

California Department of Fish and Game 20 Lower Ragsdale Drive, Suite #100 Monterey, CA 93940

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Managing the White Seabass Fishery How the first Fishery Management Plan under the MLMA is being developed

... by Michelle Horezcko, Marine Biologist & Mary Patyten, Research Writer

The first White Seabass Fishery Management Plan (WSFMP) was prepared as a pilot program under the direction of the state Legislature in 1993. This plan was a clear departure from past management plans in that both recreational and commercial components of the fishery were included. At the time, the Legislature retained authority over commercial fisheries, and had delegated the authority over recreational fisheries to the Fish and Game Commission (Commission).

Although the first WSFMP was adopted by the Commission in March 1996, it never passed through the state Legislature. When the Marine Life Management Act (MLMA) passed in 1998, it provided the Commission with the authority to manage both the commercial and recreational white seabass fisheries. The MLMA further directed the Commission to amend the original WSFMP to comply with the Act's standards for fishery management plans (FMPs). A new version of the WSFMP is now under external peer review. The following question and answer section describes some of the major steps in developing FMPs, and specifically, how the development protocol has guided the new WSFMP in particular.

Question: What are FMPs, and how will they be created under the MLMA?

Answer: A fishery management plan is a document containing information relevant to the fishery, analyses of fishery and biological data, and management alternatives. It is also an adaptive document based on the best available scientific information, which is intended to change as the resource, environment, and fishery changes. FMPs are developed by the Department of Fish and Game (DFG) with the advice of academic and Federal fisheries scientists. consultants, fishermen, other fishery constituents, conservationists and interested parties.

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Question: How will these outside parties become involved?

Answer: When DFG begins the process of developing an FMP, it will assess the appropriate level of involvement based on the level of public interest and concern, ecological concern, legal issues and resources available to DFG. The appropriate level of involvement will be reassessed throughout the FMP process. A standard commitment level includes notifying the public of DFG's intent and identifying how the public can become involved. The notification process will use a variety of communication tools such as newsletters. Web site information, fact sheets and published notices. If warranted, public involvement opportunities could include (WSFMP continued on page 3)

Marine Management News Now Online

... by Susan Giles, Scientific Aid

We just made it easier to keep the Department of Fish and Game's (DFG) resources sustainable - read the *Marine Management News* online! Here at DFG, we are in the same boat as many agencies and businesses this year... coping with smaller budgets. As a result, we have started publishing the *Marine Management News* online. We can now provide you with a convenient way to receive DFG news as we strive to stay fiscally responsible.

We are urging everyone who has access to the Internet to sign-up for an online subscription to this newsletter. Four times a year, you will receive an e-mail from us with a link that will connect you directly to the latest issue of the *Marine Management News*. What could be easier? Not only will you have easy access to Marine Region news, but you'll be saving us printing and postage costs which we can put to better use - saving California's precious marine resources.

To register for your online subscription, send an e-mail to *eroberts@dfg.ca.gov* with "Online Newsletter" in the subject line and your full name and mailing address in the body of the email. Or just log onto www.dfg.ca.gov/mrd and click on "Online Newsletter Sign-up." Then, go to the "Keep Me Informed" section at www.dfg.ca.gov/mrd/mlma/signup.html. Spend a minute to update your profile so we can send you updates on the issues you care most about, as well as relevant meeting announcements, press releases, and closures.

DFG Recommends Changes in Sportfishing Regulations for Shelf and Nearshore Rockfish for 2002

... by Marci Yaremko, Associate Marine Biologist & Don Schultze, Senior Marine Biologist

The Department of Fish and Game (DFG) is recommending increased sportfishing restrictions on the take of the state's rockfish resources, prompted by measures adopted in November by the Pacific Fishery Management Council (PFMC) and a concern that lengthy shelf



Bocaccio line drawing from Miller and Lea, Fish Bulletin 157 with additional artwork by Lorraine Sinclair.

fishery closures will escalate fishing effort in nearshore waters. The Fish and Game Commission (Commission) was slated to adopt the 2002 sportfishing regulations at its Dec. 7 meeting in Long Beach.

