



# 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  
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## Recreational Groundfish Fishing Regulation Changes for Fall and Winter

by Ed Roberts, Marine Biologist

The California Department of Fish and Game (DFG) reminds anglers of upcoming depth restriction changes and seasonal openings and closures for groundfish (including rockfish, lingcod, cabezon, California sheephead, ocean whitefish, California scorpionfish, and other federal groundfish and associated state-managed species) in central and southern California.

Beginning Sept. 1 and continuing through Oct. 31, 2005, the depth restriction for groundfish in the Southern Management Area (Point Conception to the Mexico border) will change from 360 feet (60 fathoms) to 180 feet (30 fathoms); groundfish species may not be taken or possessed in waters deeper than 180 feet (except aboard a vessel in transit with no fishing gear in the water).

The depth restriction for this area will return to 360 feet on Nov. 1 and continue through the end of the year. These depth restriction changes are necessary to reduce the incidental catch of cowcod (a species of rockfish that has been declared "overfished") and other species of concern.

On Oct. 1, the groundfish season will close for boat-based anglers in the Morro Bay South-Central Management Area (Lopez Point to Point Conception). The season remains open to divers and shore-based anglers

"Groundfish Regulation Changes" continued on page 8



Recreational lingcod season is open through November 30. Depth limits for lingcod differ in each management area. photo by E. Roberts

## Ocean Resources Enhancement and Hatchery Program Making Progress

White seabass is California's first hatchery-raised saltwater fish to enhance wild populations

by Traci Bishop, Associate Marine Biologist

For the past 22 years, a unique experiment has been under way to raise a saltwater fish—white seabass—in California hatcheries for population enhancement, and so far the experiment has been a success.

It all started in 1983 when the Ocean Resources Enhancement and Hatchery Program (OREHP) was created at the request of recreational fishermen. The program is a collaborative effort of DFG, scientists, and saltwater anglers, and is run with the help of a 10-person Advisory Panel representing recreational, commercial, and scientific interests. In 1983, the OREHP Advisory Panel chose white seabass as the most appropriate marine species for use in an experimental enhancement program.

White seabass are caught primarily south of Pt.

"White Seabass" continued on page 8

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These fish are regularly planted in the wild, supplementing the native populations enjoyed by thousands of fishermen.

Salmon and steelhead trout begin life in freshwater and migrate to the ocean, where many are caught by anglers. Until about a quarter of a century ago, however, no strictly saltwater species had been raised in hatcheries for the purpose of supplementing wild ocean stocks.

Trout and salmon are among the most well-known fish raised in hatcheries by the Department of Fish and Game (DFG) and its partners.



DFG file photo

As the sun sets on the distant horizon and night starts its march upon the seashore, a strange phenomenon begins to take shape. Streaks of blue-green light dance in the surf, every movement outlined by thousands of tiny organisms whose internal enzymes cause great cascades of glowing bioluminescence. The surf, fish, and even footprints in the sand light up like neon lights. What causes this strange occurrence? It's just one part of a larger phenomenon commonly known as a *red tide*.

Recently, large-scale red tides have occurred throughout much of Southern California, raising questions about the sources and effects of the phenomenon. This year, the red tide began in early June, and persisted into at least late August (as of press time). Red tides occur sporadically, usually during spring and summer months. This particular occurrence has been one of the most extensive (from northern Baja California to Santa Barbara) and persistent on record.

The term *red tide* is something of a misnomer: The condition is actually caused by algae (minute, free-floating aquatic plants) which may be red, brown or other colors. Red coloration may be caused by reddish pigments within the algae, and has nothing to do with tidal cycles.

Most species of algae do little harm. As the basic energy producers of the food web, they support higher life forms. Algae may also generate as much as 80 percent of the planet's oxygen.

Occasionally, dense patches of algae can accumulate on the surface of the water during rapid

## What's That Glow on the Beach?

Red tides raise questions, add nighttime shimmer to Southern California beaches

by William Paznokas, Environmental Scientist

growth periods, called *blooms*. These patches are generally not harmful, and eventually sink to the bottom where they decompose. When the sun sets and photosynthesis stops, however, algae produce carbon dioxide and may consume great amounts of oxygen. Fish caught in bays and other enclosed bodies of water may suffocate from a lack of dissolved oxygen caused by algal blooms.

Only a few dozen species are associated with harmful algal blooms. Some may produce poisons called *neurotoxins* that can be transferred through the food web. In sufficient quantities, neurotoxins may kill higher forms of life, including zooplankton, shellfish, fish, birds, and marine mammals that feed either directly or indirectly upon them.

People may be exposed to neurotoxins through the consumption of contaminated shellfish. At certain times and in certain areas, warnings are posted to prevent people from eating shellfish that contain dangerous levels of neurotoxins. Information concerning toxic shellfish is provided by the Department of Health Services via their Shellfish Hotline at 800-553-4133, or 510-540-2605 in Alameda and Contra Costa counties.

