national experts provided insights on a focused set of critical issues, policies, and scientific questions concerning the resources. Thousands of local residents attended these sessions or viewed them on public access cable TV rebroadcasts, which covered 30 hours of informative presentations and discussion. The

sessions highlighted concerns about the anthropogenic threats to the marine environment, confounding effects of natural cycles, lack of data specific to the San Luis Obispo County coast, lack of funding to acquire additional data, and the fragmented regulatory systems in place to manage the resources. As extensive as the workshops were, the Working Committee sees that further research, analysis, and discussion in various areas will be important.

2. ***Collaborative research with fishermen, environmentalists, and scientists producing valuable information about the status of local fisheries.*** With a shoestring budget, this group participated on over 50 boat trips gathering key information about the rockfish populations. Cal Poly faculty volunteered their time to analyze and compare these data with the 1988-1998 data that the California Department of Fish and Game had collected but not analyzed. The preliminary results highlight both indicators of healthy local rockfish populations and areas of concern. The team has targeted additional research to answer key questions that are vitally important to the effective management of the Central Coast fisheries.

3. ***Commitment to improve the overall breadth and depth of baseline and trend information about the unique resources of this area.*** Visiting scientists repeatedly underscored the important role of this region as a transition zone between the Northern and Southern biogeographic regions. While some data on overall marine resources raise areas of concern, they also noted that from a data perspective the Central Coast is a relative "black hole." Since extensive baseline and trend data collection is very time consuming and expensive, the MIG has identified some key species of interest and plans for cost-effective ways to gather information about them.

4. ***Support for enhanced education.*** Integral to marine environment protection is broad-based educational outreach about pollution, dumping, runoff, and other factors impacting the marine environment.

5. ***Decisions to pursue key steps that will protect the local marine-dependent communities.*** These include support for education and marketing of local wild vs. farmed seafood and aggressive pursuit of measures to protect the area from threatened oil development and toxic waste dumping.

6. ***Continued commitment of the MIG to meet regularly and convene sessions with agencies that are critical to improved resource management.*** Volunteers on MIG's twenty-person, multi-stakeholder group have affirmed their continuing commitment to bring governmental and non-profit agencies together with local interests. These sessions will address issues, focus attention on critical needs, and facilitate coordinated actions to better sustain and enhance the marine resources. The MIG believes that it is important for the first interagency meeting to be held no later than April 2004.

In short, the MIG exemplifies a focused and effective grass-roots initiative to sustain and enhance marine resources. As such, it has received broad interest and support from elected officials and agencies.

The Road Ahead

The members of MIG are fired up to build upon the successes in 2003 and achieve results in critical areas over the next two to three years. Broadly, there are two key elements to MIG's future direction:

- Targeted initiatives to clarify critical issues for more effective fisheries management, provide a set of specific baseline and trend information for other species of interest, improve the effectiveness of resource management activity, and support a sustainable fishing community. The research will follow best available scientific methods and, where appropriate, link with existing data sets for comparison purposes. These initiatives will significantly improve the understanding and management of the Central Coast's unique marine resources.

- Continued operation as a lean, agile virtual organization comprising a wide range of stakeholders. The Marine Interests Group will work with and through appropriate participating non-profit organizations to receive and disburse funds to accomplish the desired results.

Committed volunteers and local institutions will continue to provide extensive resources, expertise, and other in-kind contributions. The MIG is seeking funding for the expenses to support these efforts. (See the "Outline of Key Planned MIG Initiatives" on the following pages. Note: Estimated expenses are preliminary and subject to revision as specific proposals develop and obtain support.)

Working Committee of Marine Interests Group of San Luis Obispo County

Barry Cohen, Fish Processor
Bill Yates, Mayor, City of Morro Bay
Bob Hather, recreation fishing
Carolyn Moffatt, Commissioner, Port San Luis Harbor
Dave Rymal, sport fishing
Dave Sears, at-large, retired manager in State Parks (SLO County)
Dean Wendt, Ph.D., Assistant Professor of Marine Biology, Cal Poly
Hugh Thomas, commercial fishing interests (Port San Luis)
James White, Duke Energy
Joy Fitzhugh, SLO County Farm Bureau
Leslie Krinsk, at-large, Sierra Club conservation committee
Marla Morrissey, conservation
Matt Fleming, Chair, Surfrider Foundation
Mike Multari, Director, Morro Bay National Estuary Program
Nancy Dalman, Ph.D., Professor of Biology, Cuesta College
Pam Heatherington, Exec. Dir., ECOSLO
Patricia Wilmore, legislative affairs, SLO Chamber of Commerce
Ron Massengill, (Cambria) Sanctuary Advisory Council, MBNMS
Shirley Bianchi, District 2 Supervisor, SLO County
Steve Moore, marine-dependent business, Patriot Sport Fishing/Whale Watching

