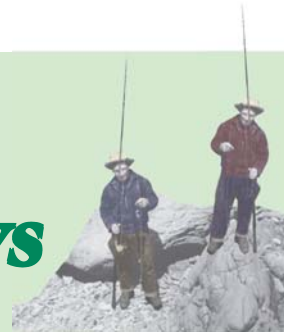




MARINE Management News

*A newsletter for everyone interested in the management and conservation
of California's living marine resources.*



California Department of Fish and Game
20 Lower Ragsdale Drive, Suite 100
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DFG Senior Volunteer Program Reaches Out to Southern California Communities

by Mary Patyten, Research Writer

The Department of Fish and Game (DFG), like all state agencies, has had to wrestle with personnel shortages and tight budgets over the past few years. In these times of economic and personnel crisis, who ya gonna call?

The Senior Community!

At least, that's who the DFG called on in southern California, and the answer has been amazing. From retired aeronautical engineers and lawyers, to authors and doctors, seniors in San Diego and Orange Counties have answered the call to action issued by DFG's IMPACT Senior Volunteer Program. Working with DFG personnel, IMPACT volunteers are taking on an immense variety of tasks, answering the call for help wherever needed.

The IMPACT Senior Volunteer Program – IMPACT is short for “Individual Motivation for Positive Advancement in Conservation Teachings” – was the brainchild of DFG's

“Volunteers” continued on page 8



DFG IMPACT volunteer Marvyn Williams pins a badge on a young visitor. DFG file photo

Groundfish Regulations Set for Five Management Areas off California Coast; Telephone Information System Operational in January

by Mary Patyten, Research Writer

Five groundfish management areas have been set along the California coast for 2005 following action taken by the Fish and Game Commission and the Pacific Fishery Management Council

(PFMC). Each area has a different set of groundfish regulations tailored to meet regional needs. The five areas are:

The Northern Management Area - California-Oregon border to Cape Mendocino (40°10' N. latitude)

The North-Central Management Area - Cape Mendocino (40°10' N. latitude) to Pigeon Point (37°11' N. latitude)

The Monterey South-Central Management Area - Pigeon Point (37°11' N. latitude) to Lopez Point (36°00' N. latitude)

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The term ‘groundfish’ as defined by the PFMC refers to over eighty species of fish, including twelve species of flatfish (such as starry flounder and Pacific sanddab), six species of roundfish (such as lingcod and sablefish), six species of sharks and skates (such as spiny dogfish, leopard shark and big skate) and over 50 species of rockfish.

“Groundfish” continued on page 10

California Sheephead Stock Assessment Completed; Public Workshops Planned for Early 2005

by DFG Staff

The California sheephead, *Semicossyphus pulcher*, is one of nineteen fish species managed under California's Nearshore Fishery Management Plan (NFMP). It is primarily found in nearshore waters off the coast of southern California (south of Point Conception) and Mexico. Earlier this year, the Department of Fish and Game (DFG) sponsored the first ever stock assessment for the California sheephead. This peer-reviewed assessment moves the fishery from a "data poor" to a "data moderate" status as defined in the NFMP, and provides a more reliable scientific basis for the Department's management approach.

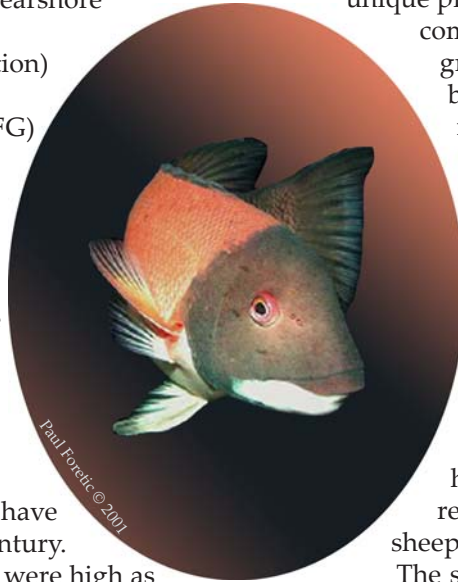
Landings of the popular commercial and sport-caught fish have fluctuated widely over the past century. In the 1920s, commercial landings were high as California sheephead was used extensively for lobster bait. In the late 1980s and through the 1990s, California sheephead landings rose again as "plate-sized fish" were targeted by commercial trap fishermen in the live-fish fishery. The recreational fishery grew steadily from the 1940s to the 1980s,

achieving its greatest estimated landings during the latter part of the 1980s.

The life cycle of the California sheephead poses unique problems for stock assessment, compared to other Pacific coast groundfish. California sheephead begin life as females, reaching sexual maturity at 3 to 6 years of age, and eventually transform into males. Exactly what initiates the sex change is not known. The circumstances that trigger the transformation from female to male may be linked to the sex ratio of a given population, the size and abundance of available males, or other unknown factors. Without this crucial bit of life history information, estimating the reproductive potential of California sheephead can be challenging.

The stock assessment team, composed of fishery scientists from DFG, the University of California at Santa Cruz, and the National Marine Fisheries Service, used several sources of data for the stock assessment. These included catch history dating back to 1916, information on the size of fish in the catch,

"California sheephead" continued on page 9



DFG Volunteers Make a Difference!

by Briana Brady, Marine Biologist

The Marine Region's Fishery Independent Research Team would like to thank the volunteers who assisted the Department while gaining valuable work experience. Among the volunteers who worked with DFG since June, 2003:

Michelle Brady, Field photographer
Jane Curtner, Research diver and image library technician
Rob Hewlett, Research diver
Jared Kibele, Research diver
Shinobu Okano, Image library technician
Michele Palin, Image library technician
Kate Peterson, Image library technician and deckhand
Stacy Tatman, Image library technician
Bethany Taylor, Image library technician and deckhand
Lucas Willey, Deckhand



DFG volunteer Michelle Brady kayaks to her next photo shoot. photo by J. Kibele

Our research divers worked on one or more field projects, and did a tremendous job surveying invertebrate populations and using underwater geo-referenced video to capture fish density data. Our deckhands were key in helping to prepare gear for each dive. And last but not least, our image library technicians digitized nearly 1,000 images of California's marine organisms from the Department's slide library. Thank you all for a job well done! 🐟

New Saltwater Recreational Angler Survey Under Way

by Ed Roberts, Marine Biologist

Hello! How's the fishing today? I represent the California Department of Fish and Game and the Pacific States Marine Fisheries Commission, and I'm conducting a survey of saltwater anglers. I'd like to ask you a few questions about your fishing trip and your catch..."

Have you been approached by a sampler and heard similar words when you returned to the dock after a day of ocean sport fishing? Did you wonder why you were being asked to participate?

Implemented in January 2004, the California Recreational Fisheries Survey (CRFS) is the tool that fishery managers will use to estimate the total catch and fishing effort of marine recreational anglers in California.

While other, related surveys, have been conducted on the west coast for decades, one primary survey, the Marine Recreational Fishery Statistical Survey (MRFSS), could no longer meet the changing needs of state and federal fishery managers. The new CRFS incorporates the Department of Fish and Game (DFG) Ocean Salmon Project Survey and replaces the MRFSS. It is the first program developed to meet the specific management needs for all of California's recreational fisheries.

The CRFS incorporates many new concepts and improvements over the previous method, including increased field sampling levels, on-site estimates of private skiff effort, and dividing catch estimates into smaller geographic regions. Additionally, the CRFS uses an angler license database for effort estimates for some types of fishing, instead of the random-digit-dialing telephone survey used prior to 2004.

Fishery managers are confident that the methods employed in the CRFS will provide a more accurate picture of what is actually happening in the recreational fishery, and in a more timely fashion.

Saltwater anglers are already noticing a difference. To achieve the desired precision in catch estimates, samplers needed to increase the number of interviews over previous years. To this end, the number of samplers conducting the survey was nearly doubled, resulting in more than triple the number of angler interviews at fishing sites statewide over the past year. Your chances of being



A CRFS sampler records information about a fisherman's catch.
photo courtesy Russ Porter

approached by a sampler upon completion of a fishing trip have increased, and avid anglers may even be interviewed several times per year. Because every fishing trip is unique – different target species, fishing locations and catch – the DFG strongly encourages saltwater anglers to cooperate with CRFS samplers each and every time they are asked to participate. Please take

the time to provide accurate information when approached, and have your fishing habits reflected in this important survey.