The PFMC's actions are directed primarily at rebuilding overfished stocks of bocaccio, canary, cowcod, and yelloweye rockfishes, and lingcod that aggregate offshore with other deeper water shelf rockfishes. In California, the Council adopted closure periods of eight months (March-June and September-December, inclusive) and four months (January-February and November-December, inclusive) in the central and southern rockfish and lingcod management areas, respectively. This would represent an increase of four months of shelf fishery closure in the central area, and a two month closure in the southern area from the 2001 regulations.

Furthermore, the proposed regulations would alter the months during which fishing for nearshore rockfish could continue to take place in waters less than 20 fathoms (120 ft.) deep. During shelf rockfish and lingcod closures that would be implemented in waters 20 fathoms or deeper, DFG is recommending closure of the nearshore fishery in the central area during the months of March, April, November and December to prevent increased harvest rates of nearshore fishes which could result from the shelf closure. Similarly, DFG is recommending closure of the nearshore fishery in the southern area during the months of January, February, November and December when shelf fisheries are also closed.

With some exceptions, the recommended changes would allow recreational anglers to take and possess two lingcod and two shelf rockfish in waters less than 20 fathoms (120 ft.) deep during a rockfish and lingcod closure in the Central Rockfish and Lingcod Management Area during May and June and September and October when fishing is authorized in nearshore

(Regulations continued on next page)

(*Regulations continued from previous page*) waters less than 20 fathoms (120 ft.) deep during the offshore shelf closure.

Shelf rockfish are those rockfish *not* listed as nearshore rockfish under Section 1.90 on page 6 of the 2001California Sportfishing Regulations Booklet. This two-fish allowance, however, would not apply to shelf species of bocaccio, canary, cowcod, and yelloweye rockfishes because of their depressed status.

If the Commission implements DFG's recommendations, the shelf rockfish, nearshore rockfish and lingcod time closures do not apply to angling or spearfishing from shore or from any man-made structure, a change from regulations in place for 2001.

If implemented by the Commission, these regulations would also change the areas designated for rockfish and lingcod management. Waters from a line near Cape Mendocino at 40 degrees 10 minutes north latitude to the California-Oregon border will become the Northern Rockfish and Lingcod Management Area, and the current Northern Rockfish and Lingcod Management Area, which includes waters from 40 degrees, 10 minutes north latitude south to Point Conception will become the Central Rockfish and Lingcod Management Area. The Southern Rockfish and Lingcod Management Area, and Cowcod Closure Areas would remain as currently defined in regulation.

Based on the Council's decisions, DFG is not recommending any closures for shelf or nearshore fisheries in the Northern Rockfish and Lingcod Management Area. Additionally, the Council adopted a change in the lingcod minimum size limit for California, which will reduce the size limit from 26 to 24 inches total length while making the size limit consistent coastwide. Furthermore, this will prompt the Commission to consider modifying the state's minimum fillet length for lingcod from 18 to 16 inches.

(WSFMP continued from front page) meetings and workshops, development of advisory committees and panels, and DFG sponsored hearings. In each FMP development process there will also be an opportunity for the public to give testimony at Commission meetings during formal public comment periods. Written comments should be sent to: Mr. Robert Treanor, Executive Director, Fish and Game Commission, 1416 Ninth Street, Sacramento, CA 95814. **Question:** What is the purpose of peer review? How does the process work?

Answer: If exemptions do not apply, the MLMA requires DFG to establish an external peer review program to evaluate the scientific basis for management documents. Peer review panels submit written reports on their findings. DFG then responds to the peer reviewers' evaluation, and makes revisions to the FMP as appropriate. Both the WSFMP and the Nearshore Fishery Management Plan have recently undergone external peer review, and are in the process of addressing peer review comments.

Question: How are peer reviewers chosen? What is the background of the WSFMP reviewers?