The amazing phenomenon that occurs during red tides, bioluminescence, is caused by metabolic processes within the algae that produce light. When present in large numbers, some species of algae can create a virtual ocean fireworks show. Throwing a rock in the water, paddling a kayak, or even swimming at night during a red tide creates physical movement in the water that causes the algae to glow. These algae can cause breakers along the beach to shimmer with bioluminescent light. Swimming or surfing during a red tide is not necessarily dangerous, since many of the algae that cause red tides are non-toxic, but showering after a swimming or surfing session is always advised. ♪ ♪ ♪

For more information about red tides, visit the following Web sites:

The Surfrider Foundation  
[www.surfrider.org/a-z/red\\_tide.asp](http://www.surfrider.org/a-z/red_tide.asp)

Woods Hole Oceanographic Institution  
[www.whoi.edu/redtide/](http://www.whoi.edu/redtide/)

# Marine Management News Fish Identification Quiz!

Welcome to the first installment of the Marine Management News Fish Identification Quiz! Here's your chance to show off your knowledge and win an official Department of Fish and Game fish tagging cap (right). To win, simply be the first to send an e-mail to [AskMarine@dfg.ca.gov](mailto:AskMarine@dfg.ca.gov) correctly identifying:

- The **species of the fish** pictured below (scientific name and a common name), and
- The **current daily bag limit**, as given in the recreational fishing regulations for California!

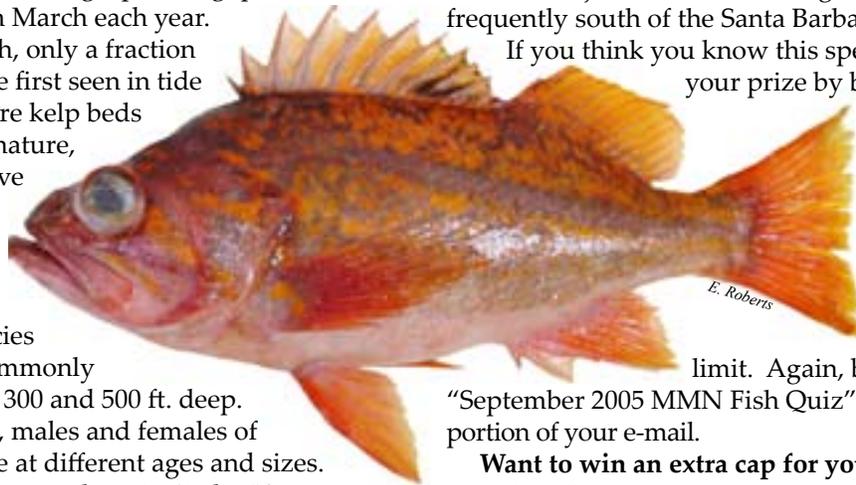
Be sure to type "September 2005 MMN Fish Quiz" in the "Subject" portion of your e-mail.

This fish begins life in California waters with many thousands – sometimes millions – of its fellow hatchlings, during spawning periods from December through March each year.

The tiny young fish, only a fraction of an inch long, are first seen in tide pools and nearshore kelp beds in April. As they mature, the young fish move to deeper, rocky bottom habitat (often where rock meets sand).

Adults of this species are found most commonly in waters between 300 and 500 ft. deep.

Just like people, males and females of this species mature at different ages and sizes. Off California, many reach maturity by 13 years of age, when they measure between 16 and 21 inches in length. This slow-growing species can live to be more than 80 years old. The largest specimen on record was close to 30 inches long.



by *Mary Patyten, Research Writer*

The first record of commercial use for this species extends back to the early 1880s when it was caught off San Francisco, dried, and salted for food. Over the years, this species has been plentiful in commercial trawl and hook-and-line landings in northern and central California, and has also been a staple of the recreational fishery. A recent stock assessment has shown that the current population has been reduced substantially from historical levels, leading to fishing restrictions intended to rebuild the stock.

This species ranges from the Gulf of Alaska to northern Baja California, although it is found less frequently south of the Santa Barbara Channel.

If you think you know this species of fish, claim your prize by being the first to send an e-mail to DFG at [AskMarine@dfg.ca.gov](mailto:AskMarine@dfg.ca.gov) with the correct scientific and common name, and the current daily bag limit. Again, be sure to type "September 2005 MMN Fish Quiz" in the "Subject" portion of your e-mail.

**Want to win an extra cap for your buddy?** Send in the scientific and common name of a very similar fish that is often mistaken for the one pictured above!

Answers to the quiz and the winner's name will be published in the December issue of *Marine Management News*. • + ♪



## DFG Senior Volunteers Lend a Hand With Annual Abalone Creel Survey

by *Mary Patyten, Research Writer*

Approximately one dozen volunteers measured abalone and recorded important data from Bodega Bay to Fort Bragg, with guidance from DFG marine biologists. The data gathered in the creel surveys help DFG biologists make informed decisions about abalone fishery management.

"I had a terrific time," said Lee Mueller, a Senior Volunteer from Orange County. "I actually had members of the public come up and thank me!"

According to Mueller, he and DFG Senior Biologist Pete Haaker recorded and measured over 600 abalone during one day's creel surveying.

"We wouldn't have been able to cover as many areas– or cover them as well– without help from the Senior Volunteers," said Jerry Kashiwada, the DFG marine biologist coordinating the abalone creel survey efforts.