Ex-Officio Members

Greg Haas, District Representative, Congresswoman Capps
Richard Macedo, Legislative Aide, Supervisor Bianchi
Sandy Agalos, District Coordinator, Assemblymember Maldonado
Teresa Martinez, District Representative, State Senator McPherson
Vicki Janssen, Legislative Aide, Supervisor Katcho

Independent Facilitator

Don Maruska

Additional information about the Marine Interests Group is available at www.mbnep.org/mig. The Morro Bay National Estuary Program has kindly provided space on the MBNEP web site for MIG to report its independent activities.

Outline of Key Planned Marine Interests Group Initiatives *draft*			
Key Initiatives	**Why They Are Important**	**Targeted Results**	**Preliminary Estimates of Funding Needs**
Fisheries Research 1. Continue Collaborative Research on Central Coast rockfish (and, as feasible on boat trips, add readings of factors such as toxins in fish flesh, water quality, and observations of pinniped-fishing interactions as feasible in boat trips).	This will provide trend data and an opportunity to better understand natural factors that impact these species year to year.	1. Three years of data to compare with 1988-1998 and 2003 data sets. 2. Addition of tagging program on returned fish to increase data on rockfish movement. 3. Assessment of deeper water assemblages. 4. Profile of water quality by depth and location. 5. Data on sea lion and fishing interactions.	$150,000 (total for 3 years; may vary depending upon specific study protocols and equipment requirements)
2. Analyze rockfish recruitment in the nearshore environment through collaborative research with commercial fishermen and complementary scientific studies.	Density of young-of-year (YOY) rockfish is a key indicator of species health. This is critical to understanding whether catch rates of adults are sustainable.	1. Diver transect studies to document densities of YOY rockfish as well as densities of all life history stages of other species. This will fill a hole in data for the Central Coast. 2. Collaboration with NOAA and commercial fishermen to trawl for YOY rockfish. 3. SMURF larval traps to determine the availability of rockfish larval settlement in the nearshore environment.	$150,000 (total for 3 years; may vary depending upon specific study protocols and equipment requirements)
3. Participate in genetic study to determine role of Central Coast as "seed population" or "haven" for rockfish populations.	Helps to answer whether this area has a distinct population or is closely interrelated with a larger ecosystem.	1. Collaboration with NMFS study by collecting genetic material from rockfish caught on the commercial partyboat study outlined above. 2. Comparison of NMFS genetic data results with data from tagging.	$25,000 – 75,000 (total for 1 year participation and analysis—range depends upon NMFS data availability and level of collaboration on analysis)

Key Initiatives	Why They Are Important	Targeted Results	Preliminary Estimates of Funding Needs
Improved Data on Additional Species of Interest 4. Compile existing data about Central Coast marine resources and develop collaborative research initiatives to track additional species of interest—intertidal (black abalone), streams (e.g steelhead), and pelagic birds.	These species provide additional measures of ecosystem health and trend data.	1. Archive of available data and planned research programs relevant to the Central Coast area. 2. Template for collaborative research with interested scientists and laypersons. 3. Identification of key tracking indicators. 4. Completion of data sets and analysis for one or more species.	$60,000 (total for 3 years)
Improved Coordination and Management of Marine Resources 5. Identify and link regulatory agencies, local interest groups and other stakeholders and facilitate the flow of information and coordination. Implement steps to protect the area from oil development and dumping threats.	Need to bring together key agencies and other participants with a stake or interest in the Central Coast marine resources to identify issues and coordinate actions.	1. Map and compilation of regulatory agencies, contact persons, and key activities to identify and link major participants. 2. Periodic local meetings to track progress of key initiatives with dissemination of results via email, web site (create and update), and media. 3. Strategy to use available legislative and regulatory vehicles to protect the area from oil development and dumping threats and successful implementation of the strategy. 4. Annual or semi-annual forums with agencies to assess status of the resources, address key issues, and encourage improved coordination. 5. Review of options for improved relationships and governance structures among applicable state and federal agencies. 6. Annual reports on status of marine resources and results of key initiatives.	$140,000 (total for 2 years of activity)

Support for Local, Wild Seafood 6. Develop education and marketing program to encourage consumer support for local, wild seafood.	Local fishing community is at risk from farmed products. Local processing and marketing of wild seafood is critical to offering consumers a choice.	1. Encouragement for fishing from the local environment that is sustainable and environmentally responsible. 2. Presentation and media program about benefits of wild vs. farmed seafood. 3. Network of local purveyors and local branding of wild seafood products.	$40,000 (start up funds)
Total for multi-year initiatives			$565,000 – 615,000

Table of Attachments to the Executive Summary

Shared Hopes for the Future of the Marine Resources
Along San Luis Obispo County

Information and Awareness

- Establish a good baseline of data to determine necessary and desirable actions.