As the need for more effective fishery management practices increases on the Pacific, Atlantic and Gulf coasts, other states are taking notice of what is being done in California. The CRFS may serve as an example of what to do when others are faced with issues similar to those confronting California's saltwater anglers and fishery managers.

During a time of financial difficulty for the state of California, the development and successful implementation of the CRFS is a significant achievement, and represents the DFG's and the Pacific States Marine Fisheries Commission's commitment to collecting and using the most accurate data available to manage the state's economically valuable and socially important recreational fisheries. 🐟

Due to State budget restraints, the *Marine Management News* will only be published electronically until further notice. Sign up for automatic, electronic notification of new issues at:

www.dfg.ca.gov/mrd/subscribe.html

Copies are available for viewing or printing from the Marine Region Web site:

www.dfg.ca.gov/mrd/index_newsletter.html



WITHERING SYNDROME AND THE RECOVERY OF SOUTHERN CALIFORNIA ABALONES

by Jim Moore, Senior Fish Pathologist

Transmission electron micrograph of the bacteria that causes WS. image courtesy J. Moore

If you happened to visit a southern California seafood restaurant between 1950 and 1970, chances are that you would have seen abalone on the menu. During this period, the multi-species abalone fishery was booming along the southern California coast.

The fishery grew rapidly after WWII, posting a peak harvest of 5.4 million pounds in 1957. Southern California landings held steady through the end of the 1960s, but catch numbers steadily declined throughout the 1970s, and by the mid-1980s landings were only at about 15 percent of their peak level.

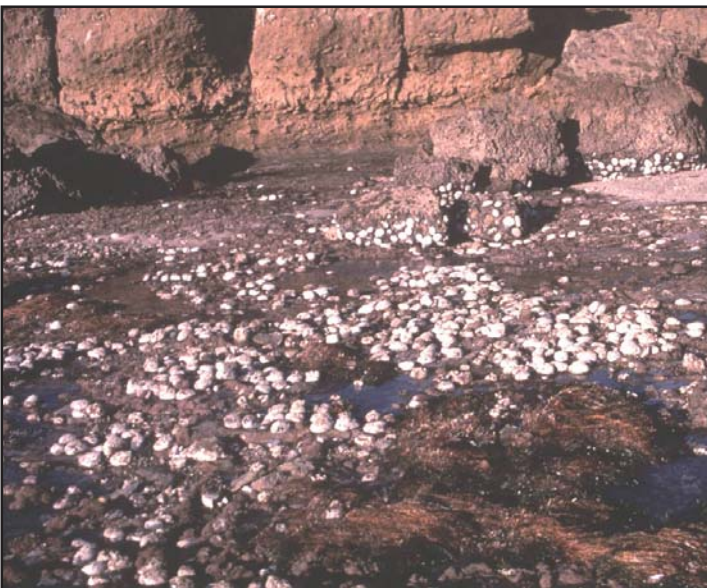
In 1986 large numbers of dying black abalone and empty shells were discovered at Anacapa and Santa

Rosa Islands in the Channel Islands National Park. Because the dying abalone had severely shrunken bodies inside normal-sized shells, the condition was dubbed *withering syndrome* (WS). During the 1990s, black abalone populations decreased dramatically as WS spread throughout the Channel Islands, and to the central California coast. Throughout this period, the species represented a diminishing portion of the commercial abalone fishery, comprising 43 percent of the total catch in 1986, 18 percent in 1990 and finally 0.4 percent in 1993, the last year in which black abalone landings were recorded.

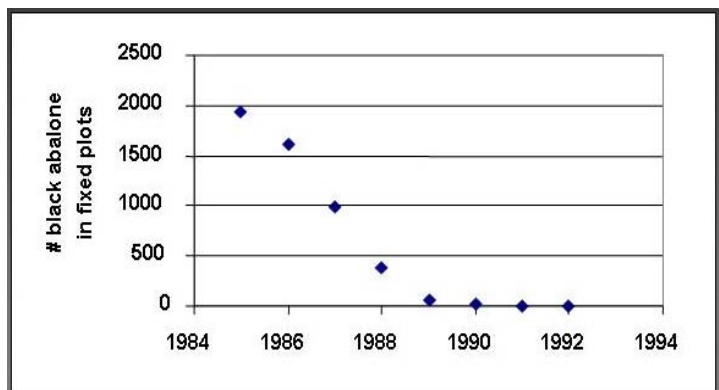
What Causes Withering Syndrome?

The pattern of spread throughout the Channel Islands and to the mainland coast suggests that WS is caused by an infectious agent. Microscopic examination

"WS" continued on page 5



Intertidal black abalone at the Channel Islands before the WS outbreak. Image courtesy J. Moore



Density of black abalone in 3 fixed plots at Santa Barbara and Anacapa Islands during the initial outbreak of WS. Densities remain near zero today. Data courtesy of the Channel Islands National Park

"WS" continued from page 4

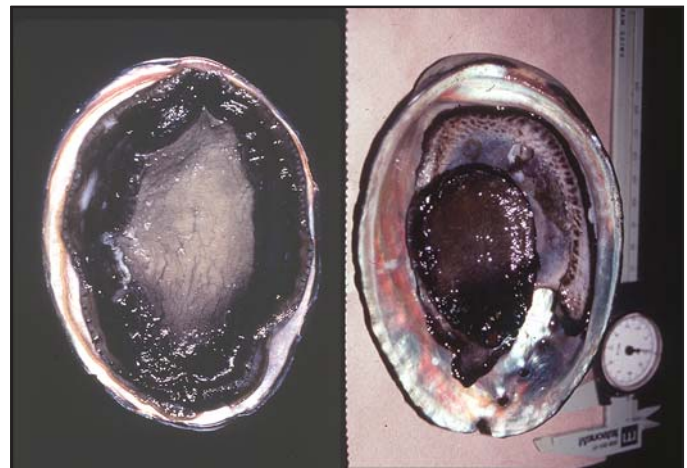
of withered abalone reveals that cells lining the gut are infected by a unique bacterium. DNA sequencing helped identify the bacterium as a new member of a large and diverse group that lives only *within* animal cells, and often causes disease. This group includes the bacteria that causes Rocky Mountain Spotted Fever, Q Fever, typhus, and a wide variety of other diseases in mammals, fish and marine invertebrates.

The infection appears to begin when abalone ingest the bacteria along with their food (kelp). The bacteria enter cells lining the gut and divide repeatedly, forming large masses. The infected abalone gut cells then burst into the digestive tract, allowing individual bacteria to infect nearby cells, or pass out of the animal to be ingested by other abalone. Abalone with severe infections stop eating, and their bodies shrink. Laboratory studies have shown that the five most-valued California abalone species - black, red, green, pink and white - are all susceptible to the bacteria that causes WS.

However, not every infected abalone will die from the disease, as each species reacts differently to infection. For most species, living in cooler water keeps the abalone from getting sick. Field and laboratory studies have shown that warm water temperatures, such as those accompanying El Niño events, can exacerbate WS in red and black abalone.

Withering Syndrome and the Abalone Recovery and Management Plan

The Department's Abalone Recovery and Management Plan (ARMP), which is scheduled for adoption by the Fish and Game Commission in early 2005, details a recovery plan for abalone populations off southern California. The small number of abalone remaining at locations where they were once abundant suggests that recovery will be a long-term effort that may require relocating solitary abalone into groups and the out-planting of cultured stocks. The ARMP acknowledges that WS presents a particular



A healthy black abalone (left) and one in an advanced stage of withering syndrome (right).
Image courtesy J. Moore

challenge for black abalone, and could have a significant impact on the recovery of other species.

Assessment of ARMP recovery efforts will include surveys of abalone population density and size distribution. During surveys, individual abalone will be assessed for body shrinkage, the hallmark sign of WS. Over time, this information will aid management efforts by establishing geographic, temporal and thermal trends in WS for each species. While we cannot directly control El Niño events and long-term climatic shifts, we can tailor recovery methods to incorporate the possibility of their occurrence.

Although black abalone are exceedingly rare throughout most of southern California, a few healthy-appearing survivors do remain. These animals may be genetically resistant to the WS bacterium. The ARMP calls for investigation of these animals, which may be used for broodstock to produce WS-resistant abalone for out-planting in the wild. If successful, the same technique could be used for other abalone species.