Answer: Peer review panels consist of fishery experts selected by a Commission-approved, non-advocacy organization that is not affiliated with DFG. Selected panelists cannot be DFG or Commission employees and cannot have participated in the preparation of the FMP under review.

The WSFMP external review panel consists of four experts selected by Sea Grant, an organization that brings together the nation's universities and the National Oceanic and Atmospheric Administration. These reviewers have diverse backgrounds with expertise in resource economics, nearshore ecology, population dynamics, and white seabass life history and genetics.

Question: How long will the peer review process take for the WSFMP?

Answer: The peer reviewers examined the WSFMP over a two-month period and sent their evaluation to DFG this past October. Currently, parts of the WSFMP are being revised per the reviewers' scientific evaluation. The public will have an opportunity to look over the revised plan during a 30-day comment period beginning in January 2002. After comments from peer review have been addressed, the WSFMP will be resubmitted at the February Commission meeting. It is expected that the WSFMP will be adopted at the February 2002 Commission meeting.

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Featured Fishes: Selected Fishes of the California Nearshore Fishery Management Plan

This is the final installment in a series of three articles in the *Marine Management News* that provides information on biological characteristics of the species selected for management under the Nearshore Fishery Management Plan (NFMP), as well as an insight on the importance of each species to sport and commercial fisheries. In this issue, we focus on the six species of fish included in the NFMP that are not rockfish. ...by Ed Roberts, Marine Biologist Cabezon were primarily taken by recreational anglers up until the early 1990's. Since then, commercial effort has increased with the 1999 commercial landings six times higher than sport landings. Samples from the Morro Bay area taken from 1995 to 1998 suggest a large portion of fish landed during that time were sexually immature.

California scorpionfish can make up a substantial portion of the recreational catch, and

Names	Range	Keys to Identification	Maximum Age and Length	Growth and Maturity
Cabezon (Scorpaenichthys marmoratus) Marbled sculpin	Sitka, AK to central Baja CA. Frequently found from WA to southern CA.	Can be brown, red or green with darker mottling. Scaleless. Possess a flap of skin on the snout and over each eye.	Max. recorded age: 17 yrs. for males, 16 yrs. for females.	Larvae are planktonic (ocean drifters) for 3-4 mo. Males first reach maturity at 13.5 in., approx. 2-3 yrs. old, while females first reach maturity at 17.5 in., approx. 3-5 yrs. old. A 24 in. fish is approx. 9 yrs. old.
California scorpionfish (Scorpaena guttata) Sculpin, rattlesnake	Santa Cruz, CA south to Baja CA and into the Gulf of CA. Common south of Santa Barbara, CA.	Dorsal, pelvic and anal spines are venomous. Can be red to brown with dark spots over the entire body.	Max. recorded age: 21 yrs. Max. recorded length:17 in.	Over half are sexually mature by 7 in., approx. 2 yrs old. A 10 in. fish is approx. 6 yrs. old. After age 4 females grow faster and reach a larger size.
California sheephead (Semicossyphus pulcher) Goat, billygoat, sheepie (male shown)	Monterey Bay, CA south into the Gulf of CA Common south of Point Conception, CA.	Males are black and red with a large forehead, females pinkish; both sexes have a white lower jaw and large canine-like teeth.	Max. recorded age: 50 yrs. for males, 30 yrs. for females. Max. recorded length: 36 in. for males.	Larvae are planktonic (ocean drifters) for 1-3 mo. "Protogynous hermaphrodites", beginning life as female and changing to male due to various conditions. Females reach sexual maturity at 3-6 yrs.
Kelp greenling (Hexagrammos decagrammus) Sea trout (male shown)	Aleutian Islands, AK to La Jolla, CA. Common from AK to central CA.	Males are light gray to brown with irregular blue spots; females with smaller dark spots. Possess 5 lateral lines; inside of mouth yellowish.		Approx. half of all fish are sexually mature by age 4, or 11.6 in.
Monkeyface prickleback (<i>Cebidichthys violaceus</i>) Monkeyface eel	Southern OR to San Quintin Bay, Baja CA. Common south to Point Conception, CA.	Elongated and eel- like; light brown to black with 2 dark stripes below the eye.	Max. recorded age: 18 yrs. Max. recorded length: 30 in.	Approx. half of all fish are sexually mature by age 5, or 15.4 in.
Rock greenling (Hexagrammos Iagocephalus) Sea trout	Bering Sea south to Point Conception, CA; also in the western Pacific, south to Japan. Uncommon south of San Francisco.	Reddish-brown with darker mottling, often with red blotches on the sides. Inside of mouth bluish. Skin flap over eye.	Max. recorded age: 8 yrs. for males, 11 yrs. for females. Max. recorded length: 24 in.	No information available from CA; in the western Pacific, approx. half of all fish are sexually mature by age 3-4, or 11.4-13.8 in.

