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## Spiny Lobster Fishery Management Plan Under Way

by Mary Patyten, Research Writer and Kristine Barsky, Senior Invertebrate Specialist

This fall, DFG initiated the planning process to begin development of a state Spiny Lobster Fishery Management Plan (FMP). DFG decided to move forward with development of an FMP for California spiny lobster as required by the Marine Life Management Act, because the spiny lobster supports important commercial and recreational fisheries, and because it plays a key role in the southern California kelp forest ecosystem.

"The Department is committed to making this process transparent, objective and accessible to all, with the ultimate goal of completing an adaptable FMP that will ensure a sustainable lobster resource and healthy fisheries," said DFG's Kristine Barsky, who will coordinate the FMP process. Barsky, a senior biologist, has worked predominantly with invertebrate species such as lobster during her 37 years with DFG's Marine Region.

"The spiny lobster is a prime candidate for an FMP," said Barsky. "With the implementation of new marine protected areas in Southern California on the first of the year, the FMP will evaluate integration of MPAs into the management of the lobster fisheries, along with the increasing popularity of hoop nets in the recreational fishery." "Lobster" continued on page 8



DFG marine biologist Travis Buck hoopnetting for spiny lobster DFG file photo

## New Marine Protected Area Website Announced

by Mary Patyten, Research Writer and Aaron Del Monte, Marine Region Webmaster

On September 28, 2011 DFG announced a new marine protected area (MPA) website optimized for use by smartphones and other portable Internet-enabled devices. DFG created the website to make up-todate marine protected area information more accessible to the public.

#### Inside This Issue

- Lobster FMP .....1
- New MPA Site .....1
- CRFS Review .....2
- CalCOFI .....2
- Oct Fish ID Quiz ......3
- May Fish Quiz Ans'r.....3
- Invertebrate Die-off .....4Marine Snapshots ......6
- Creature Feature ......8
- DFG Manager Honor ...9
- Mgmt. Meetings......9

Located on the DFG website at *www.dfg. ca.gov/m/MPA*, this site allows you to:

- Search for any MPA by name or county to find information about the MPA's boundaries and regulations.
- Use an interactive map to locate any MPA and learn about its boundaries and regulations.
- Find and track your current location using

the GPS on your mobile device to determine the closest MPAs, and to determine whether or not you are currently located within an MPA.

• Read a summary of regulations or complete regulations for any MPA.

The site includes current information for all California MPAs, and may be accessed while at sea, on the beach, or in your home office. There is no phone app download required—simply link to the website. MPA modifications and new MPAs will be added to the site as they go into effect.

This website, a collaborative project between DFG's Internet Technology Branch and the DFG's Marine Region, is the latest addition to DFG Mobile (*www.dfg. ca.gov/mobile*), an information portal to inland and marine fishing locations, hunting and fishing license vendor locations, and fish planting schedules. For more information about the MPA website, contact Marine Region Webmaster Aaron Del Monte at (916) 322-6232 or *adelmonte@dfg.ca.gov.* 

## **CRFS Up!** Experts review the California Recreational Fisheries Survey

In June, 2011 DFG Marine Region staff met in Los Alamitos with National Marine Fisheries Service statisticians and consultants from Colorado State University and Oregon State University to review the methods used by the California Recreational Fisheries Survey (CRFS). The goal of this review was to ensure that California stays at the leading edge of marine recreational fisheries sampling, and to brainstorm creative methods for enhancing this survey.

Marine recreational fisheries surveys are being evaluated and improved across the nation. The assessment of CRFS followed similar reviews of the sampling programs in Oregon and Washington.

Since 2004, CRFS has collected fishery information that is essential for sustaining economic and recreational benefits to Californians, as required by the Marine Life Management Act. CRFS samplers interview anglers along the entire 1,100 miles of California's coast. The interviews, along with a telephone survey of anglers, provide the primary information for determining the total number of marine fish taken in California each year. This is a challenge, considering the many miles of coastline and offshore islands, a population approaching 38 million people, and the diverse geographic character and demographics of the state of California.