Volunteer Frank Boice measures abalone

The Senior Volunteer Program was created in 2002 by DFG enforcement personnel to be the eyes and ears of DFG in the field. For more information about the program, visit [www.dfg.ca.gov/enforcement/volunteers/](http://www.dfg.ca.gov/enforcement/volunteers/) or call the San Diego DFG office at 858-467-4257. • + ♪

# The Scientific Side of the Hot Salmon Bite!

by Jayna A. Schaaf, Fisheries Technician

*The California Recreational Fisheries Survey, or “CRFS,” began in 2004 as an improvement over the earlier Marine Recreational Fishery Statistics Survey. CRFS has also begun collecting tagged salmon heads for DFG’s Ocean Salmon Project (OSP). In this article, Fisheries Technician Jayna Schaaf, who began sampling with the OSP before the CRFS was created, takes us through one of her busier days during a hot salmon bite. As a CRFS sampler, Jayna collects marine sport fishing data to help monitor and manage California’s marine resources.*

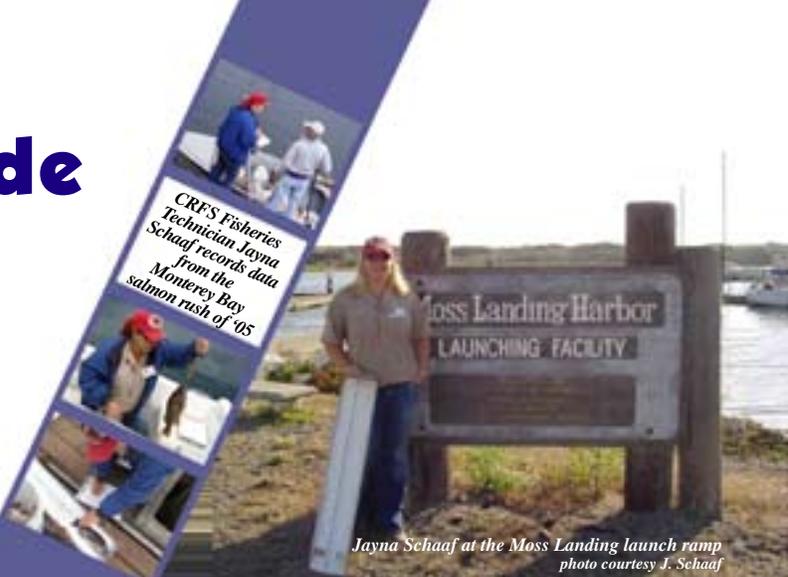
I wake to my buzzing alarm clock at 7 a.m.—no time to drag my feet! It’s a brisk Saturday morning here in Monterey County, and the weather is perfect for fishing.

I dress quickly and clip on my I.D. badge, which reads, “Jayna Schaaf, Fisheries Technician.” My left shoulder bears the familiar blue-and-yellow Department of Fish and Game shield, and on my right shoulder I wear the red-and-white insignia of the Pacific States Marine Fisheries Commission.

Before leaving the house, I check my assortment of sampling gear: measuring board, 8-inch serrated knife, brass scales, plastic baggies, clip board, forms, sunscreen, and lots of sharp no. 2 pencils. Jumping into my car, I drive the short distance to Moss Landing’s main launch ramp off Highway 1 in central California. A rush of excitement hits me, and a quick inhale of breath follows as I glance at the parking lot, brimming with 100

private skiff trailers! Moss Landing launch ramp is one of the primary private/rental boat launch sites in Monterey County. As I suspected, it’s going to be a busy day.

As a California Recreational Fisheries Survey (CRFS) sampler, I collect demographic information from anglers, recording their catch and fishing location data, and measuring the lengths of as many fish as possible. Some quick math tells me there are about 200 anglers out today who could be landing



Jayna Schaaf at the Moss Landing launch ramp  
photo courtesy J. Schaaf

twice that number of king salmon (chinook), and other species of fish as well. I park my luxurious, mobile “office” — which comes complete with a steering wheel, stick shift, and a great view through the windshield — close to the ramp, and wait for the anglers to return.

The returning boat rush starts early. By 8 a.m., five skiffs are competing for dock space, and trailers have lined up to pull them out. My strategy is to intercept the anglers at the dock without holding up trailer traffic or, if necessary, interview anglers at the wash-down station. My goal is to not miss a single boat.

“How’d you guys do today?” I ask with a smile, formally introducing myself to each boatload of anglers: “Hi, I’m Jayna, and I am collecting biological data regarding fish. I would like ask you a few questions about your fishing trip and see any fish you have landed.”

Today the salmon bite is hot, and anglers have come from all over the state to fish in Monterey Bay. I ask every angler the same set of questions: how many aboard were fishing, how many are licensed, the fishing location and water depth (I pull out a map to assist them in locating fishing grounds), what type of gear they used, and how many fish of each species were landed or released. After a year as a CRFS sampler, my questions flow like friendly fishing banter.