- Learn the status of the resources and then determine what needs help. Bring the best fisheries and scientific resources to the task and provide accurate information to policy makers.

- Enhance public awareness and understanding of the resources with accurate information and provide educational outreach programs.

Health of the Ecosystem

- Ensure a clean ocean to sustain the fisheries for future generations and to serve food, sport, and ecosystem health interests. Good water quality is like a good blood supply. It's the cornerstone of marine resources.

- Preserve sensitive areas and biological resources to protect habitat, sustain diversity, and serve the public interest.

- Increase the quality and quantity of marine resources consistent with what the habitat can sustain in a balanced way.

Preservation of the Fishing Community

- Preserve a lifestyle and culture around sustainable fisheries that reflects that the ocean is a good, healthy place to be and can provide a good sport and quality family experience.

- Provide local access to seafood and promote local providers.

Management of the Resources

- Manage the marine resources to be sustainable with public access and use (both consumptive and non-consumptive) while protecting from damaging uses.

- Exercise good stewardship in order to ensure the widest compatibility and use of resources.

- Streamline and enhance the effectiveness of management with better coordination and communication among regulatory agencies.

MIG Workshop Topics and Speakers

Fisheries Workshop, April 16, 2003

I. The Fisheries in Perspective
Historical Perspective – Elise Wheeler, archaeologist, Cal. State Parks
Marine Fisheries Overview – Royden Nakamura, Ph.D., Cal Poly
Current Fisheries Data – John Stephens, Ph.D., Vantuna Research
Fishermen's Experience – Craig Barbre and Steve Rebuck

II. Fisheries Management Practices Affecting Local Resources
Federal Role – Yvonne deReynier, Nat'l Marine Fisheries Service
State Role – Fred Wendell, Cal. Dept. Fish & Game
Activity of Monterey Bay NMS -- Sean Morton, MBNMS
Fisherman/Processor's Perspective – Barry Cohen

III. Potential Steps to Improve the Fisheries and Management
Collaborative Research – Marla Morrissey, Dean Wendt, John Stephens, Steve Moore, Bob Hather, Hugh Thomas, Carolyn Moffatt
Resources for Fishermen – Greg Haas, District Rep. for Congresswoman Capps

Marine Resources & Water Quality, May 28, 2003

I. Marine Resources
Inter-Tidal Resources – Peter Raimondi, Ph.D., UC Santa Cruz
Bird Life – Brad Schram, birding expert
Mineral Resources – Drew Mayerson, U.S. Minerals Management Service

II. Water Quality
Water Quality Assessment – Karen Worcester, environmental specialist, Regional Water Quality Control Board
Current Concerns – Melissa Miller, Ph.D., wildlife pathologist, UC Davis, Cal. Dept. Fish & Game

Deeper Exploration of Fisheries and Marine Mammal Issues, June 5, 2003

Steve Ralston, NOAA, NMFS (fisheries science and regulation)

- What is the science behind fisheries regulation?
- How does the science translate into management action?
- What does all this mean for the current rockfish closure?
- What does the latest scientific data indicate?

Joe Cordaro, wildlife biologist, NMFS (elephant seals, sea lions, and harbor seals)

- What's happening with the populations of these marine mammals?

- How are the government agencies addressing the issues that are arising with new locations?

Further Discussion of Otters, June 11, 2003

Greg Sanders, otter recovery coordinator, U.S. Fish and Wildlife Service

- What's happening with the otter population?
- How are government agencies dealing with the interaction of the otters and the fisheries?

Biogeography & Socio-Economics, September 18, 2003

A. NOAA Biogeographic Assessment of SLO Coast Area
Wendy Morrison, Biogeography Program, NOAA

- What are distinctive physical characteristics of this marine region?
- What are the distinctive resources of this area?
- How do the resources in this area compare with other areas, e.g. MBNMS and CINMS?

B. Socio-Economics of the SLO County Marine Resources
Astrid Scholz, Ph.D., participant on socio-economic study review panels for Central California, director of the Groundfish Fleet Restructuring Project

- What are the socio-economic impacts of the marine-related activities (including fishing closures)?
- What information is available about the impacts of marine sanctuaries?
- What studies are planned or possible to improve the understanding of the socio-economic significance of the SLO County marine resources?