CRFS is a nationally recognized leader among marine recreational fisheries sampling programs. The success of CRFS can be partly attributed to DFG's constant drive to innovate and refine the methods used by CRFS. "In many respects California stands at the forefront of recreational fisheries research and has much to contribute to projects in other states. At the same time, we can learn from the efforts of other states," said Phil Law, a DFG statistical methods analyst.

For three days, DFG staff presented and discussed the methods of the CRFS private and rental boat, commercial passenger fishing vessel (a.k.a. party/charter boats), beach, and pier surveys with the review panel. The reviewers were impressed with the large and thorough sampling effort, the careful design of the survey, and the exceptional documentation of CRFS methods. DFG CRFS coordinator Connie Ryan felt the by Ashok Sadrozinski, Marine Biologist



CRFS sampler Kevin Glen interviews anglers large and small at Oso Flaco Beach. DFG file photo

review was a positive experience, saying, "In addition to confirming that the current methods are sound and that CRFS is providing the public and decision makers with high quality information, the review team and DFG staff proposed methods that might reduce costs and improve accuracy and reliability of the estimates."

The consultants suggested ways to strengthen the survey statistics, and provided technical guidance on implementing these improvements. For example, the consultants recommended modifying how DFG selects party boat trips for sampling. They suggested that sampling levels should better reflect the number of trips each boat takes. To that end, DFG staff are analyzing historical party boat data in order to adjust sampling levels for each port. This information will change how often party boats are sampled in 2012. The change will be one of many outcomes from the review that are expected to improve the CRFS estimates of total catch, benefiting the management of our recreational fisheries.

## **2011 CalCOFI Conference: Integrated Ecosystem Assessment and Ecosystem Modeling of the California Current**

The 2011 CalCOFI conference will take place Dec. 12-14 at the Scripps Institute of Oceanography in La Jolla, CA. The deadline for conference registration is Dec. 1.

The symposium theme for this conference is "Integrated Ecosystem Assessment and Ecosystem Modeling of the California Current". The conference will focus on this topic to promote discussion of how an integrated ecosystem assessment process may be supported by the rich data resources of the region. More information is available on the CalCOFI conference website at *http://oceaninformatics.ucsd.edu/calcofi/conference*/.

# Marine Management News Fish Identification Quiz!

story and photo by Ed Roberts, Associate Marine Biologist

Pelcome to the Marine Management News Fish Identification Quiz for October 2011! Here's your chance to show off your fish identification knowledge and win an official Department of Fish and Game (DFG) fish tagging cap. To qualify for the drawing, simply send the correct answers via e-mail to AskMarine@dfg.ca.gov by November 15, 2011 correctly identifying:
The species of the fish pictured below (scientific name and an accepted common name), and
The daily bag limit as found in the 2011-2012 Ocean Sport Fishing regulations booklet Be sure to type "October 2011 MMN Fish Quiz" as the "Subject" of your e-mail. The winner

will be selected during a random drawing from all correct answers received by November 15, 2011.

Unlike most modern bony fishes, this type of fish mates, has internal fertilization of eggs, and bears live young. Larvae of this species are released from the female from October through March, but primarily in December and January, and spend 3 to 5 months drifting with the currents. Young fish (approximately 1.5 inches in length) settle in rocky nearshore habitat from April through June.

Younger fish mainly consume tiny crustaceans drifting with the currents. As they grow, they shift from eating plankton to feeding mostly on gelatinous forms of life such as tunicates and jellyfish, although squid, small rockfishes and even

pelagic red crabs can be important prey for this species.

This species' range extends from Sitka Strait in southeast Alaska to Punta Santo Tomas in northern Baja California, but is most commonly found from Oregon to central California, from near the surface to depths of almost 300 feet. The maximum reported size for this type of fish is 21 inches; males have been aged to 44 years, and females to 41 years. Adult fish form schools segregated by size and sex. In central and southern California this fish is often found in association with olive rockfish and blacksmith. This species is primarily residential; tagging studies have shown movement of up to 27 miles, but most recaptured, tagged fish traveled very little, if at all. This species was of relatively little importance in California's commercial fishery throughout most of

the twentieth century; however, it now makes up a significant portion of the live-fish fishery.