For me, though, the exciting part is examining each angler’s catch. I hop into, out of, and between the boats and trailers like a bouncing pinball, quickly gathering data on each boat’s fish, from silvery-purple salmon with beautifully spotted tails to California halibut, with lips curled down like grumpy old men. Rockfish season has just opened in the area, and I find icy coolers packed with colorful rockfish, like jewels in a treasure chest. My fish identification has to be quick and accurate; on this busy morning I only have a few minutes per boat. Even though I work quickly and diligently, I still end up with a fresh coat of salmon blood on my hands and a rockfish-spined finger.

One angler’s king salmon is missing its adipose fin (the small fleshy lobe on the fish’s back between “Hot salmon bite” continued on page 5



Salmon fishermen with their catch  
photo courtesy E. Roberts

the dorsal fin and the tail fin), which marks it as a tagged salmon. About 10 percent of hatchery-reared chinook have tiny coded-wire tags implanted in their snouts, after which the adipose fins are clipped. One of my most important duties is to check each salmon for the presence of this fin, and ask for any tagged salmon heads so that the tag – and its precious data – can be recovered.

About one in four anglers reacts negatively to a request for a salmon head. I’ve smoothed over many such encounters by explaining to the angler why we take the heads, and the resulting benefits to salmon populations. I’ve also reminded anglers that Section 8226 of the Fish and Game Code says that anglers “...upon request by an authorized agent...of the Department, [must] immediately relinquish the head of the salmon to the State...” Fortunately, this angler has participated in the survey before and is happy to allow me to remove the salmon’s head.

Later that day, as I place 12 chinook heads in the cooler, the next boat arrives. An angler from the boat calls out to me sarcastically, “What are you going to do with all those heads, eat them?” As I complete the interview and begin to examine the angler’s catch, I find a coho, or “silver” salmon. Unfortunately, possession of this endangered fish is prohibited in California marine waters. The angler is taken aback when I tell him that he has landed a coho. On top of this, the coho is missing its adipose fin. I take the head.

“You gonna give me a ticket?” he squeaks. I inform him that I am not an enforcement officer, but let him know in no uncertain terms that possession of coho salmon is prohibited by law. I show him the correct way to tell the difference between a chinook and a coho salmon, and go about my day.

By lunchtime I have interviewed 40 boatloads of anglers, and seen many fish. I wash my hands, squeeze in a quick bite to eat from the local hot dog stand, and then continue getting my uniform bloody and slimy.

Interviewing anglers and listening to “fish stories” might seem like an easy job, but there is so much more to

being a CRFS sampler. Aside from data collection, sampling is also a public relations job, with the sampler (me) as the focal point for friendly as well as unfriendly anglers.

Two common questions that I hear from anglers are “Why are you collecting this information?” and “What do you do with all those heads?” To answer their questions, I pull out CRFS brochures for them to take home, and explain the importance of the CRFS, what the data are used for, and why we take the salmon heads.

Northwesterly winds begin to pick up in the afternoon, and most of the skiffs are blown off the water by 5 p.m. I’ll spend the night tallying up numbers and editing my forms, but I feel good as I drive home, unconsciously picking fish scales from my hands and arms. My work is important for the California recreational fishery. I might not have a single pair of unstained blue jeans, and my car might sometimes smell like fish, but I have done my part for the good of both the fish and the anglers. ♪ ♪ ♪



*“Rockfish season has just opened... and I find icy coolers packed with colorful rockfish, like jewels in a treasure chest.”*

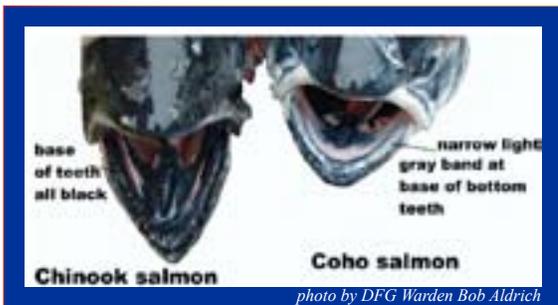


photo by DFG Warden Bob Aldrich



photos by M. Patyten

**For more information about the California Recreational Fisheries Survey, visit DFG’s Marine Region Web site at [www.dfg.ca.gov/mrd/crfs.html](http://www.dfg.ca.gov/mrd/crfs.html)**



# UPDATES

## Marine Management News

### Abalone Recovery and Management Plan Reviewed, Scheduled for Adoption in November

by Mary Patyten, Research Writer

In July and August, the Fish and Game Commission (Commission) held five public meetings to gather final comments on the draft Abalone Recovery and Management Plan (ARMP). After reviewing comments and receiving information presented by the Department of Fish and Game (DFG) at its Aug. 19 meeting, the Commission requested that DFG include constituent comments regarding Alternative 1 (a proposal to allow fishing at San Miguel Island prior to full recovery) in the final document. The Commission also directed DFG to provide updated information concerning the abalone resource at its September 29-30 meeting in Susanville. The DFG will continue to collect new data during field surveys of abalone over the next month.