C. Valuation of San Luis Obispo County Beaches
Linwood Pendleton, Ph.D., independent consultant participating in the Southern California Beach Project

- How do you establish the economic value of a beach?
- How do factors like water quality impact these calculations?

How to Improve the Management of Ocean Resources, October 9, 2003

Ed Cassano, former CINMS manager, now Cousteau Foundation
John DeVore, Pacific Fisheries Management Council
Pietro Parravano, President, Pacific Coast Federation of Fishermen's Associations, and member of the Pew Commission

- How well are the various regulatory agencies working together for ocean management?
- What are models for improved coordination and useful examples from elsewhere, if any?

- How can local communities and stakeholders have an effective voice in the regulatory processes?

Alternative Protective Measures, October 15, 2003

A. Potential Extension of the MBNMS
Scientific perspective: Chris Harrold, Ph.D., Monterey Bay Aquarium
Fishing perspective: Tom Canale, Santa Cruz commercial fisherman
Conservation perspective: Kaitilin Gaffney, Ocean Conservancy
Harbor perspective: Brian Foss, Santa Cruz Port District

- What have been the effects (both positive and negative) of marine sanctuary designation upon the Monterey Bay area?
- How has the MBNMS worked with (related to) other regulatory organizations? How have they managed these relationships? Where have results improved with the sanctuary? Where have difficulties, conflicts, or confusion arisen?
- How would extension of the MBNMS to the remainder of SLO County affect the Shared Hopes outlined by the Working Committee members of the Marine Interests Group? [see www.mbnep.org/mig]
- What would be potential impact on fisheries issues?

B. Non-Regulatory Alternatives, October 29, 2003
Mike Multari, Director, Morro Bay National Estuary Program
History of the MBNEP and potential applicability of a voluntary, non-profit model to the Shared Hopes and resource concerns the MIG has identified.

- How has the MBNEP worked with (related to) regulatory organizations? How has it managed these relationships? Where have results improved with the MBNEP? Where have difficulties, conflicts, or confusion arisen?
- How might a voluntary, non-regulatory model support the Shared Hopes outlined by the Working Committee members of the Marine Interests Group? [see list at www.mbnep.org/mig]
- What would be potential impact on fisheries issues?

Collaborative Research Project, November 19, 2003
John Stephens, Ph.D., Vantuna and adjunct faculty, Cal Poly
Dean Wendt, Ph.D., Assistant Professor, Cal Poly

- How has the collaborative research model worked to bring fishermen, environmentalists, and scientists together to gather meaningful data?
- What do the data indicate about the rockfish populations in 2003 compared with 1988-1998?
- How do these data and analyses relate to current regulatory issues?
- What future research topics are desirable and how could they be conducted cost-effectively?

Summary for the Marine Interests Group of

What the Working Committee Has Learned and Suggested Actions

This material summarizes broad areas of agreement concerning what the Working Committee learned about Information and Awareness, Health of the Ecosystem, Preservation of the Fishing Community, and Management of the Resources. [The categories of Shared Hopes the Working Committee developed at the outset of its work. See www.mbnep.org/mig.] It also lists the suggested actions that appeared to have broad support. The number in [] at the end of a suggested action indicates the number of Working Committee members who identified the particular item as a potential high priority action. [The prioritization exercise asked each member to identify no more than three high-priority selections per category.] The Working Committee underscores that the statements are preliminary based upon the available time for information gathering and discussion.

Shared Hopes for Information and Awareness [from the Committee's original work]

- Establish a good baseline of data to determine necessary and desirable actions.
- Learn the status of the resources and then determine what needs help. Bring the best fisheries and scientific resources to the task and provide accurate information to policy makers.
- Enhance public awareness and understanding of the resources with accurate information and provide educational outreach programs.

What the Committee Has Learned

1. The San Luis Obispo County marine resources have special value. This area is a unique transition zone geologically, oceanographically, and biologically between the colder northern waters and warmer southern currents. Currently available data show a high degree of diversity and richness of species assemblages. For example, the rocky shoreline benches found in this area provide favorable conditions for a high diversity of intertidal life.

2. Detailed data about the health of the species within this area are limited. The extrapolation of data from other areas in an attempt to fill this local void raises concerns about accuracy and credibility.

3. Naturally occurring variability like changing cycles in water temperature, appear to have major effects that can sometimes mask or outweigh human activities. There is a need to understand these better.

4. Significant dynamics exist among species (e.g. interactions among marine mammals, fish, and people) that are not broadly understood and perhaps are not being managed effectively.

5. Some key monitoring programs (e.g. Mussel Watch) have lost funding and raise concerns about gaps in the baseline and trend data needed to understand what's happening with the resources and how to manage them.