For recreational anglers, this species is

one of the most important in California. It is usually the most frequently caught fish of this genus north of Point Conception for anglers fishing from

skiffs and party/charter boats. It is also an important species for skin and scuba divers using spears, and is occasionally caught by anglers fishing from shore.

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* by November 15, 2011 with the correct scientific and common name, and the daily bag limit found in the 2011-2012 Ocean Sport Fishing regulations booklet. Again, be sure to type "October 2011 MMN Fish Quiz" in the "Subject" portion of your e-mail.

Answers to the quiz and winner's names will be provided in the next issue of *Marine Management News*.

## May 2011 "Mystery Fish": Cabezon



Cabezon may be identified by their large head, lack of scales, and flaps of skin, or cirri, over each eye and in the middle of the snout.

Out of the many correct entries for the May quiz, congratulations go out to Ron Massengill of Cambria, California for correctly identifying last issue's mystery fish as a cabezon, *Scorpaenichthyes marmoratus*. As of June 9, 2011 the daily bag and possession limit for cabezon is 3 fish within the RCG Complex bag limit of 10 rockfish, cabezon and greenlings in combination.

Ron is a retired marine biologist who now enjoys scuba diving, hiking, cycling, kayaking and fishing. He says he is an "avid member of the Cambria Fishing Club, one of the oldest fishing clubs on the Central Coast," and that much of his fishing enjoyment comes from trying to identify the fish that club members reel in. Congratulations on using those skills to win the drawing, Ron!

# Abalone and Red Sea Urchins Die During Red Tide in Northern California

by Laura Rogers-Bennett, Senior Marine Biologist Specialist and Mary Patyten, Research Writer

A n unprecedented die-off of marine invertebrates occurred at the same time as a large algae bloom, often called a *red tide*, along the Sonoma County coast during the week of Aug. 24, 2011. Significant numbers of red abalone, sea urchins and other species died from south of Bodega Bay north to Anchor Bay. Recreational divers and DFG enforcement staff were among the first to discover and report the large numbers of dead invertebrates, especially red abalone, washing ashore.

Affected invertebrates also included chitons, sea stars, rock crab, kelp crab, mussels, and other mollusks, echinoderms and crustaceans. No fish deaths were observed. The bat star, *Asterina miniata*, seemed less affected by the toxic bloom than ochre, sunflower, giant and leather sea stars, which perished in greater numbers.

"During the height of the bloom, sport divers reported they could easily knock sick abalone off the rocks," commented Jerry Kashiwada, an associate marine biologist who participated in recent surveys of the area. "On our surveys two weeks later, nearly all the surviving abalone we saw were firmly attached to rocks."

During underwater surveys conducted the week of Sept. 12, 2011 significant numbers of abalone and sea urchin were found dead along the Sonoma coast. At Fort Ross, red abalone populations are estimated to have been reduced by as much as 30 percent, while at other sites such as Salt Point 12 to 25 percent losses were documented, with the "Die-off" continued on page 5

The extensive algae bloom, or red tide, as fit appeared on August 2, 2011 north of Salmon Creek Beach near Bodega Bay. photo by J. Herum

**Marine Management News** 

#### "Die-off" continued from page 4

majority of dead abalone found in depths of less than 30 ft. Mortality rates at these sites were even higher for red sea urchin, ranging from 40 to 45 percent.

On Sept. 15, 2011 the survey results were presented to the Fish and Game Commission, which voted to close the red abalone fishery in Sonoma County for the remainder of the season. The fishery closure officially went into effect on October 4, 2011.