The draft ARMP will be considered for adoption at the Nov. 3-4, 2005 Commission meeting in Santa Barbara. The document is currently available online through the Marine Region Web site and at all DFG offices. For more information, visit the ARMP Web site at [www.dfg.ca.gov/mrd/armp/index.html](http://www.dfg.ca.gov/mrd/armp/index.html) or call Mr. Ian Taniguchi, ARMP Coordinator, at (562) 342-7182. ♪ ♪ ♪ ♪

### Commercial Greenlings Fishery Fills Quota, Closes for 2005

by Mary Patyten, Research Writer

The commercial fishery for greenlings of the genus *Hexagrammos* (kelp greenling and rock greenling) was closed Aug. 1, 2005 as it neared its annual quota of 3,400 lb for the year.

The final tally of landings supports the Department of Fish and Game's (DFG's) decision to close the fishery. DFG has no plans to re-open the fishery later this year.

Kelp and rock greenlings are targeted primarily in the live-fish fishery and are incidentally caught in other groundfish fisheries. For more information, contact Ms. Deb Wilson-Vandenberg at 831-649-2892, or Mr. Robert Leos at 831-649-2889. ♪ ♪ ♪ ♪

### Commercial Lobster Operator Permits Gain Transferability

by Mary Patyten, Research Writer

In late 2004, the commercial lobster fishing industry approached the Fish and Game Commission (Commission) to request transferability for lobster operator permits. Regulations were adopted by the Commission in May, 2005 and went into effect in July, 2005 that allow reclassification of some non-transferable lobster operator permits to transferable permits.

The commercial lobster fishery has not allowed new entrants into the fishery since the 1996-1997 season, when it became a restricted access fishery. Permit transferability will allow younger fishermen or crew to enter the fishery. Transferability also protects part of a fisherman's investment in a fishery, per the Commission's policy on restricted access fisheries. For fishermen, as with small business owners or farmers, retirement funds are derived from the sale of their business. Permit transferability allows lobster operator permit holders to sell their permits to help fund their retirement.

Of the 220 current lobster operator permits, 130 became transferable by meeting specific landing criteria. The new regulations limit the number of transfers during the first three years to ten per year. For the upcoming 2005-2006 season, six permits have been transferred. The new regulations also changed the renewal date for the lobster operator permit to make it consistent with other fisheries.

For more information about the new regulations, visit the Commission website at [www.fgc.ca.gov/2005/proposedregs05.htm](http://www.fgc.ca.gov/2005/proposedregs05.htm) or contact Ms. Kristine Barsky, invertebrate biologist specialist, at 805-985-3114. ♪ ♪ ♪ ♪



Spiny  
Lobster  
*Panulirus  
interruptus*

C. Wilson

## 2005 CalCOFI Conference Set for December

by Mary Patyten, Research Writer

The California Oceanic Cooperative Fisheries Investigations, or CalCOFI for short, is a unique partnership of the California Department of Fish and Game, NOAA Fisheries Service, and Scripps Institution of Oceanography. Each year, CalCOFI holds an annual conference focusing on a different aspect of the marine environment.

This year's conference, entitled "CalCOFI: The Sum of the Parts," will be held in Sumner Auditorium at Scripps Institution of Oceanography, University of California at San Diego, La Jolla, CA. The conference begins Monday, Dec. 5, and continues through Wednesday, Dec. 7.

This "Sum of the Parts" conference will celebrate CalCOFI's ancillary projects - from past to present and from graduate student research to multi-year, multi-million dollar programs.

Registration fees are due Nov. 1. For more information about this year's CalCOFI conference, visit their Web site at [oceaninformatics.ucsd.edu/calcofi/conf2005/](http://oceaninformatics.ucsd.edu/calcofi/conf2005/) or contact Charleen Johnson, CalCOFI Conference Coordinator, at [CalCOFI\\_conference@coast.ucsd.edu](mailto:CalCOFI_conference@coast.ucsd.edu).

CalCOFI publishes data reports and a scientific journal, and maintains a publicly accessible data server at [www.calcofi.org](http://www.calcofi.org). The cooperative was formed in 1949 to study the ecological aspects of the collapse of the sardine populations off California, and today focuses on the marine environment at large.

## Get Hooked on the Marine Region Web Site!

by Aaron Del Monte, Assistant Information Systems Analyst and 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 Marine Region Web site, located at [www.dfg.ca.gov/mrd](http://www.dfg.ca.gov/mrd). This comprehensive information source currently contains over 1,800 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 a few recent, noteworthy additions to our Web site:

**Herring Fishery Information** [www.dfg.ca.gov/mrd/herring](http://www.dfg.ca.gov/mrd/herring): This portion of our site is a wonderful resource if you are looking for information about the herring fishery. There have been a number of recent additions and changes to these pages, most notably the addition of the 2005 California Environmental Quality Act Document.