6. The broad stakeholder structure that the Marine Interests Group has provided is a valuable way to learn about the resources from a wide range of perspectives.

7. The collaborative research project approach is desirable. There is demonstrated interest and support from fishermen, scientists, and environmental groups to work together to develop a better understanding of the resources. It appears to be a good approach to get things done.

Suggested Actions

1. Complete the inventory of public and private agencies and their activities. [currently underway] [9]

2. Compile existing data and identify currently planned research programs. [5]

3. Develop good baseline data on physical processes (tides, geological, weather, etc.) and biology (fish other vertebrates and invertebrates) with an agreed upon protocol to analyze the information in order to resolve key issues. [13]

4. Examine how this area is connected with other areas in order to manage the resources appropriately. For example, is this area a haven for certain species or a seeding population for other areas? [9]

5. Study regime changes further and their interrelationships with human impacts to improve understanding and management strategies. [4]

6. Gather and analyze socio-economic data on the marine resources and uses (fisheries, tourism, recreation, etc.) in order to understand the cost-benefit of resource use. [5]

7. Enhance public education to build understanding of the resources and to support good stewardship. Solicit input from the public on the importance of the resources to gain clearer direction on desirable actions. [5]

8. Establish a process for information exchange among agencies and other interested parties to address the items above. [7]

Shared Hopes for the Health of the Ecosystem [from the Committee's original work]

- Ensure a clean ocean to sustain the fisheries for future generations and to serve food, sport, and ecosystem health interests. Good water quality is like a good blood supply. It's the cornerstone of marine resources.
- Preserve sensitive areas and biological resources to protect habitat, sustain diversity, and serve the public interest.
- Increase the quality and quantity of marine resources consistent with what the habitat can sustain in a balanced way.

What the Committee Has Learned

1. The area has remained relatively clean and habitats are in pretty good shape, which makes it important to protect the resources.

2. There is a sensitive and viable intertidal area along the San Luis Obispo Coast (e.g black abalone).

3. Some species are thriving (e.g. sea lions) and some are not (e.g. withering foot abalone).

4. Some indicators (e.g. observations by recreational fishermen) suggest healthy fish populations in this area.

5. Current and potential sources of pollution (e.g. agricultural runoff or potential dumping) threaten the health and diversity of the resources. Terrestrial impacts can have important consequences for the marine environment and need monitoring. The Farm Bureau and landowners are increasing their awareness of impacts on watersheds and marine resources. Point source pollution impacts remain unclear and agencies need to coordinate their activities.

6. Pollution sources from the South pose a potential risk to this area via transport with the seasonal southern current.

7. It's a process to understand what a healthy ecosystem means (e.g. the balance among species). This is a challenging issue. There is a lack of clarity about measures, protocols, and conclusions concerning health of the ecosystem.

8. Decisions about the health of the ecosystem get made at a distance. There's a need for a local voice.

Suggested Actions

1. Enhance public awareness to take proactive action to prevent adverse impacts. [3]

2. Develop and agree upon a set of indicators for a healthy ecosystem and means of measuring and tracking them. Establish clear protocols for the acquisition and use of

data (including data from participant-providers). Display trends of resources over time (e.g. mammals, fish, etc.) and identify linkages with policy actions. [12]

3. Nurture the continued existence of a diverse stakeholder group to identify issues, offer solutions, and, overall, be a good steward of the resources. [12]

4. Encourage or require regular local meetings of regulatory agencies. [7]

5. Explore prospects of regulatory management on a more localized ecosystem basis (e.g. Point Sur to Point Purisima). [6]

6. Examine the unintended consequences of regulation—e.g. concentration of fishing in nearshore area and impact on fish stocks. [3]

7. Reassess marine mammal populations, their effects on land and marine resources, and the laws and policies to manage these species in balance with other species. [6]

Shared Hopes for Preservation of the Fishing Community (from original work)

- Preserve a lifestyle and culture around sustainable fisheries that reflects that the ocean is a good, healthy place to be and can provide a good sport and quality family experience.
- Provide local access to seafood and promote local providers.

What the Committee Has Learned

1. There is broad support for sustainable fisheries. People want to see real fishing communities.

2. Fishing and the desire to fish (recreationally and commercially) have deep cultural roots.

3. Studies have not kept up with the needs for regulatory management. Collaborative oversight may help improve commitment to better information and its use.

4. Multiple agencies (federal and state) regulate fisheries and sometimes lack coordination.

5. Controversy continues over what are good data.

6. Widely varying data about fish stocks have caused disruptive regulatory swings with severe effects on the fishing community.