For more information about the Abalone Recovery and Management Plan, contact Mr. Ian Taniguchi, ARMP Coordinator, at (562) 342-7182 or visit the ARMP Web site at www.dfg.ca.gov/mrd/armp/index.html.

Have a question? Need help identifying a fish?

Send your e-mail questions to:

AskMarine@dfg.ca.gov



threadfin bass, *Pronotogrammus multifasciatus*

photo by E. Roberts

Don't Forget!!

Beginning in January, you can call our Automated Telephone Information System for the most up-to-date fishing regulations! (831) 649-2801



UPDATES

Marine Management News

Fish and Game Commission Sets 2004-2005 Herring Season

In August, the California Fish and Game Commission adopted regulations establishing season dates and quotas for the 2004-2005 Pacific herring fisheries coastwide.



The 2003-2004 estimated spawning biomass in Tomales Bay, 12,124 tons, is the largest spawning biomass estimate since the fishery reopened in 1992, and nearly triple the size of the 2002-2003 estimate.



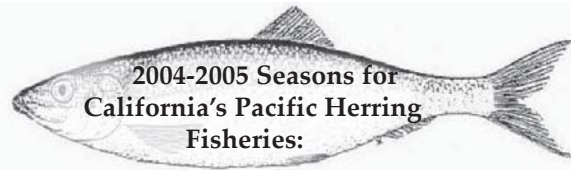
The 400-ton initial quota for Tomales Bay for the 2004-2005 herring season amounts to 3.3 percent of the estimated spawning biomass, well below the DFG's conservative 10-percent quota ceiling. The increase in the initial quota, up from 300 tons last season, reflects improvements in Tomales Bay herring, which have seen four consecutive years of above-average spawning biomass. A provision to increase the quota in-season is included in this season's regulation package if spawning escapement levels are met by February 15, 2005. Once spawning levels are met, the Department may raise the quota to 500 tons. Last season only 300 tons of a 400-ton quota were taken from Tomales Bay.



The Commission also established a 3,440-ton quota for the much larger San Francisco Bay herring fishery for the 2004-2005 season. Although this quota is an increase of 1,200 tons over the 2003-2004 season, it represents a conservative 10 percent of the estimated spawning biomass for the bay. The minimum mesh size for San Francisco Bay herring gill nets will remain 2 1/8 inches for 2004-05 season.



The 2004-2005 quotas and seasons for the Humboldt Bay and Crescent City area fisheries remain the same. 🐟



San Francisco Bay Fishery:

Opens 5 pm Sunday, Dec 5, 2004
Closes noon Thursday, Dec 23, 2004

Opens 5 pm Sunday, Jan 2, 2005
Closes noon Friday, March 11, 2005

Tomales Bay Fishery:

Opens 5 pm Sunday, Dec 26, 2004
Closes noon, Friday, Dec 31, 2004

Opens 5 pm Sunday, Jan 2, 2005
Closes noon Friday, Feb 25, 2005

Humboldt Bay Fishery:

Opens noon, Sunday Jan 2, 2005
Closes noon Wednesday, Mar 9 2005

Crescent City Area Fishery:

Opens noon, Friday Jan. 14, 2005
Closes noon, Sunday Mar. 13, 2005

Log onto the Marine Region's Web site to find all the latest information on commercial and recreational fisheries.



The Web site provides an easy way to catch up on new regulations, groundbreaking research, and public meetings. Log on today and see what hooks your attention at www.dfg.ca.gov/mrd/!

Herring Fishery Net Certification Program

The Department of Fish and Game, in collaboration with the Director's Herring Advisory Committee, will provide net certification services during the 2004-2005 season. For more information, visit the Marine Region's herring fishery page at www.dfg.ca.gov/mrd/herring/netcertification.html or call the San Francisco Bay Herring Hotline (in-season only) at 650-631-6784. 🐟

Get Hooked on the Marine Region Web Site!

by Aaron DelMonte, Marine Region Webmaster

For the latest information on fishing regulations, marine resources, and news affecting our California coastline, your first stop should be the Department of Fish and Game's Marine Region Web site, located at www.dfg.ca.gov/mrd. This comprehensive information source currently contains over 1,750 Web pages readily available to the public. If you are new to the Marine Region Web site, we invite you to see what a truly valuable resource we have created. For those of you who have already visited our Web site, be sure to check back regularly, since new features, updates, and press releases are added every week. Here are some recent noteworthy additions to our Web site:

- **Marine Life Protection Act (MLPA) Initiative** www.dfg.ca.gov/mrd/mlpa This new partnership between government agencies and private entities was created to achieve the original MLPA goals. The 1999 MLPA directed the state to design and manage a network of marine protected areas in order to,

among other things, protect marine life and habitats, marine ecosystems, and marine natural heritage, as well as improve recreational, educational and study opportunities. These Web pages contains up-to-date information about this exciting endeavor.

- **Marine Region Press Room** www.dfg.ca.gov/mrd/media This new portion of our Web site contains up-to-date information specifically for members of the media interested in information about the Marine Region or California's marine resources. Current features include news releases, a press kit, media FAQs and story ideas.

- **Life History Database: Biological Characteristics of Nearshore Fishes in California** www.dfg.ca.gov/mrd/lifehistory.html This page contains a link to a downloadable Microsoft Access database that contains life history information for nearshore fishes of California. This resource plays

"Web Site Update" continued on page 20

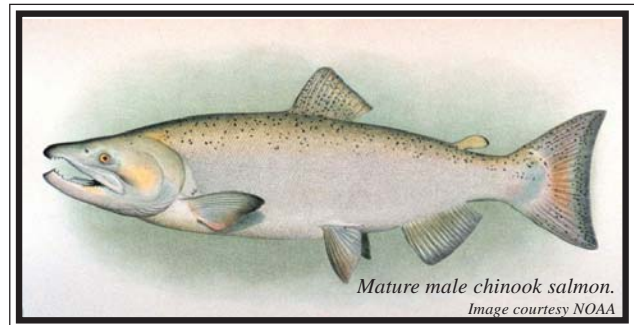
Predicting Next Year's Salmon Runs: *The data behind the regulations*

by Mary Patyten, Research Writer

Beginning in spring, ocean and in-river chinook salmon are monitored to estimate harvest levels. Monitoring activities include counting fish as they return to spawn, collecting scale samples, and retrieving tiny, embedded tags from the catch (see [Coded-Wire Tags Help to Document Increases in Salmon Escapements](#) in the August, 2003 issue of *Marine Management News*).

When monitoring ends, various federal agencies review the data and compile reports that will be used to determine next season's fishing regulations. These reports, all available online, include:

- The Pacific Fishery Management Council (PFMC) Salmon Technical Team's (STT's) report, "The Review of Ocean Fisheries," which presents findings from monitoring activities in California, Oregon, and Washington. The report for 2005 will be

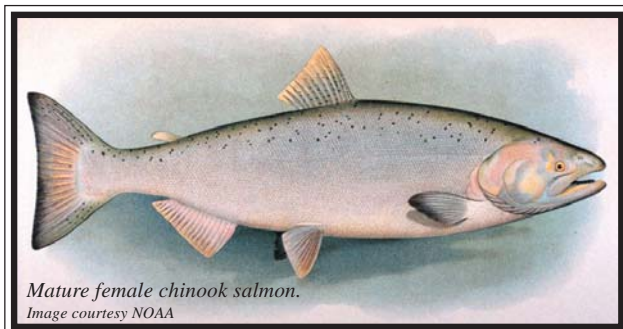


available online at www.pcouncil.org/salmon/salsafe.html.

- Under the U.S. Fish and Wildlife Service, the Klamath River Technical Advisory Team report, "Ocean Abundance Projection and Prospective Harvest Levels for Klamath River Fall Chinook, 2005 Season" will also be made available at pacific.fws.gov/yreka/kfmcr.htm. This report explores the implications of various management scenarios using recently gathered data.

- The STT's "Pre-season Report I Stock Abundance Analysis for 2005 Ocean Salmon Fisheries" contains ocean abundance estimates for all PFMC-managed salmon stocks. The report will be made available online at www.pcouncil.org/salmon/salpre.html.