**Fish Identification Resources** [www.dfg.ca.gov/mrd/index\\_library](http://www.dfg.ca.gov/mrd/index_library): Do you need to identify a fish? We have recently increased the number of resources on this page to help you solve your scaly, slimy,

"Web Site Update" *continued on page 10*

## Fishery Openers and Closures Sept. 1 through Dec. 30, 2005

### Recreational Fishery

Complete regulations available wherever fishing licenses are sold, at local DFG offices, or at [www.dfg.ca.gov/mrd/sportfishing\\_regs2005.html](http://www.dfg.ca.gov/mrd/sportfishing_regs2005.html)

#### SEPTEMBER 1

Recreational Pismo clam season opens in Santa Cruz and Monterey counties

The depth limit for recreational groundfish fishing changes from waters less than 360 ft (60 fm) to waters less than 180 ft (30 fm) for boat-based anglers, from Point Conception to the California-Mexico border

#### SEPTEMBER 12

Recreational ocean salmon season closes from Humbug Mt., Oregon to Horse Mt., California

#### SEPTEMBER 26

Recreational ocean salmon season closes from Pigeon Pt. to the California-Mexico border

#### OCTOBER 1

Recreational California scorpionfish season opens for boat-based anglers from Point Conception to the

California Mexico border in waters less than 180 ft deep (inside 30 fathoms)

Recreational Pacific halibut season closes statewide

Recreational spiny lobster season opens

#### NOVEMBER 1

The depth limit for recreational groundfish fishing changes from waters less than 180 ft (30 fm) to waters less than 360 ft (60 fm) for boat-based anglers, from Point Conception to the California-Mexico border

#### NOVEMBER 5

Recreational Dungeness crab season opens south of the Mendocino-Sonoma county line

#### NOVEMBER 14

Recreational ocean salmon season closes from Horse Mt. to Pigeon Pt.

"Openers and Closures" *continued on page 10*

*“Groundfish Regulation Changes” continued from page 1*

through the end of the year. This seasonal closure is necessary to reduce the incidental catch of canary rockfish (another “overfished” rockfish species) and will help to insure that the California recreational groundfish catch stays within annual harvest limits set by the federal government.

Also on Oct. 1, fishing for California scorpionfish (commonly known as *sculpin*) opens to boat-based anglers fishing in the Southern Management Area. The daily bag and possession limit is 5 fish, with a minimum size limit of 10 inches. Anglers targeting scorpionfish are required to follow depth restrictions set for other federally-managed groundfish in the Southern Management Area (see above). Recreational anglers were limited to a 3-month season for scorpionfish this year to insure that the California recreational groundfish catch stays within annual harvest limits set by the federal government.

Take a look at the DFG’s clickable ocean fishing map for summaries of current sport fishing regulations by area, available online at [www.dfg.ca.gov/mrd/fishing\\_map.html](http://www.dfg.ca.gov/mrd/fishing_map.html).

Don’t forget the DFG’s new Recreational Groundfish Fishing Regulations Hotline. Call 831-649-2801 to access the latest groundfish regulations by telephone.

For summaries of current groundfish fishing regulations by area, refer to pgs. 14 through 23 of the 2005 California Freshwater & Ocean Sport Fishing Regulations supplement, available wherever fishing licenses are sold, or online at [www.dfg.ca.gov/mrd/bfregs2005.html](http://www.dfg.ca.gov/mrd/bfregs2005.html).

Questions about the bottomfishing regulations? Send them to [AskMarine@dfg.ca.gov](mailto:AskMarine@dfg.ca.gov).

**Since the tide is right...**



*Hatchery-raised white seabass photo courtesy HSWRI*

*“White seabass” continued from page 1*

Conception, and have been favored by California anglers and consumers for at least a century. Recreational catch rates for white seabass dropped dramatically from the 1950s through the 1980s. Annual sport fishing landings in California fell from over 55,000 fish to less than 3,500 fish during this period, while commercial landings varied between 1960 and 1980, averaging one million pounds annually.

Along with white seabass, the California halibut was selected as a possible candidate for the enhancement program. After a few years, however, budgetary constraints required that the program focus on a single species. The OREHP Advisory Panel chose white seabass, following the advice of DFG biologists who believed that the California halibut population was more robust than the white seabass population.

**Aquaculture 101**

Since very little information about culturing white seabass was available at the time, the OREHP team broke new ground in keeping adult fish alive and healthy in captivity. Research was conducted primarily by scientists from Hubbs-Sea World Research Institute (HSWRI), San Diego State University (SDSU), and California State University, Northridge (CSUN). HSWRI scientists focused on raising and breeding white seabass: how to persuade the adults to spawn, how to raise the larvae, determining the best diet, and examining how diet affected egg and larval quality. Other studies looked at disease prevention and genetics issues.

Teams from SDSU and CSUN looked at juvenile recruitment in white seabass. At the beginning of the program, little was known about where juvenile white seabass (one- to three-year-olds) lived. Since 1996, the two universities have sampled juvenile white seabass four times per year, at the same sites along the coast and in bays. To date, over 11,000 juvenile white seabass have been captured, of which about 800 were hatchery-reared fish.

*“White seabass” continued on page 9*

**FUNDING FOR OREHP** comes from the Ocean Enhancement stamp (\$3.70) that all recreational anglers fishing south of Point Arguello (Santa Barbara County) are required to purchase. Ninety percent of the funds for OREHP come from the recreational fishing community. Commercial passenger fishing vessels (“party boats”) and commercial fishermen that catch white seabass south of Point Arguello also support OREHP through purchase of an Ocean Enhancement stamp (\$35.50). Stamp sales provide almost one million dollars to OREHP annually.