are increasingly important in the commercial live fish fishery. The scorpionfish does not suffer from depressurization trauma as severely as its rockfish cousins.

California sheephead abundances may fluctuate with cyclic oceanic conditions such as El Niño events. They are a prized sport fish, and command a high price at live fish markets.

Kelp greenling are often taken by anglers fishing from rocky shores and in private boats in northern California. Increased commercial fishing pressure, combined with a decline in the sport catch of this species, may be an indication of overfishing. **Monkeyface prickleback** were included for management under the NFMP because commercial landings are primarily of live fish. They are found in the rocky intertidal zone, which is subject to disturbance by human activity.

Rock greenling are a minor component of the sport and commercial fisheries, and very little information is available on this species. They were included for management under the NFMP because their similarity with kelp greenlings may lead to under reporting of landings for this species.

(Featured Fishes continued on next page)

Reproduction	Predators and Prey	Habitat and Movement
Fertilization and egg development is external. In CA, spawning begins in Oct., peaks in Jan. and continues through Mar.	As juveniles and adults, predators include other cabezon, rockfish, lingcod, seals, sea lions, sea otters and marine birds. As larvae, prey includes the larvae of various crustaceans and larval fish.	Found on hard bottoms in shallow water from intertidal pools to depths of 335 ft. Usually solitary, juveniles and adults can be found on rocky bottoms with dense algae, sitting in holes, on reefs, in pools, or on kelp blades beneath the canopy, but not actively swimming.
Fertilization and egg development is external. Annual spawning migrations occur in late spring and early summer.	As juveniles and adults, prey includes small crabs, fishes, octopi, shrimp and spiny lobster. Scorpionfish are primarily nocturnal and feed at night.	Juveniles and adults are most frequently found on hard bottom (such as rocky reefs, sewer pipes and wrecks) from tidepool depth to 600 ft, but more commonly from 20 to 450 ft. Also found in kelp beds and on sandy or muddy bottoms.
Fertilization and egg development is external. Spawning occurs between July and Sept. Sometimes seen in large schools, which may be spawning aggregations.	As juveniles and adults, predators include giant sea bass, moray eels and harbor seals. As juveniles and adults, prey includes crabs, barnacles, mussels, gastropods, sea urchins, brittle stars, spiny lobster, squid, fish eggs.	Inhabits nearshore rocky reefs, kelp beds and surf grass beds. Seems to prefer areas of high relief, although has been found foraging over sandy bottoms. Primarily residential (stay-at- home).
Fertilization and egg development is external. Spawning occurs from Sept. to December.	As juveniles and adults, predators include lingcod, harbor seals and other nearshore predators. As larvae, prey includes fish larvae and eggs, crustaceans and crustacean larvae. As juveniles and adults, prey includes crabs, shrimp, snails, chitons, abalone, octopi, fish and fish eggs, and algae.	Frequents rocky reef areas and under kelp beds. Have been taken from tidepool depths to 150 ft., most common from immediate subtidal to 50 ft. These are generally solitary and territorial fishes. Males and females look so different that at one point they were thought to be separate species.
Fertilization and egg development is external. Spawning occurs from Jan. to May, peaking Feb. to April.	As juveniles and adults, predators include cabezon, rockfish and marine birds. As juveniles and adults, diet varies according to life stage. Early juveniles feed chiefly on copepods and other small crustaceans. Adults prefer various species of red and green algae.	Resides in rocky areas with crevices, including tidepools, jetties and breakwaters. Also lives in subtidal areas including kelp beds. Juveniles are adapted to the upper intertidal zone, and this species has limited air breathing capabilities.
Fertilization and egg development is external. No reproduction information available from CA; spawning in the Aleutian Islands occurs from June through August.	No information available from CA; in the northwest Pacific, prey of juveniles and adults includes crabs and other crustaceans, snails, clams, worms, fish and fish eggs.	Frequents subtidal rocky reefs and kelp beds. Found from intertidal depths to 1950 ft., more commonly less than 300 ft. Considered to be solitary and territorial, although little information is available about movement.