"Salmon Runs" continued on page 21



"Volunteers" continued from page 1

Assistant Patrol Chief Mervyn Hee and Patrol Chief Greg Laret. Hee and Laret passed the idea on to the program's developer, DFG Lieutenant Kent Smirl, who shepherds it today.

The program, which began in 2002, is indeed having an "impact" according to Lt. Smirl. To date, volunteers have worked over 30,000 hours to help DFG provide needed services to southern Californians. "That's like having about 15 additional full-time employees in the Department," said Lt. Smirl. "These volunteers bring maturity, wisdom and life experience to their roles as Department representatives. They want to give back to the community by helping others, and their services have been invaluable."

The volunteers' central mission is to educate. "For example, when fishing regulations change, our volunteers hand out flyers at the boat docks and launch ramps, educating people about what's going on," said Lt. Smirl.

Senior volunteers are the eyes and ears of DFG enforcement personnel, biologists, and fishery managers. Trained to observe and report, their efforts have increased the field time available for warden patrols and investigations. They help DFG biologists and fishery managers with a broad variety of tasks, such as collecting biological samples or tagging rockfish. Volunteers also engage in non-marine DFG activities, such as monitoring public lands and extracting bear teeth for ageing studies.

Each IMPACT volunteer goes through a rigorous screening and interview process. Basic training includes a two-week Senior Volunteer Academy, and training in defensive driving, observation, hunter



DFG IMPACT volunteer Lee Mueller discusses fishing regulations at the Newport Pier in Orange County. photo by Ray Rinella

safety, first aid, and CPR. Volunteers are also eligible to take other training courses offered by DFG. The program currently has 66 active volunteers who each work an average of 24 hours per month.

Although the IMPACT Senior Volunteer Program has been funded mostly by DFG enforcement since its inception in 2002, the future of the program is uncertain. With operating expenses averaging only \$15,000 annually, Lt. Smirl hopes that the program will survive budgetary consideration. The lieutenant, who was recently re-assigned to nearly full-time patrol duties, would like to see the program expand statewide.

The benefits of training these volunteers are evident in southern California communities. Volunteers present educational programs at elementary and middle schools, set up booths at trade shows to disseminate information, and attend the front desks at DFG offices. In Laguna, the city has provided free office space, complete with phones and a fax machine in exchange for the volunteers' educational services. Other southern California cities have provided similar facilities for DFG's IMPACT volunteers.

Due to organizational changes within DFG, the program is not currently recruiting new volunteers, but hopes to do so again when the future of the program is more secure. For more information about the IMPACT Senior Volunteer Program, contact DFG Lieutenant Kent Smirl at (714) 448-4215, or visit the program Web site at www.dfg.ca.gov/enforcement/volunteers/.



Volunteer trainees attend the first Senior Volunteer Academy in 2002 at the San Diego DFG office. DFG file photo

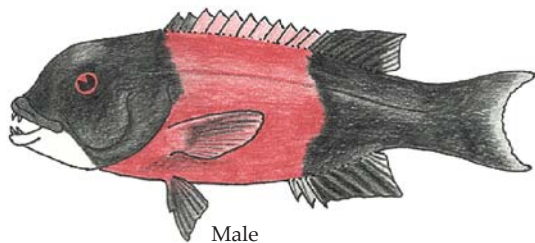
four different data sources that measured changes in relative abundance, and information on the biology of the species. The team used a standard stock assessment computer model to process the most relevant data, adapting it to account for the sex-change characteristic of California sheephead.

The team found that the reproductive success, as measured by the number of young fish coming into the population, has been highly variable, with no apparent connection to the abundance of spawning adults in the population. For example, even though the number of spawning adults in the population was estimated to be about the same from the 1970s through the 1990s, twice as many young fish entered the population during the first half of that time period compared to the latter half.

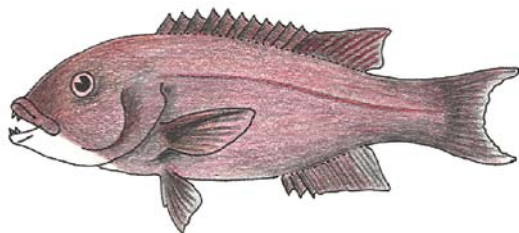
The abundance estimates – that is, the number of fish in a given area – echoed the estimated drop in reproductive success from the 1970s to the 1990s. The estimated abundance of California sheephead dropped from 1985 onward, while at the same time commercial and recreational effort increased through the 1990s. Abundance estimates for the California sheephead population were lowest during the 1950s, possibly due to colder water temperatures. The current California sheephead population is estimated to be slightly larger than the population in the 1950s, but much smaller than in the early 1980s.

Now that the stock assessment has been completed, DFG, with considerable input from the

California sheephead *Semicossyphus pulcher*



Male



Female



Juvenile

fish sketches by Miller and Lea, 1976; Sinclair, 2000

public, will begin to develop a management strategy. Because California has sole jurisdiction for this species' management, the state will develop a management strategy consistent with the NFMP. Primary management objectives will be to:

- Produce sustainable harvests
- Provide more information on sheephead
- Take an adaptive approach that uses results as tools for learning, and
- Minimize the impacts that changes to harvest levels will have on resource users

A public workshop is being planned to discuss management and regulatory options for California sheephead in late January or early February, 2005 (check the

Marine Region Web site calendar at www.dfg.ca.gov/mrd/index_calendar.html for location, date and time). Fishery regulation changes will not be proposed before April, 2005. The strategy that is developed, including any proposed regulation changes, will be presented to the Fish and Game Commission as a range of options for adoption and implementation in 2006.

The California sheephead stock assessment is available for viewing online at www.dfg.ca.gov/mrd/sheephead2004/index.html. For more information about the stock assessment, please contact Ms. Deb Wilson-Vandenberg, Nearshore Fishery Management Plan Implementation Coordinator, at 831-649-2892 or e-mail DWilsonV@dfg.ca.gov.



**Get hooked on the
Department of Fish and Game's
Marine Region Web site**

Log onto the Marine Region's Web site to find all the latest information on commercial and recreational fisheries. The Web site provides an easy way to catch up on new regulations, groundbreaking research, and public meetings. Log on today and see what hooks your attention at www.dfg.ca.gov/mrd/!

The Morro Bay South-Central Management Area - Lopez Point (36°00' N. latitude) to Point Conception (34°27' N. latitude)

The Southern Management Area - Point Conception (34°27' N. latitude) to the U.S.-Mexico border

Each area's groundfish regulations for Jan.1, 2005 through May 31, 2005 are summarized in the tables that follow this article. The groundfish summary tables will also be posted online at www.dfg.ca.gov/mrd/bfregs2005.html after Jan. 1.

To help California's saltwater anglers keep up with the latest sportfishing regulations, DFG is expanding its automated telephone information system effective January, 2005. Beginning in January, the expanded system will provide regulation information by area, including fishing seasons, fishing depth limits, bag limits, and gear restrictions. The expanded information service will make it easier for fishermen to find out about regulations pertaining to various sections of the coast, and about in-season closures. The current system offers information on a broad variety of activities including hunting, freshwater fishing, and ocean fishing (both sport and commercial), and may be accessed by dialing (831) 649-2801. For more information about ocean sport fishing regulations, visit the Marine Region Web site at www.dfg.ca.gov/mrd.