7. Collaborative research is a good approach to gathering data, building understanding among stakeholders, and encouraging use of the information.

8. The Monterey Bay National Marine Sanctuary has not directly impacted fishing regulation.

9. Fishing community requires support facilities and infrastructure, including preservation of harbor facilities (e.g. dredging), and the current permitting process is cumbersome.

10. There is limited socio-economic data about the local fishing community and its role in the economy.

Suggested Actions

1. Review models of regulation and self-regulation that work elsewhere (e.g. Maine lobster fishery, New Zealand, etc.) for possible application in this area. [8]

2. Clarify definition of good data and ways to obtain and evaluate them. Clarify the relative impacts of natural phenomena and human actions. [4]

3. Apply a precautionary approach to managing the resource while gathering better data. [5]

4. Develop a focused collaborative research program with an overall plan, objectives, and milestones. [13]

5. Assess minimum fishing infrastructure needs and ways to maintain them. [6]

6. Develop more predictable and cost-effective dredge spoils policies. [3]

7. Support fishing community with education and marketing opportunities (e.g. educate public on wild vs. farmed salmon). [8]

Shared Hopes for the Management of the Resources (from original work)

- Manage the marine resources to be sustainable with public access and use (both consumptive and non-consumptive) while protecting from damaging uses.
- Exercise good stewardship in order to ensure the widest compatibility and use of resources.
- Streamline and enhance the effectiveness of management with better coordination and communication among regulatory agencies.

What the Committee Has Learned

1. Current management is fragmented, uncoordinated, not sufficiently effective, and not sufficiently locally based. Agencies are evolving and showing some improvement.

2. Abrupt, drastic changes in regulation can have negative results (e.g. rock cod closure).

3. Managers of regulatory agencies don't get together regularly to coordinate activities.

4. Collaborative approach among stakeholders is key.

5. A grassroots initiative may be needed to get parties together and establish priorities.

6. Multiple issues and multiple facets need to be considered (e.g. fisheries, intertidal areas, and streams) to manage the ecosystem effectively.

Suggested Actions

1. Complete an inventory of stakeholders and their activities. [5]

2. Establish a venue with an agenda for regular meetings to review events, research news, planned management activities, and funding resources for collaboration. Encourage or require agency direct participation or written reports. [14]

3. Continue work with NOAA (through MBNMS) for mapping of resources and other data collection efforts. [6]

4. Support sustainable funding for research. [11]

5. Develop a program for San Luis Obispo County marine research, education, conservation, enhancement, and coordination with funding to implement it. [7]

Collaborative Fisheries Research: Preliminary Results from a Study of the Near-Shore Fish and Fisheries of the Central California Coast (Point Sal to Cambria)
Draft December 1, 2003

John Stephens, Ph.D., Adjunct Professor
Royden Nakamura, Ph.D., Professor
Dean Wendt, Ph.D., Assistant Professor

Biological Sciences Department and Center for Coastal Marine Science, Cal Poly State University, San Luis Obispo
and
The Marine Interest Group of San Luis Obispo County

Introduction

The Marine Interest Group (MIG) of San Luis Obispo (SLO) County has been exploring through workshops, invited speakers, and panel discussions, the fisheries resources of the south central coast of California. We have determined that there is a lack of creditable data on local near-shore fish assemblages in our area. The only obvious data sets available have been the triennial RACE surveys of the National Marine Fisheries Service (NMFS), which have been conducted using large mesh commercial nets, primarily over the outer shelf and slope. There is also the PG&E monitoring data for the fishes impacted by the Diablo Canyon hot water discharge which includes a party boat study (1980-1986) and YOY data from the control site south of Diablo (1976 to present). The best available rockfish data is an unpublished study on recreational vessels conducted by local sport fisherman and the California Department of Fish and Game (CDF&G) from 1988-1998. As such, to afford effective comparison, the CDF&G recreational vessel study served as the foundation of our sampling protocols and as the historic data set to which we compared our current findings. The project was support by the World Wildlife Fund, the Steelhead Recovery Program, the Central Coast Fisheries Conservation Coalition and the Port San Luis Harbor Commission. The lead granting organization on the project is the World Wildlife Fund and it is with that organization that Cal Poly has an official contract to conduct the work.