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(Featured Fishes continued from previous page) INVESTIGATORS AND RESEARCHERS Research was funded by a grant from the Pacific Fisheries Management Council given to Moss Landing Marine Laboratories.

PRINCIPAL INVESTIGATORS: **Moss Landing Marine Laboratories:** Dr. Gregor M. Cailliet, Professor Erica J. Burton, Project Leader Jason Cope, Lisa Kerr, Joanna Grebel, Colleena Perez, Graduate Students

CO-INVESTIGATORS: San Francisco State University Dr. Ralph J. Larson, Professor California Department of Fish and Game Dr. Robert N. Lea, Mr. David VenTresca, and Mr. Eric Knaggs

Data sources include the Marine Recreational Fisheries Statistics Survey conducted by the Pacific States Marine Fisheries Commission and CA DFG. Contact Edgar Roberts at (562) 342-7199 for a complete list of references. This information was



This information was Pt. Sur, Photo by Dan Gotshall compiled by Paul Reilly (coordinator), Dave Osorio, Dave Ono and Colleena Perez.

Live Fish Trap Rings Available

Finfish traps used in waters between Point Arguello, Santa Barbara County and Point Montara, San Mateo County may soon be reguired to have rigid metal rings of not greater than 5-inches in diameter permanently affixed in each entrance funnel. Regulations recently approved by the Fish and Game Commission that require this change are now undergoing review by the Office of Administrative Law and could become effective in early January 2002. The rings are intended to exclude non-target species, particularly sea otters, from the traps. The U.S. Fish and Wildlife Service has made a one time purchase of 5-inch stainless steel rings to assist with the anticipated need to convert entrance funnels on existing traps. Fishermen active in the nearshore fishery may pick up a set of 120 rings free-of-charge at Fish and Game offices in Morro Bay (call 805-772-3011 for an appointment) or Monterey. Rings will be available as long as supplies last. Questions concerning availability of rings should be directed to Greg Sanders at the U.S. Fish and Wildlife Service's Ventura Office: (805) 644-1766.

This information has been provided by the U.S. Fish and Wildlife Service.

UPDATES

Marine Life Protection Act

... by John Ugoretz, Senior Marine Biologist

A four-part set of "Initial Draft Concepts" for proposed marine protected areas (MPAs) was released between mid-June and mid-July 2001 as part of the Marine Life Protection Act (MLPA) process to plan a network of MPAs in California. The Department of Fish and Game (DFG) then held ten workshops around the State in July 2001 to gather public comments on these draft concepts. After much concern was voiced over the initial plan, DFG responded by sponsoring Assembly Bill 1673 which, among other things proposed a 16-month extension of the MLPA timeline. This bill was widely supported and Governor Davis signed the bill into law on Oct. 15, 2001.

The new MLPA timeline requires DFG to submit a draft plan to the Fish and Game Commission (Commission) by Jan. 1, 2003. The Commission will review the plan and DFG will submit a revised plan by April 1, 2003. The Commission is required to adopt a final plan by Dec. 1, 2003.