Interested in receiving the latest news and information from the Department of Fish and Game's Marine Region? Subscribe to the Marine Region News Service online at www.dfg.ca.gov/mrd/subscribe.html. Once you're signed up, you'll receive regulations updates, press releases, our quarterly newsletter *Marine Management News*, and more. It's the best way to stay current with today's marine fishery management issues. 🐟

**Summary of Recreational Groundfish Regulations for 2005
Northern Management Area**
Ocean waters between 42°00' N. latitude (CA-OR Border) and 40°10' N. latitude (near Cape Mendocino)

Species	Time Period^{2,3} <u>Boat-based Anglers³</u> Closed: Jan-June, Nov, Dec Open: July-Oct <u>Divers, Shore-based Anglers³</u> Open year-round	Depth Limit^{2,3,4} May only be taken in waters less than 240 ft (40 fm) deep	Daily Bag Limit² 10 fish in combination per person; see sub-limits for cabezon, greenlings and bocaccio	Min. Size Limit^{1,2,4} See individual species and groups below
RCG Complex (including all species of Rockfish, Cabezon and Greenlings as defined in Section 1.91)	CLOSED all year; NO RETENTION		NO RETENTION (zero)	
Canary, Cowcod and Yelloweye Rockfishes	Same as RCG Complex, above	Same as RCG Complex, above	2 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	10" total length
Bocaccio	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	15" total length
Cabezon	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	12" total length
Kelp or Rock Greenling	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	

Lingcod	<u>Boat-based Anglers³</u> : Closed: Jan-June, Nov, Dec Open: July-Oct <u>Divers, Shore-based Anglers³</u> : Closed: Jan-Mar, Dec Open: Apr-Nov	Same as RCG Complex, above	2 fish per person	24" total length
Other Federal Groundfish ⁵ (see list online at www.dfg.ca.gov/mrd/groundfish_fedlist.html)	Same as RCG Complex, above	Same as RCG Complex, above	See regulations for individual species	See regulations for individual species
Leopard Shark ⁶	<u>Boat-based Anglers³ within Humboldt Bay:</u> Open all year <u>Outside of Humboldt Bay:</u> Same as RCG Complex, above <u>Divers, Shore-Based Anglers³:</u> Open all year	<u>Boat-based Anglers³ within Humboldt Bay:</u> No depth restrictions <u>Outside of Humboldt Bay:</u> Same as RCG Complex, above <u>Divers, Shore-Based Anglers³:</u> No depth restrictions	3 fish per person	36" total length

1. See regulations for information on gear restrictions and fillet lengths.

2. Subject to in-season change. Call the Ocean Fishing Regulations Hotline at (831) 649-2801 (available after Jan 1, 2005), visit the Marine Region Web site at www.dfg.ca.gov/mrd, send an email to AskMarine@dfg.ca.gov, or call your nearest DFG office for the latest information.

3. Divers and shore-based anglers are exempt from restrictions affecting the RCG complex, ocean whitefish, California scorpionfish, California sheephead, and other federally managed groundfish (except for lingcod). The following definitions describe boat-based and shore-based anglers, and divers:

- Boat-based anglers are fishermen that fish from boats or vessels of any size or any other type of floating object, including kayaks and float tubes.
- Shore-based anglers are fishermen that fish from beaches, banks, piers, jetties, breakwaters, docks and other manmade structures connected to the shore.
- Divers are spear fishermen entering the water either from the shore or from a boat or other floating object.

4. Total length is the longest straight-line measurement from the tip of the head with the mouth closed to the end of the longest lobe of the tail. Go to the Marine Region Web site at www.dfg.ca.gov/mrd/measurement.pdf for a measurement illustration.

5. The sport fisheries for sanddab, butter sole, curfin sole, flathead sole, rex sole, rock sole, sand sole, and stary flounder, using gear specified for sanddabs in federal and state regulations, are exempt from fishery restrictions that affect other federally managed groundfish.

6. The sport fishery for leopard shark inside Humboldt Bay is exempt from restrictions that affect other federally managed groundfish.

**Summary of Recreational Groundfish Regulations for 2005
North-Central Management Area**

Ocean waters between 40°10' N. latitude (near Cape Mendocino) and 37°11' N. latitude (near Pigeon Point)

Species	Time Period^{2,3}	Depth Limit^{2,3,4}	Daily Bag Limit²	Min. Size Limit^{1,2,5}
RCG Complex (including all species of Rockfish, Cabezon and Greenlings as defined in Section 1.91)	Boat-based Anglers³: Closed: Jan-June, Dec Open: July-Nov Divers, Shore-based Anglers³: Open year-round	May only be taken in waters less than 120 ft (20 fm) deep ⁴	10 fish in combination per person; see sub-limits for cabezon, greenlings and bocaccio	See individual species and groups below
Canary, Cowcod and Yelloweye Rockfishes	CLOSED all year; NO RETENTION		NO RETENTION (zero)	
Bocaccio	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	10" total length
Cabezon	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	15" total length
Kelp or Rock Greenling	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	12" total length
Ocean Whitefish	Same as RCG Complex, above	Same as RCG Complex, above	10 fish per person	none
California Sheephead	Same as RCG Complex, above	Same as RCG Complex, above	5 fish per person	12" total length
California Scorpionfish	Same as RCG Complex, above	Same as RCG Complex, above	5 fish per person	10" total length
Lingcod	Boat-based Anglers³: Closed: Jan-June, Dec Open: July-Nov Divers, Shore-based Anglers³: Closed: Jan-Mar, Dec Open: Apr-Nov	Same as RCG Complex, above	2 fish per person	24" total length

Other Federal Groundfish ⁶ (see list online at www.dfg.ca.gov/mrd/groundfish_fedlist.html)	Same as RCG Complex, above	Same as RCG Complex, above	See regulations for individual species	See regulations for individual species
Leopard Shark ⁷	<p><u>Boat-based Anglers³ within San Francisco Bay, Bodega Harbor, Tomales Bay, Bolinas Bay, and Drakes Estero</u>: Open all year</p> <p><u>Outside of the previously mentioned bays</u>: Same as RCG Complex, above</p> <p><u>Divers, Shore-Based Anglers³</u>: Open all year</p>	<p><u>Boat-based Anglers³ within San Francisco Bay, Bodega Harbor, Tomales Bay, Bolinas Bay, and Drakes Estero</u>: No depth restrictions</p> <p><u>Outside of the previously mentioned bays</u>: Same as RCG Complex, above</p> <p><u>Divers, Shore-Based Anglers³</u>: No depth restrictions</p>	3 fish per person	36" total length

1. See regulations for information on gear restrictions and fillet lengths.

2. Subject to in-season change. Call the Ocean Fishing Regulations Hotline at (831) 649-2801 (available after Jan 1, 2005), visit the Marine Region Web site at www.dfg.ca.gov/mrd, send an email to AskMarine@dfg.ca.gov, or call your nearest DFG office for the latest information.

3. Divers and shore-based anglers are exempt from restrictions affecting the RCG complex, ocean whitefish, California scorpionfish, California sheephead, and other federally managed groundfish (except for lingcod). The following definitions describe boat-based and shore-based anglers, and divers:

- Boat-based anglers are fishermen that fish from boats or vessels of any size or any other type of floating object, including kayaks and float tubes.
- Shore-based anglers are fishermen that fish from beaches, banks, piers, jetties, breakwaters, docks and other manmade structures connected to the shore.
- Divers are spear fishermen entering the water either from the shore or from a boat or other floating object.

4. Waters less than 10 fathoms (60 ft.) in depth around the Farallon Islands and Noonday Rock are closed to fishing at all times. Waters of Cordell Bank less than 100 fathoms (600 ft.) are closed to fishing at all times.

5. Total length is the longest straight-line measurement from the tip of the head with the mouth closed to the end of the longest lobe of the tail. Go to the Marine Region Web site at www.dfg.ca.gov/mrd/measurement.pdf for a measurement illustration.

6. The sport fisheries for sanddab, butter sole, curfin sole, flathead sole, rex sole, rock sole, sand sole, and starry flounder, using gear specified for sanddabs in federal and state regulations, are exempt from fishery restrictions that affect other federally managed groundfish.

7. The sport fishery for leopard shark inside San Francisco Bay, Bodega Harbor, Tomales Bay, Bolinas Bay, and Drakes Estero is exempt from restrictions that affect other federally managed groundfish.