#### Determining the cause

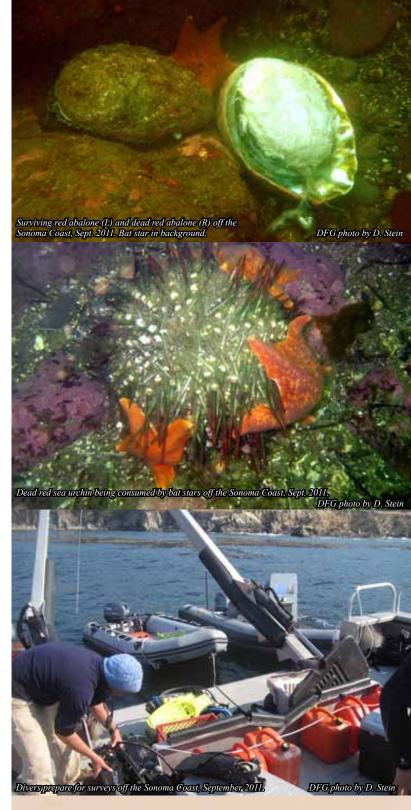
A week before the event, ocean conditions were calm and an extraordinary display of phosphorescence, a glowing light produced by some species of microscopic marine algae, was visible in the water at night. Phosphorescence often signals the presence of a phytoplankton, or algae, bloom.

Most phytoplankton blooms are harmless, but some blooms can expand so rapidly they deplete oxygen in local waters and suffocate marine creatures. Die-offs caused by oxygen depletion are usually small and isolated, encompassing a single cove or small bay. Because of the extensive nature of the Sept. 2011 die-off, which ran along at least 50 miles of shoreline, oxygen depletion is not suspected as the primary cause.

A number of phytoplankton species were found in water samples collected from Fort Ross and Salt Point during the bloom. The most abundant were within the dinoflagellate *Gonyaulax spinifera* species complex, which includes species that produce natural toxins. Because mussels concentrate toxins in their tissues, mussel samples were collected during the bloom and tested for the more commonly occurring toxins that cause paralytic shellfish poisoning and domoic acid poisoning in humans. Neither of these toxins were present at detectable levels. Mussels did contain trace quantities of yessotoxin however, which can be produced by *Gonyaulax spinifera*. According to researchers, yessotoxin is very rarely seen in California waters.

DFG's Office of Spill Prevention and Response laboratory staff were able to isolate yessotoxin using high performance liquid chromatography, however little scientific information is currently available about this toxin. Further tests are being conducted on tissue samples from abalone, sea stars and snails found dying during the bloom. In addition, seabirds that have recently died along the Sonoma coast are being examined to determine if their cause of death was something other than the poor condition of juvenile birds normally encountered this time of year.

If the cause of the die-off is linked to a harmful algae bloom, it would be the first scientifically confirmed report of such an occurrence off the Sonoma Coast. DFG will continue to investigate the die-off to determine the long term impacts as well as the causes of this significant abalone and sea urchin mortality event.



5



## Selected "snapshots" of current Marine Region projects by DFG Staff

#### **Red** Abalone

Interviews of abalone fishermen (a.k.a. creel surveys) were conducted at ten sites in Humboldt, Mendocino and Sonoma counties during the first half of the 2011 abalone season. Information from these surveys, which have been conducted since the 1970s, populate the longest running dataset collected for the abalone fishery. During each survey, DFG employees work alongside numerous volunteers to complete as many interviews as possible during the scheduled survey period. Personnel from Mendocino Abalone Watch and recent Natural Resource Volunteer Program graduates were among the volunteers who helped to contact close to 3,400 abalone fishermen and measure 6,000 abalone this year.

Data gathered during the surveys help to inform fishery managers of the

health of the northern California abalone population. For more information, visit the Invertebrate Management Project website at *www.dfg.ca.gov/marine/invertebrate/ abalone.asp*.

#### California Halibut

In September, 2011 Environmental Program Manager Tom Barnes and State Finfish Management Project staff held three public meetings in Southern California to present the results of the southern portion of the first-ever California halibut stock assessment, which was completed this year. The assessment showed the southern California stock is depressed but still capable of supporting a sustainable fishery, while the central California stock is healthy. Environmental factors appear to be influencing relative abundance in both regions. The California halibut stock assessment and related documents are available online at *www.dfg*. ca.gov/marine/sfmp/halibut-assessment.asp. Questions about the stock assessment documents may be directed to Associate Marine Biologist Travis Tanaka at DFG Marine Region, Attn. T. Tanaka, 20 Lower Ragsdale Drive, Suite 100, Monterey CA 93940, or by email to ttanaka@dfg.ca.gov.