This extended timeline provides DFG an opportunity to respond more completely to public concerns. In fact, since August, more than 40 small group meetings have been held with commercial and recreational anglers, environmental groups, scientists, divers, scientific collectors, the military, and others to discuss the Initial Draft Concepts in more detail and to propose revisions to it, including new or alternate areas for MPAs. These meetings have generated a tremendous amount of useful information.

In addition to these informal meetings, DFG plans to hold a series of facilitated meetings with representatives from all stakeholders. The goal for these regional meetings will be to develop siting alternatives for MPAs and review progressive drafts of the plan. The dates and locations of these meetings have not been set, but will likely occur in the winter and spring of 2002.

For more information on the MLPA process, visit the DFG Marine Region Web site at www.dfg.ca.gov/mrd, where you will find a summary of comments from the public meet-

(MLPA continued on next page)

(MLPA continued from previous page)

ings, frequently asked questions about MPAs, and a bibliography of published papers, abstracts and summaries on MPAs. This information will help you understand some of the rationale for the Marine Life Protection Act.

The tremendous amount of interest and feedback DFG has already received is an indication of the level of importance of the Marine Life Protection Act. Public input is critical to the success of MPAs and DFG will continue to involve the public as the MPA plan is developed. For more information contact John Ugoretz, Senior Marine Biologist, California Department of Fish and Game, 1933 Cliff Drive, Suite 9, Santa Barbara, CA, 93109, or by e-mail at *jugoretz@dfg2.ca.gov.*

Fish and Game Commission Decides to Extend Preparation of Nearshore FMP

...by Connie Ryan, Research Manager

At the November 2, 2001 meeting in Redding, the Fish and Game Commission (Commission) decided to extend the period for development and adoption of the Nearshore Fishery Management Plan (NFMP) by eight months. The new proposed NFMP adoption date will be at the early August Commission meeting in 2002. The extension will provide time to thoroughly consider and integrate

public comments and the suggestions of an independent scientific review panel into a revised draft NFMP. In addition, many members of the public expressed the desire for more time



of the public expressed China Rockfish, the desire for more time Photo by Dan Gotshall to read and understand the NFMP as it will have far reaching effects on the management of the

far reaching effects on the management of the state's nearshore resources. The Commission received a significant number of comments from constituents at six special public hearings, at two regularly scheduled Commission meetings, and in writing via letter

and e-mail. The comments covered a wide range of issues which the Department of Fish and Game will address in the revised draft NFMP.

Meeting With Fishermen About Nearshore Restricted Access

...by Traci Bishop, Associate Marine Biologist The Nearshore Restricted Access Team (NRAT), along with the Fish and Game Commission Marine Advisor, Mike Weber, and Burr Heneman, have been meeting with small groups of nearshore fishermen. The goal of these meetings was to learn more about regional fishing practices and to brainstorm ideas for developing a restricted access program. Meetings have been held with fishermen in Crescent City, Eureka, Fort Bragg, San Francisco, Monterey, Port San Luis, Ventura, and San Diego. Meetings are planned for Los Angeles/Orange County, Bodega Bay, and possibly a second meeting in San Francisco.

The meetings helped to clarify the contribution of each area to the nearshore fishery and how they would like to see a restricted access program implemented. Many agreed that a reduction in the number of fishermen in the nearshore would be beneficial. However, opinions varied on how the cuts should be made. Many nearshore permittees are full-time fishermen, although most do not fish exclusively in the nearshore. Most agreed that fulltime fishermen should be favored, although they do not need to be full-time nearshore fishermen. The idea of individual fishing shares (a form of individual transferable guotas or ITQ) met with mixed receptions. Some wanted to go forward with a quota program right away, some were skeptical about how it would work, while others were dead-set against any ITQ-type program.