**Summary of Recreational Groundfish Regulations for 2005
Monterey South-Central Management Area**

Ocean waters between 37°11' N. latitude (Pigeon Point) and 36°00' N. latitude (near Lopez Point)

Species	Time Period^{2,3}	Depth Limit^{2,3}	Daily Bag Limit²	Min. Size Limit^{1,2,4}
RCG Complex (including all species of Rockfish, Cabezon and Greenlings as defined in Section 1.91)	Boat-based Anglers³: Closed: Jan-June, Dec Open: July-Nov Divers, Shore-based Anglers³: Open year-round	May only be taken in waters less than 120 ft (20 fm) deep	10 fish in combination per person; see sub-limits for cabezon, greenlings and bocaccio	See individual species and groups below
Canary, Cowcod and Yelloweye Rockfishes	CLOSED all year; NO RETENTION		NO RETENTION (zero)	
Bocaccio	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	10" total length
Cabezon	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	15" total length
Kelp or Rock Greenling	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	12" total length
Ocean Whitefish	Same as RCG Complex, above	Same as RCG Complex, above	10 fish per person	none
California Sheephead	Same as RCG Complex, above	Same as RCG Complex, above	5 fish per person	12" total length
California Scorpionfish	Same as RCG Complex, above	Same as RCG Complex, above	5 fish per person	10" total length
Lingcod	Boat-based Anglers³: Closed: Jan-June, Dec Open: July-Nov Divers, Shore-based Anglers³: Closed: Jan-Mar, Dec Open: Apr-Nov	Same as RCG Complex, above	2 fish per person	24" total length

Other Federal Groundfish ⁵ (see list online at www.dfg.ca.gov/mrd/groundfish_fedlist.html)	Same as RCG Complex, above	Same as RCG Complex, above	See regulations for individual species	See regulations for individual species
Leopard Shark ⁶	<u>Boat-based Anglers³ within Elkhorn Slough</u> : Open all year <u>Outside of the Elkhorn Slough</u> : Same as RCG Complex, above <u>Divers, Shore-Based Anglers³</u> : Open all year	<u>Boat-based Anglers³ within Elkhorn Slough</u> : No depth restrictions <u>Outside of Elkhorn Slough</u> : Same as RCG Complex, above <u>Divers, Shore-Based Anglers³</u> : No depth restrictions	3 fish per person	36" total length

1. See regulations for information on gear restrictions and fillet lengths.
2. Subject to in-season change. Call the Ocean Fishing Regulations Hotline at (831) 649-2801 (available after Jan 1, 2005), visit the Marine Region Web site at www.dfg.ca.gov/mrd, send an email to AskMarine@dfg.ca.gov, or call your nearest DFG office for the latest information.
3. Divers and shore-based anglers are exempt from restrictions affecting the RCG complex, ocean whitefish, California scorpionfish, California sheephead, and other federally managed groundfish (except for lingcod). The following definitions describe boat-based and shore-based anglers, and divers:
 - Boat-based anglers are fishermen that fish from boats or vessels of any size or any other type of floating object, including kayaks and float tubes.
 - Shore-based anglers are fishermen that fish from beaches, banks, piers, jetties, breakwaters, docks and other manmade structures connected to the shore.
 - Divers are spear fishermen entering the water either from the shore or from a boat or other floating object.
4. Total length is the longest straight-line measurement from the tip of the head with the mouth closed to the end of the longest lobe of the tail. Go to the Marine Region Web site at www.dfg.ca.gov/mrd/measurement.pdf for a measurement illustration.
5. The sport fisheries for sanddab, butter sole, curfin sole, flathead sole, rex sole, rock sole, sand sole, and starry flounder, using gear specified for sanddabs in federal and state regulations, are exempt from fishery restrictions that affect other federally managed groundfish.
6. The sport fishery for leopard shark inside Elkhorn Slough is exempt from restrictions that affect other federally managed groundfish.

**Summary of Recreational Groundfish Regulations for 2005
Morro Bay South-Central Management Area**

Ocean waters between 36°00' N. latitude (near Lopez Point in Monterey County) and 34°27' N. latitude (Point Conception)

Species	Time Period^{2,3}	Depth Limit²	Daily Bag Limit²	Min. Size Limit^{1,2,4}
RCG Complex (including all species of Rockfish, Cabezon and Greenlings as defined in Section 1.91)	Boat-based Anglers³: Closed: Jan-April, Oct-Dec. Open: May-Sept. Divers, Shore-based Anglers³: Open year-round	May only be taken in waters between 120 ft (20 fm) and 240 ft (40 fm) deep	10 fish in combination per person; see sub-limits for cabezon, greenlings and bocaccio	See individual species and groups below
Canary, Cowcod and Yelloweye Rockfishes	CLOSED all year; NO RETENTION		NO RETENTION (zero)	
Bocaccio	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	10" total length
Cabezon	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	15" total length
Kelp or Rock Greenling	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	12" total length
Ocean Whitefish	Same as RCG Complex, above	Same as RCG Complex, above	10 fish per person	none
California Sheephead	Same as RCG Complex, above	Same as RCG Complex, above	5 fish per person	12" total length
California Scorpionfish	Same as RCG Complex, above	Same as RCG Complex, above	5 fish per person	10" total length
Lingcod	Boat-based Anglers³: Open: May-Sept Closed: Jan-Apr, Oct-Dec Divers, Shore-based Anglers³: Open: Apr-Nov Closed: Jan-Mar, Dec	Same as RCG Complex, above	2 fish per person	24" total length

Other Federal Groundfish ⁵ (see list online at www.dfg.ca.gov/mrd/groundfish_fedlist.html)	Same as RCG Complex, above	Same as RCG Complex, above	See regulations for individual species	See regulations for individual species
Leopard Shark	<u>Boat-based Anglers</u> ³ : Same as RCG Complex, above <u>Divers, Shore-Based Anglers</u> ³ : Open all year	Same as RCG Complex, above	3 fish per person	36" total length

1. See regulations for information on gear restrictions and fillet lengths.

2. Subject to in-season change. Call the Ocean Fishing Regulations Hotline at (831) 649-2801, visit the Marine Region Web site at www.dfg.ca.gov/mrd, send an email to AskMarine@dfg.ca.gov, or call your nearest DFG office for the latest information.

3. Divers and shore-based anglers are exempt from restrictions affecting the RCG complex, ocean whitefish, California scorpionfish, California sheephead, and other federally managed groundfish (except for lingcod). The following definitions describe boat-based and shore-based anglers, and divers:

- Boat-based anglers are fishermen that fish from boats or vessels of any size or any other type of floating object, including kayaks and float tubes.
- Shore-based anglers are fishermen that fish from beaches, banks, piers, jetties, breakwaters, docks and other manmade structures connected to the shore.
- Divers are spear fishermen entering the water either from the shore or from a boat or other floating object.

4. Total length is the longest straight-line measurement from the tip of the head with the mouth closed to the end of the longest lobe of the tail. Go to the Marine Region Web site at www.dfg.ca.gov/mrd/measurement.pdf for a measurement illustration.

5. The sport fisheries for sanddab, butter sole, curlfin sole, flathead sole, rex sole, rock sole, sand sole, and starry flounder, using gear specified for sanddabs in federal and state regulations, are exempt from fishery restrictions that affect other federally managed groundfish.



**Summary of Recreational Groundfish Regulations for 2005
Southern Management Area**

Ocean waters between 34°27' N. latitude (Point Conception) and the U.S.-Mexico Border

Species	Time Period ^{3,4}	Depth Limit ^{2,3}	Daily Bag Limit ³	Min. Size Limit ^{1,3,5}
RCG Complex (including all species of Rockfish, Cabezon and Greenlings as defined in Section 1.91)	Boat-based Anglers ⁴ : Closed: Jan, Feb, Oct-Dec. Open: Mar-Sept. Divers, Shore-based Anglers ⁴ : Open year-round	Mar-June: May only be taken in waters between 180 ft (30 fm) and 360 ft (60 fm) deep ² July-Sept: May only be taken in less than 240 ft (40 fm) ²	10 fish in combination per person; see sub-limits for cabezon, greenlings and bocaccio	See individual species and groups below
Canary, Cowcod and Yelloweye Rockfishes	CLOSED all year; NO RETENTION		NO RETENTION (zero)	
Bocaccio	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	10" total length
Cabezon	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	15" total length
Kelp or Rock Greenling	Same as RCG Complex, above	Same as RCG Complex, above	1 fish per person; also included in the 10-fish aggregate RCG Complex bag limit	12" total length
Ocean Whitefish	Same as RCG Complex, above	Same as RCG Complex, above	10 fish per person	none
California Sheephead	Same as RCG Complex, above	Same as RCG Complex, above	5 fish per person	12" total length
Lingcod	Boat-based Anglers ⁴ : Closed: Jan-Mar, Oct-Dec Open: Apr-Sept Divers, Shore-based Anglers ⁴ : Closed: Jan-Mar, Dec Open: Apr-Nov	Apr-June: May only be taken in waters between 180 ft (30 fm) and 360 ft (60 fm) deep ² July-Nov: May only be taken in less than 240 ft (40 fm) ²	2 fish per person	24" total length
California Scorpionfish	For All Modes of Fishing: Closed: Jan-Sept Open: Oct-Dec	Oct-Nov: May only be taken in less than 240 ft (40 fm) ² Dec: May only be taken in less than 120 ft (20 fm) ²	5 fish per person	10" total length