New Sport Fishing Record: California Halibut

A new state record for California halibut was set by Francisco J. Rivera on July 1, 2011. Mr. Rivera broke the previous state record of 58 lb 9 oz by landing a 67 lb 4 oz halibut off Santa Rosa Island in Southern California. DFG obtained both otoliths from the record halibut, which will be used to estimate the age of the fish. Previously, the largest California halibut sampled in this manner by DFG staff weighed about 35 lb, and was an estimated 19 years old. Groundfish

> This fall, DFG will begin development of management considerations for 2013-2014 groundfish regulations in

conjunction with the Pacific Fishery Management Council and the Fish and Game Commission. In Sept. 2011, the Council limited the scope and complexity of harvest specifications and management considerations for the 2013-2014 period in order to more closely reflect 2012 regulations. This will simplify the process and ensure a January 1 fishery start date. As a result, DFG expects few changes to current regulations. DFG will announce information on upcoming opportunities for public input and participation as they become available.

#### **Bass Fisheries**

Analyses of a variety of fishery-dependent and fisheryindependent datasets indicate that populations of kelp bass and especially barred sand bass have experienced declines over the past several years. The Fisheries Independent/Scuba Assessment Project continuing to evaluate the *Paralabrax* (kelp bass, barred sand bass, spotted sand bass) fisheries and is seeking input from interested parties. Please submit your feedback on these important recreational fisheries to *AskMarine@dfg. ca.gov* and include "**Bass Fisheries**" in the subject line.



## Get Hooked on the Marine Region and MLPA Web Sites!

**F**or the latest information on fishing regulations, marine resources, and news affecting our California coastline, your first stop should be the DFG Marine Region website, located at *www.dfg.ca.gov/marine*. This comprehensive information source currently contains well over 2,000 web pages and documents readily available to the public. If you are new to this website, we invite you to explore the valuable resources we have created. For those who have already visited the site, be sure to check back regularly, since new features, updates, and press releases are added every week. Here are some recent, noteworthy updates:

2011-2012 Supplemental Fishing Regulations Booklet www.dfg.ca.gov/marine/sportfishing\_regs2011.asp This page contains the 2011-2012 Supplemental Fishing Regulations booklet distributed in July 2011, which contains both marine and freshwater regulation updates. The booklet includes updated sport fishing regulations and reminders for ocean salmon and groundfish (including rockfish and lingcod).

#### California Halibut Stock Assessment

#### www.dfg.ca.gov/marine/sfmp/halibut-assessment.asp

DFG completed its first-ever stock assessment of California halibut in July 2011. The assessment examined two separate halibut stocks off the coast of California, with the boundary drawn at Point Conception.

#### Final California Commercial Landings for 2010 www.dfg.ca.gov/marine/landings10.asp

This page contains the final commercial landings and the final commercial passenger fishing vessel (party/charter boat) reported catches for 2010. A total of 26 tables available on this page contain detailed information

by Aaron Del Monte, Marine Region Webmaster

from marine and inland regions throughout California.

Here are some of our most popular pages:

#### California Ocean Sport Fishing Regulations Map www.dfg.ca.gov/marine/fishing\_map.asp

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.

#### **Ocean Sport Fishing Regulations**

www.dfg.ca.gov/marine/sportfishing\_regs2011.asp

This page features the Ocean Sport Fishing regulations booklet that was printed and distributed in April 2011. This bookmarked PDF file features bolded, italicized bookmark headings that denote new or updated regulation sections. In addition to the booklet, you will find links to in-season regulations changes, helpful illustrations and more.

#### Frequently Asked Questions

#### www.dfg.ca.gov/marine/faq.asp

Do you have a question about commercial or sport fishing, regulations, or an individual species? The easyto-navigate questions and answers on this page in a variety of different categories are likely to lead you to the answer you are searching for.

Thank you for using the Marine Region website as a resource for news, information and regulations. We hope you will visit our site again soon!