The information gathered will be used to develop options for the restricted access program in each region. The program for each region may be vastly different as fishing practices change from north to south. As an example, one proposed criteria to qualify for a permit would include a minimum of 500 pounds landed in three of the seven years between 1994 and 2000. This may work for the southern region where the fishery first began; however, the northern region developed much later and few permittees would qualify at these levels. All ideas are still on the table and no criteria has been finalized.

(Restricted Access continued on next page)

(Restricted Access continued from previous page)

In upcoming months, DFG will be developing options for setting capacity goals (ideal number of fishermen per region), initial qualifying criteria (who remains in the fishery and who doesn't), and addressing the issue of permit transferability. Once this step is complete, DFG will hold a series of public meetings to explain different options and gather feedback on which options are preferred. The meeting schedule will be posted in a future issue of this newsletter and all permittees will be notified of upcoming meetings in their region.

Market Squid Fishery Management Plan

...by Susan Giles, Scientific Aid

On Sept. 19, 2001, Governor Gray Davis signed SB 209 which requires the California Fish and Game Commission (Commission) to adopt a Market Squid Fishery Management Plan (MSFMP) by Dec. 31, 2002. The Marine Life Management Act (MLMA) mandates that new regulations for fisheries which the Commission held some management authority before Jan. 1, 1999 must conform to the MLMA fishery management design and process.

Accordingly, the Department of Fish and Game (DFG) will involve the public in the process as they develop a MSFMP which will detail a thorough description of the fishery, regulations, socio-economic considerations, implementation costs, and management options. In addition, the MSFMP will cover environmental impacts of the fishery, such as the lights and nesting seabird issue, and the role of squid in the ecosystem, specifically as a food item for marine mammals.

The draft MSFMP will be available to the public by April 2002. After a public review period, the revised plan will be submitted to the Commission in August 2002. It is anticipated that the Commission will take public comments on the FMP at each of their Fall meetings with the Commission adopting the final plan by Dec. 31, 2002.

Remember this Squid Shot in the September 2001 Issue?

The squid picture in the September issue of *Marine Management News* (p.10) was taken by Michael Lazar from Big Blue Underwater Video

Productions. Michael captured the photo in Fall 1994 while on assignment in Monterey Bay. During a night dive



Squid, Photo by Michael Lazar

to 80 ft., Michael observed these marine beauties while they laid their eggs on the sandy bottom. View more of Michael's work at

www.okeanos.com. Thank you Michael for allowing DFG to use your work in one of our publications!

Be sure to read the September-October issue of Outdoor **California** It's packed with marine stories! Pick up a complimentary copy Email: abarlow@dfg.ca.gov or write: P.O. Box 944209, Sacramento, CA 95814

Abalone Recovery and Management Plan

...by Jonathan Ramsay, Marine Biologist The Department of Fish and Game's (DFG) Abalone Team is required by the state Legislature to prepare an Abalone Recovery and Management Plan (ARMP) for California abalone species. The ARMP contains specific mandates which must be followed during its development (Fish and Game Code §5520-5522) including providing an independent review of the plan.

The ARMP addresses recovery and management of California's abalone. Currently, the status of the California abalone resource can be separated by broad geographical regions. South of San Francisco, the take of all abalone is prohibited, with all abalone species at very low levels and some verging on extinction. To the north, there is an ongoing recreational fishery for the red abalone, which is currently managed by the Fish and Game Commission.

The DFG has established an advisory panel of constituents and experts to provide an independent review of the ARMP. The first advisory panel workshop was held on Nov. 16, 2001 at the DFG (Abalone continued on next page)

(Abalone continued from previous page)

office in Los Alamitos. The DFG received input from the panel concerning the recovery of abalone resources in southern California. In preparation for this workshop, panel members and alternates were provided with background information about abalones, including excerpts from the publication "California's Living Marine Resources." Several presentations were given by DFG biologists including a review of the Fish and Game code, biology of abalone, and various aspects of recovery. Focus questions were also presented and discussed at the workshop. Comments and suggestions from the panel will be incorporated into the next ARMP draft.