White seabass mill about in a holding pen. It takes four to five years for white seabass to reach legal size (28 inches total length).  
photo courtesy HSWRI

“White seabass” continued from page 8

### Growing pains

In the early 1990s it became apparent that HSWRI’s Mission Bay research facility would not be big enough to raise the large numbers of white seabass necessary to determine whether stocking efforts could enhance a marine fish population.

To overcome this, a marine fish hatchery was built in Carlsbad, California in 1994 using mitigation funds from the San Onofre Nuclear Generation Station. This hatchery is owned and operated by HSWRI, and now raises white seabass to 6 inches total length (three to four months of age).

### The life of a hatchery-reared white seabass

Before leaving the hatchery, each white seabass receives a small, stainless steel tag in the right cheek. When read under a microscope, the tag from a captured fish helps researchers to determine the age of the fish, and when and where it was released into the wild.

Once fish are three to four months old, they are transferred to “grow-out” facilities on the coast between Santa Barbara and San Diego. The grow-out facilities are run by volunteers, primarily recreational fishermen. These volunteers spend thousands of hours each year maintaining the facilities and caring for the fish until they reach six to nine months of age (at 9 to 10 inches total length).

At the grow-out facilities, the fish are fed dry food several times a day, both by hand and by automatic feeder. The net pens and raceways that house the fish must be cleaned routinely to maintain a healthy environment for the fish. A DFG fish pathologist

inspects fish that are about to be released to ensure they are healthy. Once cleared, volunteers release the fish into the ocean.

As OREHP has learned more about raising white seabass and managing disease, the program has increased the number of fish released annually. In 2001, OREHP released over 100,000 juvenile white seabass for the first time in the history of the program, and in 2004 over 270,000 hatchery-reared fish were released. To date, OHREP has released over one million tagged white seabass.

### DFG needs your white seabass heads!

With several years of large releases, OREHP researchers hope to fully evaluate the program’s success by 2010. At that time, five years of data from adult white seabass recovered from the recreational and commercial fisheries should be available to help determine the success of this artificial propagation effort.

DFG, HSWRI and SDSU are collecting adult white seabass heads to check for tags from hatchery-raised fish. A total of 41 adult hatchery-raised white seabass heads have been recovered to date. The oldest fish recovered was over ten years old.

Collection stations have been set up at sport fishing landings and commercial fish markets throughout southern California. To find out where to drop off your white seabass head, call 877-SAVEWSB (877-728-3972), or check the HSWRI website at [www.hswri.org](http://www.hswri.org). Please be sure to place the head in a plastic bag, and include information about when and where you caught the fish.

United Anglers hosts an annual contest for the commercial passenger fishing vessel (“party boat”) fleet, with a prize for the vessel that turns in the most heads and the vessel that turns in the most tagged fish. In 2004, one vessel took home both prizes, earning the vessel owners \$2,000.

For more information about white seabass, visit the DFG Marine Region Web site at [www.dfg.ca.gov/mrd/factsheet.pdf](http://www.dfg.ca.gov/mrd/factsheet.pdf) and [www.dfg.ca.gov/mrd/wsfmp/index.html](http://www.dfg.ca.gov/mrd/wsfmp/index.html)

*"Web site update" continued from page 7*

and finny mysteries. From our home page, just click the blue "Fish Identification" tab, and you will be presented with 15 different links that connect to image libraries, identification guides, and more.

### **Marine Life Protection Act (MLPA) Initiative**

[www.dfg.ca.gov/mrd/mlpa](http://www.dfg.ca.gov/mrd/mlpa): 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 the recreational, educational, and study opportunities provided by marine ecosystems. The Initiative partnership between government agencies and private entities is striving to achieve the original MLPA goals. The MLPA Web site, which includes many recent additions, contains up-to-date information about this endeavor, including upcoming meeting information and documents for review.

Within the next month, look for some interesting improvements to these pages.

Here are some of our most popular pages:

### **California Ocean Sport Fishing Regulations Map**

[www.dfg.ca.gov/mrd/fishing\\_map.html](http://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.

### **In-Season Ocean Fishing Regulation Changes for 2005**

[www.dfg.ca.gov/mrd/inseason2005.html](http://www.dfg.ca.gov/mrd/inseason2005.html): Since the printing of the 2005 Ocean Sport Fishing Regulations booklet (also available on our Web site),

*"Openers and Closures" continued from page 7*

## **Recreational Fishery**

*Complete regulations available wherever fishing licenses are sold, at local DFG offices, or online at [www.dfg.ca.gov/mrd/sportfishing\\_regs2005.html](http://www.dfg.ca.gov/mrd/sportfishing_regs2005.html)*

### **NOVEMBER 26**

Recreational Dungeness crab season opens north of the Mendocino-Sonoma county line

### **DECEMBER 1**

Recreational abalone season closes  
Recreational lingcod season closes statewide

## **Commercial Fishery**

*Complete regulation information available at your local DFG office, or online at [www.dfg.ca.gov/licensing/commercial/CommercialDigest.htm](http://www.dfg.ca.gov/licensing/commercial/CommercialDigest.htm)*

### **SEPTEMBER 1**

Commercial clam season opens in Districts 8, 9, 17, and in Marin County (open year-round in the rest of the state)