### The Marine Life Protection Act (MLPA) Website www.dfg.ca.gov/mlpa

The 1999 MLPA directed the state to design and manage a network of marine protected areas (MPAs) 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 provided by marine ecosystems. This website contains up-to-date information about this exciting endeavor, including these popular resources:

#### MPA Mobile Website www.dfg.ca.gov/m/MPA

This new website allows anglers, divers and other ocean users to look up current information about MPA regulations and boundaries from personal computers, as well as smartphones and other portable Internetenabled devices. Users can search for any current MPA by name or county, or by using the interactive map. Users can also find and track their current location via GPS and determine whether or not they are currently located within an MPA.

#### South Coast Study Region

#### www.dfg.ca.gov/mlpa/southcoast.asp

The planning process for the South Coast Region (Point Conception to the California-Mexico border) has been completed. The California Fish and Game Commission selected Jan. 1, 2012 as the effective date for implementation of the MPAs in Southern California. This page contains links to news, maps and information regarding this new network of MPAs.



Albacore tuna range worldwide in temperate seas, and may be found coastwide off California at different times of the year. It is most frequently found in the upper layers of ocean waters, but will occasionally explore deeper, colder water in search of prey.

#### **Distinguishing Characteristics**

- Dark gray to metallic blue to almost black on the back, becoming white to gray below
- Body tapers at both ends
- Long head
- Mouth fairly large
- Pectoral fin extends well beyond anal fin

Albacore tuna can also be distinguished from bigeye or yellowfin tuna by comparing livers upon cleaning: albacore tuna liver is heavily striated (covered with blood vessels). It is the only tuna with both very long pectoral fins and a heavily striated liver.

#### Life History & Other Notes

Albacore prey varies depending upon where the fish are located and what is available. They seem to prefer small fishes, but will also take octopus, squid, and invertebrates such as shrimps and crabs.

Albacore tuna most likely spawn in the mid-Pacific

Albacore Tuna SCIENTIFIC NAME Thunnus alalunga OTHER COMMON NAMES longfin tuna, albie RANGE & HABITAT Statewide, but usually off central and southern California 20-100 miles offshore LENGTH & WEIGHT To 5 ft and 90 lb LIFESPAN

To ~10 years

**DIET & SUGGESTED BAIT** Feeds on fishes, squid, octopus, shrimp, crab. Try live anchovies or sauries for bait, or troll a feathered jig. during late summer. Off central and southern California, they may be found 20 to 100 miles offshore, usually when water temperatures reach 60° to 64° F. They are rarely taken near shore. Albacore tuna travel in loosely knit schools that can be located by trolling or observing surface signs (such as feeding birds). Once located, they are fished with hook and line using live anchovies for bait, or by trolling feathered jigs. 🐲

#### "Lobster" continued from page 1

In May of this year, the state Ocean Protection Council (OPC) approved a \$990,000 grant to the non-profit California Wildlife Foundation (CWF) to support the lobster FMP process. The grant will allow the DFG to fund completion of FMP development tasks that are unable to be undertaken by DFG staff, and provide for significant public involvement in the FMP process.

In essence, this FMP will be a planning document that gathers the best available scientific information on spiny lobster, its fisheries (both recreational and commercial), the economic conditions under which they operate, and the habitat and food species lobster depend upon. Fishery management plans review current fishery management methods and examine any other conservation and management measures that should be considered for the sustainability of the resource and its fisheries. The state's Marine Life Management Act requires FMPs to form the primary basis for managing the state's marine fisheries.

A Spiny Lobster FMP home page has been established on the DFG website at *www.dfg.ca.gov/ marine/lobsterfmp*. The new website will contain extensive information about spiny lobster and the FMP process, eventually including a question and answer page and contact information for sending comments and suggestions regarding the FMP to DFG staff.

The website will also feature a newly completed spiny lobster stock assessment, which serves as the basis for this FMP. The stock assessment describes the past and current status of the lobster population off the Southern California coast. DFG's lobster stock assessment underwent technical review in August; the final assessment and the Technical Review Panel's report will be made available on the website soon.

"Lobster" continued on page 9



8 *Excerpt from the* California Finfish and Shellfish Identification Book. Single copies of the book are available to California residents free of charge by emailing a request to publications@dfg.ca.gov

#### "<u>Lobster" continued from page 8</u>

Though the site is still under construction, interested parties can go to the home page and register to receive electronic updates on the lobster FMP process. Interested parties without Internet access may contact Rosalyn McFarland at (805) 568-1231 to sign up for periodic updates through an FMP (snail) mailing list.