Management of the northern abalone resource under the ARMP will be addressed by the panel in conjunction with the Recreational Abalone Advisory Committee at a workshop planned for Spring 2002. A town hall meeting is also in the schedule for July to receive additional public input. All advisory panel workshops are open to interested members of the community and time will be available at each meeting for public comment. Written comments can be sent to: Department of Fish and Game, Attn: Pete Haaker, 4665 Lampson Avenue, Los Alamitos, CA 90720.

For more information on the ARMP and upcoming meetings, check the Marine Life Management Act Web site at www.dfg.ca.gov/ mrd/mlma, or contact Jonathan Ramsay at (707) 441-5757 or jramsay@dfg.ca.gov.

Master Plan Update

...by Chuck Valle, Associate Marine Biologist

The Master Plan Team has finished a final draft of *The Master Plan: a Guide for the Development of Fishery Management Plans.* This document is a requirement of MLMA and specifies the process and resources needed to prepare and implement fishery management plans (FMPs) for sport and commercial marine fisheries. Specifically, the document:

- Prioritizes fisheries for future FMPs
- Identifies past and current DFG research and monitoring activities to collect essential fisheries information
- Describes methods and activities for meaningful public involvement in the development of FMPs

A draft *Master Plan: a Guide for the Devel*opment of Fishery Management Plans was presented to the Fish and Game Commission at the August 23 meeting in Santa Barbara. Recommended changes to the Master Plan made at the hearing and comments received during the public review period have now been incorporated into the document. Additions to the final version include a process to reprioritize fisheries for future FMPs more frequently than every four years, if needed, and four new appendices. The draft final *Master Plan* was scheduled for adoption at the Dec. 6-7, 2001 Fish and Game Commission meeting in Long Beach.

Calendar of Upcoming Meetings							
Fish and Game Commission Meetings 2002 www.dfg.ca.gov/fg_comm/2002mtgs.html							
Feb. 8-9	Sacramento	June 20-21	South Lake Tahoe				
March 7-8	San Diego	Aug. 1-2	San Luis Obispo				
April 4-5	Long Beach	Aug. 29-30	Oakland				
April 25	Sacramento	Oct. 24-25	Crescent City				
May 7-9	Fresno	December 5	-6 Monterey				
	Pacific Fishery Management Council 2002						
M	Meetings are subject to change. The following are for the week of:						
March 11-15	Sacramento	Sept. 9-13	Portland, Oregon				
April 8-12	Portland, Oregon	Nov. 4-8	San Francisco				
June 16-21	San Francisco						
	For all of the latest information on upcoming meetings and events, please check out our Master Calendar at www.dfg.ca.gov/mrd/mlma/calendar/externalcalendar.html						
	or contact our DFG office in Monterey at (831) 649-2870.						

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Department of Fish and Game



"To protect, maintain, enhance, and restore California's marine ecosystems for their ecological values and their use and enjoyment by the public"

Act (MLMA) is an innovative, collaborative, science-based approach to managing all of California's living marine resources. One of its major goals is the long-term sustainability of our resources and our fisheries. The MLMA recognizes and values the non-consumptive benefits of healthy marine life as well as the interests of those who are econimically dependent upon them. Implementation and enforcement of the MLMA is the responsibility of the California Department of Fish and Game, whose mission is to conserve wildlife and the habitats upon which they depend through good science and informed citizen involvement. For more information visit www. dfg.ca.gov/mrd.

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sign up to get more involved, please visit our web site at www.dfg.ca.gov/mrd/mlma/index.html.

For more information on the MLMA or to

quarterly by the Marine Region of the California Department of Fish and Game and is for everyone interested in the management and conservation of California's living marine resources. Through this newsletter we hope to inform all associates and constituents interested in participating in and/or tracking the progresses of the Marine Life Management Act (MLMA). The MLMA places a strong emphasis on decisionmaking that is open and involves people who are interested in or affected by management measures.

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