### **DECEMBER 1**

Commercial Dungeness crab season opens in Districts 6, 7, 8, 9 (pending condition test)

### **SEPTEMBER 15**

Commercial anchovy season opens in the Southern Permit Area

***Note:** This list addresses regularly scheduled seasonal openers and closures, excluding commercial seasons dictated primarily by quota or other means. See complete regulations for additional fishing restrictions such as quotas, fishing depth or gear restrictions, etc.*

### **OCTOBER 1**

Commercial ridgeback prawn (trawl) opens in Districts 6, 7, 10, 17, 18, 19

*The emergency closure of any fishery is possible regardless of season dates published in this newsletter. For the latest information regarding fishing regulations, check with your local DFG office or one of the following information sources:*

### **OCTOBER 6**

Commercial spiny lobster season opens in Districts 18, 19, 20A and part of District 20.

### **NOVEMBER 1**

Commercial spot prawn (trap) season closes in Districts 18 (south of Pt. Arguello), 19, 19A, 20, 20A, 21

Commercial coonstripe shrimp season closes statewide

Commercial pink shrimp (trawl) closes in Districts 6, 7, 10, 17, 18, 19

### **NOVEMBER 15**

Commercial Dungeness crab season opens in all Districts except 6, 7, 8, 9 (pending condition test)

- **Ocean Sport Fishing Regulation Map** (clickable map) [www.dfg.ca.gov/mrd/fishing\\_map.html](http://www.dfg.ca.gov/mrd/fishing_map.html)
- **In-season Ocean Fishing Regulation Changes** [www.dfg.ca.gov/mrd/inseason2005.html](http://www.dfg.ca.gov/mrd/inseason2005.html)
- **Recreational Groundfish Fishing Regulations Hotline** 831-649-2801
- **Summary of Recreational Bottom Fishing Regulations** [www.dfg.ca.gov/mrd/bfregs2005.html](http://www.dfg.ca.gov/mrd/bfregs2005.html)

"Web site update" *continued from page 10*

there have been a few in-season regulation changes. On this page, you will find a complete list of these changes and related press releases, as well as contact information if you have further questions.

**Laws and Regulations Page** [www.dfg.ca.gov/mrd/regulations.html](http://www.dfg.ca.gov/mrd/regulations.html): This page is your main source for information concerning commercial and sport fishing regulations. Over thirty links connect you to a variety of information concerning current regulations.

**Fishing Page** [www.dfg.ca.gov/mrd/fishing.html](http://www.dfg.ca.gov/mrd/fishing.html): One of our most popular pages of all, this page contains links to the three previous resources, as well as

## Upcoming MLPA Meetings

The development of the Marine Life Protection Act (MLPA) is guided by the advice of scientists, resource managers, experts, stakeholders, and members of the public. The public is encouraged to attend MLPA meetings, or watch meetings live over the Internet (go to [www.dfg.ca.gov/mlpa/meetings.html](http://www.dfg.ca.gov/mlpa/meetings.html)). Public comment periods will be held at the meetings as appropriate. Upcoming meetings include the following:

### Central Coast Regional Stakeholders Group Meeting

September 7-8, 2005  
Cambria Pines Lodge  
Peacock Conference Room  
2905 Burton Drive  
Cambria, CA

### Blue Ribbon Task Force Meeting

September 28-29, 2005  
San Luis Obispo/Morro Bay area  
(Exact location still to be determined.  
Check Web site for details)



Visit the  
MLPA Web site at  
[www.dfg.ca.gov/mrd/mlpa/index.html](http://www.dfg.ca.gov/mrd/mlpa/index.html)  
for more  
information!

information on specific species, permits and licenses, record fish and invertebrate trophies, and a number of annual reports and sets of data. Whether you are a recreational or commercial fisherman, you're sure to find some useful information on this page.

**A-to-Z Directory** [www.dfg.ca.gov/mrd/index\\_directory.html](http://www.dfg.ca.gov/mrd/index_directory.html): We receive frequent comments letting us know how easy it is to find information on our

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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](http://www.dfg.ca.gov/mrd/subscribe.html)

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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 available resources.

One final note: Thank you to those who participated in our annual Web site survey, which was featured on our Web site until September 2. Your responses help us develop the Marine Region Web site to best meet your needs. One respondent, whose name will be announced in the December issue of the *Marine Management News*, will win a free copy of DFG's *California's Living Marine Resources: A Status Report*. Look for our next Web survey in summer, 2006. • + ↻ ▀

## Fishery Management Meetings

**2005 Fish and Game Commission**  
[www.fgc.ca.gov/2005/2005mtgs.html](http://www.fgc.ca.gov/2005/2005mtgs.html)

September 29-30  
Susanville

November 3-4  
Santa Barbara

December 8-9  
Concord

**2005 Pacific Fishery Management Council**  
[www.pcouncil.org/events/future.html](http://www.pcouncil.org/events/future.html)

September 18-23  
Portland, OR

Oct. 30-Nov. 4  
San Diego, CA

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](http://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](http://www.dfg.ca.gov/mrd).

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### **The Marine Life Management Act**

**C**alifornia's Marine Life Management Act (MLMA) of 1998 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](http://www.dfg.ca.gov/mrd).

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