Later this year, DFG will issue a call for volunteers to participate on a Lobster Advisory Panel, which will have a major role in the FMP process. Public scoping meetings on the lobster FMP will likely be held in Spring 2012. In the meantime, DFG will add background material to the website, and CWF will be soliciting bids for the tasks that others will undertake.

DFG staff participating in the spiny lobster FMP process includes Marine Region biologists Doug Neilson and Travis Buck who are both deeply involved in lobster management and research. Neilson and Buck helped to complete the recent lobster stock assessment, have analyzed lobster report card data, and participate in collaborative baseline monitoring of lobster populations in San Diego and Orange counties with researchers at the University of California at San Diego and Scripps Institute of Oceanography. DFG biologist Kai Lampson will assist Kristine Barsky in keeping the project on track and will coordinate the formation of the Lobster Advisory Panel.

The DFG began exploring partnership options to assist in the development of the lobster FMP over two years ago (see the October 2009 issue of the *Marine Management News*). With the help and commitment of the Environmental Defense Fund and the California Lobster and Trap Fishermen's Association, DFG was able to submit a grant proposal to the OPC. This body is charged with improving and coordinating the management and conservation of California's marine resources. CWF provides project management and fund administration for DFG projects.

For more information about the California spiny lobster FMP process, visit the spiny lobster FMP Web page at *www.dfg.ca.gov/marine/lobsterfmp*.

## **Region Manager Awarded Presidential Appointment**

Marija Vojkovich, DFG Marine Region manager since 2007, was recently appointed to one of five United States Commissioner posts by President Barack Obama, and will advise the State Department on West Coast fisheries in the Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean.

"The State of California and the National Marine Fisheries Service actively manage highly migratory fish stocks, such as tunas, swordfish, thresher and mako sharks, in our own waters," said Vojkovich. "I'm looking forward to this new challenge of helping to manage these fisheries on an international scale."

With 30 years of experience in fishery management and policy, Vojkovich is up for the challenge. She will continue as DFG Marine Region manager while taking on the additional duties of U.S. Commissioner, helping to identify operational and management changes for fisheries in the western and central Pacific Ocean to ensure long-term sustainability of important fish stocks. The United States works to manage highly migratory fish stocks via the Commission in concert with over 40 countries and territories, in addition to working with other national and multinational fishery management organizations.

<b>Upcoming Commission and Council Meetings</b>	
2011 California Fish and Game Commission www.fgc.ca.gov/meetings/2011	2011-2012 Pacific Fishery Management Council www.pcouncil.org/council-operations/ council-meetings/future-meetings/
October 19-20 November 16-17 Monterey Santa Barbara	November 2-7, 2011March 2-7, 2012Costa Mesa, CASacramento, CA
December 14-15 San Diego	April 1-6, 2012 June 20-25, 2012 Seattle, WA San Mateo, CA
For the latest information on upcoming fishery-related meetings, please go to our Calendar of Events at <i>www.dfg.ca.gov/marine/calendar.asp</i> or contact the Monterey DFG office at (831) 649-2870.	

## MARINE Management News

Marine Management News is published three times per year 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/marine**.

> Newsletter Editor and Designer Mary Patyten

Staff Writers and Contributors to This Issue Kristine Barsky, Aaron Del Monte, Joanna Grebel, Kristin Hubbard, Mary Patyten, Paul Reilly, Ed Roberts, Laura Rogers-Bennett, Ashok Sadrozinski, Chuck Valle

> Please direct all correspondence to: California Department of Fish and Game Marine Management News 32330 North Harbor Drive Fort Bragg, California 95437

## The Marine Life Management Act

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/marine.

#### 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 through good science and effective communication."

*Alternate communication formats of this document are available upon request. If reasonable accomodation is needed, call DFG at (707) 964-5026. The California Relay Service for the deaf or hearing impaired can be utilized from TDD phones at (800) 733-2929.*