Other Federal Groundfish ⁶ (see list online at www.dfg.ca.gov/mrd/groundfish_fedlist.html)	Same as RCG Complex, above	Same as RCG Complex, above	See regulations for individual species	See regulations for individual species
Leopard Shark	<p><u>Boat-based Anglers⁴ within Newport Bay, Alamitos Bay, San Diego Bay, and Mission Bay:</u> Open all year</p> <p><u>Outside of the above-mentioned bays:</u> Same as RCG Complex, above</p> <p><u>Divers, Shore-Based Anglers⁴:</u> Open all year</p>	<p><u>Boat-based Anglers⁴ within Newport Bay, Alamitos Bay, San Diego Bay, and Mission Bay:</u> No depth restrictions</p> <p><u>Outside of the above-mentioned bays:</u> Same as RCG Complex, above</p> <p><u>Divers, Shore-Based Anglers⁴:</u> Open all year</p>	3 fish per person	36" total length

1. See regulations for information on gear restrictions and fillet lengths.

2. In the Cowcod Conservation Areas fishing is prohibited in waters greater than 120 feet (20 fathoms). Fishing is also subject to the Time Period closures for the Southern Management Area.

3. Subject to in-season change. Call the Ocean Fishing Regulations Hotline at (831) 649-2801 (available after Jan 1, 2005), visit the Marine Region Web site at www.dfg.ca.gov/mrd, send an email to AskMarine@dfg.ca.gov, or call your nearest DFG office for the latest information.

4. Divers and shore-based anglers are exempt from restrictions affecting the RCG complex, ocean whitefish, California sheephead, and other federally managed groundfish (except for lingcod and California scorpionfish). The following definitions describe boat-based and shore-based anglers, and divers:

- Boat-based anglers are fishermen that fish from boats or vessels of any size or any other type of floating object, including kayaks and float tubes.
- Shore-based anglers are fishermen that fish from beaches, banks, piers, jetties, breakwaters, docks and other manmade structures connected to the shore.
- Divers are spear fishermen entering the water either from the shore or from a boat or other floating object.

5. Total length is the longest straight-line measurement from the tip of the head with the mouth closed to the end of the longest lobe of the tail. Go to the Marine Region Web site at www.dfg.ca.gov/mrd/measurement.pdf for a measurement illustration.

6. The sport fisheries for sanddab, butter sole, curlfin sole, flathead sole, rex sole, rock sole, sand sole, and starry flounder, using gear specified for sanddabs in federal and state regulations, are exempt from fishery restrictions that affect other federally managed groundfish.

7. The sport fishery for leopard shark inside Newport Bay, Alamitos Bay, San Diego Bay, and Mission Bay is exempt from restrictions that affect other federally managed groundfish.

an important part in the ongoing effort to enhance management techniques and improve management decisions. The database contains the life history information compiled in the report *Biological Characteristics of Nearshore Fishes of California: A Review of Existing Knowledge and Proposed Additional Studies* (Cailliet et al. 2000).

- **In-Season Ocean Fishing Regulation Changes for 2004** www.dfg.ca.gov/mrd/inseason2004.html

A number of ocean fishing regulation changes have occurred throughout the year. This page contains a comprehensive list of these regulation changes, as well as related press articles and Marine Region contact information.

- **White Shark Information** www.dfg.ca.gov/mrd/whiteshark.html

With news about recent white shark incidents in California hitting the newspapers and airwaves, DFG has been flooded with questions about white sharks. This page contains recent press releases, white shark facts and white shark encounter information.

Here are some of our most popular pages:

- **California Ocean Sport Fishing Regulations Map** www.dfg.ca.gov/mrd/fishing_map.html

Going ocean fishing? This should be your first stop. Simply click the marine location where you plan to fish and you will access a compact list of sport fishing regulations for that area. The pages are printer-friendly, so you can print the regulations and take them with you on your next fishing trip. These pages are updated frequently, so you can be assured that they contain the most up-to-date information.

- **Record Ocean Sportfish** www.dfg.ca.gov/mrd/faqtrph3.html

Would you like to learn about some of the largest California ocean fish that have ever been caught? Go no further! The page contains links to lists of record ocean sport fish, as well as some impressive photos. If you are a potential record holder, the page also contains information about how you may apply to become an official record holder.

- **Laws and Regulations Page** www.dfg.ca.gov/mrd/regulations.html

This page is your main source for information concerning commercial and sport fishing regulations. Over 30 links connect you to a variety of information concerning current regulations.

Meet Us At The Sports Shows!

If you attend one of the many sports shows in California this spring, be sure to stop by the Department of Fish and Game booth to buy your license, chat with a warden, or discuss marine research with a Department biologist! You will find a Department booth at the following shows:

- **San Francisco – Jan. 12-16**

Fred Hall Fishing Tackle and Boat Show
The Cow Palace
www.fredhall.com

- **Sacramento – Jan. 20-23**

International Sportsmen's Exposition
Cal Expo
www.sportsexpos.com

- **San Mateo – Feb. 3-6**

International Sportsmen's Exposition
San Mateo County Expo Center
www.sportsexpos.com

- **Pleasanton – Feb. 25-27**

Tri-Valley Sportsmen's Exposition
Alameda County Fairgrounds
www.sportsexpos.com

- **Long Beach – Mar. 2-6**

Fred Hall Fishing Tackle and Boat Show
Long Beach Convention & Entertainment Center
www.fredhall.com

- **Del Mar – Mar 16-20**

Fred Hall Fishing Tackle and Boat Show
Del Mar Fairgrounds
www.fredhall.com

See you there! 🐟🦛



- **A-to-Z Directory** www.dfg.ca.gov/mrd/index_directory.html

We receive frequent comments letting us know how easy it is to find information on our Web site. Can't seem to find what you're looking for? Don't worry! Just visit our A-to-Z Directory, and there you will see an alphabetized list of resources available to you on our Web site.

Enjoy our Web site, and be sure to check back often for the latest news and updates! 🐟🦛

At the annual March and April PFMC meetings, these reports and other information will be used to evaluate proposed fishing seasons. Anyone interested in participating in the process is welcome to attend any of the meetings or send written comments to the PFMC prior to its March meeting. The PFMC will consider any suggestion at or before

the March meeting, but may be unable to make changes to the proposed season structure after March, 2005.

For more information on ocean salmon, visit the Marine Region's salmon resources Web page at www.dfg.ca.gov/mrd/oceansalmon.html, or the PFMC Web site at www.pcouncil.org.



Preliminary Salmon Troll and Sport Estimates through August 2004

Commercial Troll		2003				2004			
Port	Deliveries	Kings	Pounds	Avg Wt	Deliveries	Kings	Pounds	Avg Wt	
FB*	1,295	186,760	2,407,970	12.9	750	76,295	913,820	12.0	
SF	2,012	230,740	3,144,072	13.6	2,824	289,604	3,485,824	12.2	
MO	1,620	41,460	582,068	14.0	2,864	67,780	900,700	13.3	
Statewide	4,927	458,960	6,134,110	13.5	6,438	433,679	5,300,344	12.2	

Sport									
Port	Kings	Cohos	Anglers	CPUE	Kings	Cohos	Anglers	CPUE	
CR	288	16	1,854	0.16	1,316	83	3,020	0.44	
EU	7,691	121	12,394	0.62	18,144	536	20,901	0.87	
FB	15,509	100	22,485	0.69	21,342	315	28,408	0.75	
SF	51,600	216	57,068	0.90	119,796	488	92,540	1.29	
MO	12,693	148	27,742	0.46	40,241	8	55,535	0.72	
Statewide	87,781	601	121,543	0.72	200,839	1,430	200,404	1.00	

Note:

In 2003 FB was open in 31 days in May, 26 days in July and 31 days in August (88 days total)
 In 2004 FB was open 20 days in July and 31 days in August through the 15th (51 days total)

CR = Crescent City SF = San Francisco
 EU = Eureka MO = Monterey
 FB = Fort Bragg

Thank You For Your Help!

by Christina Schmunk, Marine Region Communications Intern

A big thank you goes out to those who participated in our Web site survey between July 16 and Aug 20. We had a total of 167 respondents, up from the 71 that participated in our 2003 survey. DFG's Marine Region strives to keep the lines of communication open between ourselves and you, our valued constituency. If you have suggestions or comments about our Web site, please feel free to e-mail the Marine Region Webmaster, Aaron Del Monte, at adelmonte@dfg.ca.gov, or just keep your eyes open for the next survey that pops up on our home page.