Preliminary Results

Brief Synopsis of Methods (further details can be provided on request)

We are reporting data from a total of approximately 50 trips on recreational fishing vessels for the 2003 season to date and data collection is ongoing. Data have been collected on over 7000 individuals from 23 different species. The observers (from Cal Poly) determined species, measured size and weight, recorded when and where fish were caught and drop times to provide estimates of CPUE. Data reported are for fish caught, *not* for fish harvested. For example, 650 *Ophiodon elongatus* (Lingcod) have been caught, but only 151 fish were of legal size and kept. Data were collected on all 650 fish. Since current regulations only allow fishing in <21 fathoms, comparisons of size from 2003 data with the previous 10-year CDF&G study could be made in two ways: 1) comparisons with all the previous data; and 2) comparisons with fish caught in < 21 fathoms. Data reported in this

summary are for individuals caught in less than <21 fathoms. An unpaired t-test was used to determine if there were significant differences between the size of fish caught in 1998 and 2003. The average size of fish caught was compared to the median reproductive size of each species reported in the literature. CPUE was calculated by dividing the total number of fish caught by the product of "drop time" and the number of anglers. Current regulations only allow 2 hooks per line in contrast to 5 hooks used previously. As such, we report on CPUE values normalized for 2 hooks.

This summary will focus on 5 species that comprise the highest percentage catch off San Luis Obispo County and for an additional 2 species that are of current regulatory interest and 2 species that show interesting trends. It should also be noted that our data *do* allow effective comparisons of how adult populations have changed since 1998, but they *do not* provide a complete picture of the "overall health" of the fishery. Important data on juvenile recruitment and young of year (YOY) are needed to gain a more complete evaluation of the populations.

Species Assemblage and Relative Proportions of Total Catch

Five species of rockfish and the Lingcod comprise over 85% of the catch on the recreational fishing vessels in San Luis Obispo County. A rank correlation shows that the species assemblage supporting the fishery has not changed from 1991 to 2003; these data indicate that the same species are being harvested at the same relative proportions for more than a decade. The data do show that a different species assemblage was being harvested from 1988-1991, but this can be explained by the movement of the vessels into shallower water after the 1991 season. The most common fish caught in San Luis Obispo waters for 2003 are (in descending order): *Sebastes mystinus* (Blue Rockfish, 32%); *S. carnatus* (Gopher Rockfish, 22%); *S. auriculatus* (Brown Rockfish, 14%); *Ophiodon elongatus* (Lingcod, 9%); *S. miniatus* (Vermillion, 8%); *S. serranoides* (Olive Rockfish; 3%). Recreational fishermen in SLO County have caught a total of 7 *S. paucispinis* (Boccacio; all released) and 49 *S. pinniger* (Canary Rockfish, all released). Mortality of the released individuals is not known, but it is assumed to be a small proportion of the fish released.

Size of Fish Caught in 2003 Compared to Fish Caught in 1998

Of the most common species caught the mean size of fish harvested is not significantly different (in 2003) from 1998 for 3 species: 1) *Sebastes mystinus* (Blue Rockfish); *S. auriculatus* (Brown Rockfish); and *S. miniatus* (Vermillion). The average size of the most common species caught has decreased significantly from 1998 for 2 species: 1) *Ophiodon elongatus* (Lingcod); and *S. serranoides* (Olive Rockfish). The mean size has increased significantly from 1998 for 1 species *S. carnatus* (Gopher Rockfish).

Size of Catch Relative to Median Size of Reproduction

The size of fish caught in 2003 was compared to the median size at first reproduction reported in the literature for each species. Harvesting fish at this size means that 50% of the time the fish harvested will have had the opportunity to reproduce, and 50% of the time they will not have had the opportunity to reproduce. If the mean size of fish being harvested is well *below* the median size of reproduction, the majority of fish harvested *will not* have had the opportunity to reproduce. If the mean size of fish being harvested is well *above* the median size of reproduction, then the majority of fish harvested *will* have had the opportunity

to reproduce. For the most common species caught in 2003 the following species were caught at average sizes above the median size of reproduction: 1) *Sebastes mystinus* (Blue Rockfish); *S. auriculatus* (Brown Rockfish); and *S. carnatus* (Gopher Rockfish). The Lingcod (O. *elongatus*) was the only species being caught at the median size of reproduction. Two species, *S. miniatus* (Vermillion) and *S. serranoides* (Olive) were caught at sizes below the median size of reproduction.

Catch Per Unit Effort (CPUE)

Comparisons of CPUE with previous years are difficult given the confounding factors of changes in bag limits and number of hooks. We have normalized the CPUE data from previous years when 5 hooks were used to reflect the decreased effort of 2 hooks used in 2003. The overall data for the fishery indicates that the catch per unit effort has decreased slightly from 4.2 in 1998 to 4.0 in 2003. Given the range of data for CPUE since 1988, and the uncertainty of effort measurements with changes in number of hooks and bag limits, the CPUE is similar in 2003 compared with previous years of the study. Interestingly, the CPUE has increased monthly throughout the 2003 season.