Also, congratulations go out to Eric Miller who won our free copy of *California's Living Marine Resources: A Status Report*. Miller is currently a scientist for MBC Applied Environmental Sciences, a marine biology consulting firm based in Costa Mesa, California. Congratulations, Eric!

Fishing Regulations 101: Why the Rules for Bottom Fishing Changed Mid-Season in 2004 – Part II

by Ed Roberts, Marine Biologist

In the September issue of Marine Management News, Part I of this article discussed some of the basic tenets of groundfish fishery management, how regulations are created, and how governing agencies deal with “over-fished” species. In Part II of the article, we continue the discussion with an explanation of why in-season changes are sometimes necessary in the ocean sport fishery for groundfish.

Over the past year, the recreational groundfish fishery has been restrained by *harvest limits*, or limits to the amount of fish that can be taken. How do management agencies monitor recreational groundfish catches, and obtain the data to support the harvest limits set for various groundfish species?

Fisheries biologists track commercial and recreational landings using various data sources. From 1980 to 2003, recreational groundfish catches off California were estimated using the Marine Recreational Fisheries Statistics Survey (MRFSS). MRFSS was a federal program that combined catch composition information collected from an angler field survey with fishing effort information obtained from a telephone survey, to generate an estimate of total sport catch. In January 2004, the California Department of Fish and Game, in cooperation with the Pacific States Marine Fisheries Commission, implemented a new method to monitor California’s sport catch. The California Recreational Fisheries Survey (CRFS) was developed in response to concerns expressed by both anglers and fishery managers regarding the quality of data available to estimate sport catch throughout the year. The CRFS combines elements of several separate programs and several new innovations into one program that will be used for management of all of the state’s recreational finfish fisheries. The CRFS should provide more accurate and timely estimates of saltwater sport angler catch and effort, thus improving marine recreational fishery management.

In-Season Changes

In addition to sport fishing seasons, depth-based closures, and bag limits that are adopted prior to the beginning of the year and may change from year to year, recreational anglers are also faced with in-season regulation changes that occur during the course of the year. There are two main reasons why in-season regulation changes become necessary:

- Fishery data collected towards the end of one calendar year are often not available to fishery managers until the next calendar year. Managers

then review the new data, and if necessary refine the estimates of total sport catch for the previous year. Then, they may make adjustments to the statistical models used to make catch projections for the current year.

- During the course of the year, in-season tracking of progress towards harvest limits may show that these limits will be reached or exceeded before the end of the previously established fishing season.

In each of these cases, when fishery managers have access to data that show that the current sport fishing regulations are not sufficient to keep the annual sport catch within harvest limits, they may take action to reduce the sport catch. This action may include in-season changes to shorten or close fishing seasons, changes or implementation of depth restrictions, reduction in bag limits, and/or increases in the minimum size limits. The alternative to in-season changes – knowingly and willfully exceeding annual harvest limits established for overfished species – is not an option under the Magnuson Act.

For the Future

State and federal fishery managers are working to improve the management of the marine recreational fisheries of California. NOAA Fisheries is making changes to the federal management process to stabilize the groundfish fishery. The PFMC is moving to a biennial management cycle for the 2005 and 2006 seasons, as opposed to the annual cycle that has been used prior to 2005. Recent stock assessments have also shown that several overfished species seem to be recovering faster than anticipated, which may translate into greater recreational fishing opportunities in the near future. With the advent of the CRFS, fishery managers will have access to better recreational fishery data, which should improve the accuracy and precision of in-season recreational catch estimates, and also lead to better pre-season catch models. These agencies are also working to improve public involvement in the fishery management process, and developing new ways to keep saltwater anglers informed. 🐟

For more information, visit these web sites:
Department of Fish and Game’s Marine Region:

www.dfg.ca.gov/mrd

NOAA Fisheries: www.nmfs.noaa.gov

Pacific Fishery Management Council:

www.pcouncil.org

Pacific States Marine Fisheries Commission:

www.psmfc.org

A Little Clarification...

In the September issue of *Marine Management News*, the article *NOAA Fisheries Proposes Changes to Federal Status of Salmon Species* describes pending changes to salmon hatchery policies, but may not have made clear that the recent Oregon federal court decision and the new hatchery policy include a limited number of hatchery populations (see table, page 23). According to Dennis McEwan, Supervisor of the Native Anadromous Fish Team with the Department of Fish and Game, the pending hatchery policy changes do not affect the non-listed status of hatchery populations previously excluded from evolutionarily significant units (ESUs), because they differ genetically from the native population, or were founded from an exotic broodstock. This means, for example, that hatchery fish such as Nimbus Hatchery steelhead (steelhead are considered a species of Pacific salmon) will remain un-listed and will not be protected under the Endangered Species Act. The table on page 23 lists California hatchery salmon that are included in the ESUs and under Endangered Species Act protection.

For more information on California's native anadromous fishes, visit the DFG Native Anadromous Fishes Web page at www.dfg.ca.gov/nafwb.

For automatic,
electronic notification of in-season
fishing regulation changes,
sign up for the
Marine Region mailing list at:
www.dfg.ca.gov/mrd/subscribe.html

California Hatchery Salmon Included In ESUs and Under Endangered Species Act Protection

ESU	Artificial Propagation Program
Sacramento River winter-run chinook	Livingston Stone Natl. Fish Hatchery Conservation Program Bodega Marine Lab Captive Broodstock Program
Central Valley spring-run chinook S. CA steelhead S. Central CA steelhead	None listed
California Coast fall-run chinook	Freshwater Ck./Humboldt Fish Action Council Yager Ck. Hatchery Redwood Ck. Hatchery Hollow Tree Ck. Hatchery Mattole Salmon Group Hatchery Van Arsdale Fish Station Mad River Hatchery
Central California Coast coho	Don Clausen Fish Hatchery Captive Broodstock Program Scott Creek/Monterey Bay Salmon and Trout Project; Kingfisher Flat Hatchery Scott Ck. Captive Broodstock Program Noyo River Fish Station Egg-take Program
S. OR/N. CA Central Coast coho ESU	Cole Rivers Hatchery (Oregon Dept. of Fish and Wildlife stock #52)
Central California Coast steelhead	Scott Creek/Monterey Bay Salmon and Trout Project; Kingfisher Flat Hatchery Don Clausen Fish Hatchery
Central California Valley steelhead	Coleman NFH Feather River Hatchery
Northern California steelhead	Yaeger Ck. Hatchery North Fork Gualala River Hatchery /Gualala River Steelhead Project

Calendar of Events

2005 Fish and Game Commission
www.fgc.ca.gov/2005/2005mtgs.html

February 3-4
San Diego

March 17-18
TBA

May 3-5
Sacramento

June 23-24
Bishop

2005 Pacific Fishery Management Council
www.pcouncil.org/events/future.html

March 6-11
Sacramento, CA

April 3-8
Tacoma, WA

June 12-17
Foster City, CA

September 18-23
Portland, OR

For the latest information on upcoming fishery-related meetings, please go to our Calendar of Events at www.dfg.ca.gov/mrd/index_calendar.html or contact the Monterey DFG office at (831) 649-2870.

MARINE Management News

M*arine Management News* is published quarterly by the Marine Region of the California Department of Fish and Game for everyone interested in the management and conservation of California's living marine resources. Through this newsletter we hope to keep all associates and constituents interested in participating in and/or tracking the progress of the Marine Life Management Act (MLMA) informed of developments. The MLMA strongly emphasizes an open decision-making process that involves people interested in or affected by management measures.

For more information on the MLMA or to sign up to become more involved, please visit our web site at www.dfg.ca.gov/mrd.

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The Marine Life Management Act

California's 1998 Marine Life Management 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 economically 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.

DFG Marine Region's mission:
*"To protect, maintain, enhance, and restore
California's marine ecosystems for their
ecological values and their use and
enjoyment by the public"*