Species of Interest

The Canary Rockfish (*S. pinniger*) is of significant regulatory importance. It comprised a very small percentage of catch in 2003 (only 49 fish). All individuals were released. The size of the Canaries caught in 2003 does not differ significantly from those caught in 1998. The mean size of the fish caught is well below the median size of reproduction indicating that almost all of the fish caught were not reproductive.

Boccacio (*S. paucispinis*) is also a species of significant regulatory interest. Very few fish were caught during the season (ca. 7 individuals) and all were released. For that reasons estimates of size for 2003 are not reliable because the estimates of mean size are comprised from measurements on so few individuals. Mean size of Boccacio caught has remained at or above the median size of reproduction since 1988.

Other Species of Interest

Two other species show trends that might be of interest: *Sebastes melanops* (Black Rockfish, 1.8% of catch in 2003) and *S. flavidus* (Yellowtail Rockfish, 2.4% of total catch in 2003). In 2003 both species comprised a small amount of the total catch. The average size of fish being caught for both species has not changed significantly from 1998 to 2003. It is clear, however, that the average size of fish caught for both species in 2003 is well below (and since 1988 has been below) the median size of reproduction.

Future Efforts

It is desired that the monitoring program continue for the foreseeable future. In addition, the research needs to be immediately expanded in several important ways: 1) measurement of young of year (YOY) using small-meshed trawls; 2) measurements of recruitment of juveniles using SMURF traps; and, 3) evaluation of median reproductive size for San Luis Obispo County rockfish populations.

Options Considered for Pursuing Suggested Actions

a. **Maintain status quo (no action).**
Leave regulatory and stewardship activities in the hands of current agencies and interested parties to pursue through existing vehicles.

b. **Conduct periodic meetings of Marine Interests Group with agencies and interested parties.**
Continue collaborative research and convene agencies and other interested parties in the San Luis Obispo County area on a periodic basis to discuss the resources.

c. **Expand Morro Bay National Estuary Program (MBNEP) to include marine issues in its non-regulatory model.**
Request that MBNEP develop programs and obtain funding to address marine issues in the areas of research, education, fisheries, conservation, and other areas of broad interest.

d. **Create an independent non-regulatory group (like MBNEP, but separate) to address marine issues.**
Establish a new group to develop programs and obtain funding to address marine issues in the areas of research, education, fisheries, conservation, and other areas of broad interest.

e. **Propose extension of the Monterey Bay National Marine Sanctuary (MBNMS) to the remainder of San Luis Obispo County.**
Request that NOAA extend the MBNMS to include the remainder of the San Luis Obispo County Coast. Include the Marine Interests Group format as an advisory group for the southern portion of the Sanctuary.

f. **Propose creation of a new National Marine Sanctuary for the San Luis Obispo County area.**
Request that NOAA create a new National Marine Sanctuary for the San Luis Obispo County area.

g. **Advocate a Marine Protected Area (no-take zone) for a portion of the San Luis Obispo County Coast.**
Request that California Dept. of Fish and Game or NMFS establish a no-take zone for some portion of the San Luis Obispo County Coast. This would receive consideration through the established processes for identification and creation of marine protected areas.

h. **Ask SAC and NEP to consider what might be better options for this area. Ask local researchers to be on the Research Advisory Panel and NEP review committees to identify potential shared research.** [This option could function with the other options.]

i. **Combine elements of SAC and NEP to create a regulatory group that would regulate resources other than fisheries.**

Results of Straw Ballot

[Each of the 17 members present on November 7 identified a "1st Choice" that she or he perceived would best fulfill the Shared Hopes for the Future of the Marine Resources and "Other Acceptable Choices" that would support the Shared Hopes. The following table presents the results.

1st Choice	**Other Acceptable Choices**								
	a.	b.	c.	d.	e.	f.	g.	h.	i.
a. 1		1							
b. 4	2		1	4					1
c.									
d. 5		2	2		1	3	1	1	4
e. 4		1		2		1	1	2	3
f. 2		1		2					1
g.									
h.									
i. 1				1	1	1			

Observations

1. All members thought that doing something beyond the Status Quo was the best choice or an acceptable choice. [One member chose Option "a." as 1st Choice.]
2. Option "d." received the broadest support with 5 "1st Choices" and 9 "Acceptable Choices."
3. Option "b." also received support from a majority of those present (4 "1st Choices" and 5 "Acceptable Choices."]
4. Nine members considered Option "i." to be an acceptable alternative, reflecting interest in regulatory means of protecting the marine resources from threats such as off shore oil and selenium dumping.