



Channel Islands National Marine Sanctuary Sanctuary Superintendent's Report



Volume 7, Number 3

A report for the Sanctuary Advisory Council and Sanctuary Constituents

November 2009

ABOUT THE SANCTUARY

Designated in 1980, the Channel Islands National Marine Sanctuary (CINMS or sanctuary) consists of an area off the coast of California of approximately 1,470 square miles adjacent to the following islands and offshore rocks: San Miguel Island, Santa Cruz Island, Santa Rosa Island, Anacapa Island, Santa Barbara Island, Richardson Rock, and Castle Rock, extending seaward to a distance of approximately six nautical miles. The islands vary in distance from 12 to 40 nautical miles offshore from Santa Barbara and Ventura counties in southern California. A fertile combination of warm and cool currents in this area results in a great variety of plants and animals including kelp forests, fish, invertebrates, marine mammals and sea birds. The sanctuary also contains a wealth of maritime heritage resources including Chumash Native American artifacts and over 100 historic shipwrecks. Human uses in the area include commercial and recreational fishing, marine wildlife viewing, boating, diving, kayaking, maritime shipping, nearby offshore oil and gas development, research and monitoring, and numerous educational activities. Sanctuary staff coordinate research, monitoring, education, outreach, emergency response, and community involvement programs, as well as the enforcement of regulations, to promote long term resource protection and compatible human use within the CINMS.

ABOUT THIS REPORT

This report highlights a number of accomplishments and activities over the past several months from each sanctuary program area. The report will be provided in March, July, and November to the Sanctuary Advisory Council and is available to the public (see www.channelislands.noaa.gov).

ITEMS OF SPECIAL NOTE

Channel Islands Condition Report Released

CINMS published their condition report and accompanying press release on Wednesday September 9, 2009. The report states the water quality is generally good due to the sanctuary's offshore location and distance from major urban population centers. However, habitat quality and living resource conditions have deteriorated somewhat due to a variety of human activities, as well as changing ocean conditions and disease. Many management and regulatory efforts are already in place to help counter these effects and development of the report has helped to identify areas where more monitoring and research is needed. The report can be found at <http://sanctuaries.noaa.gov/science/condition/welcome.html>.

Strategy Meeting for Recent Seaweed Invasion at Channel Islands National Marine Sanctuary

Sargassum horneri (formerly known as *S. filicinum*), an Asian seaweed, was recently discovered in CINMS at Anacapa Island. The seaweed was found on the mainland as early as 2003 and at Santa Catalina Island in 2006, where it is now abundant. The first sighting at Anacapa Island was in spring 2009 and it is now in dense patches at West Anacapa Island. There is concern that it could outcompete native brown algae. A group of researchers, agency representatives, and non-profit organization members met on Monday October 19, 2009 to discuss what is known about the status, life history, and ecosystem effects of the species, what are the research and monitoring needs, if control is feasible and should be attempted, and what resources, including funding opportunities, are available. Chris Mobley, Superintendent, and Dani Lipski, Research Specialist, attended the meeting with staff from Channel Islands National Park, UC Santa Barbara, the

Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), Santa Barbara Channelkeeper, and ReefCheck. The group agreed on developing monitoring protocols, outreach efforts, permit and funding needs, and exploring control options.

Channel Islands National Marine Sanctuary and National Park Host 4th Annual Volunteer Recognition Event

On October 20, 2009 the CINMS and Channel Islands National Park jointly hosted the 4th Annual Volunteer Recognition and Awards Event to thank volunteers for their commitment and stewardship of sanctuary and park resources. Over 220 were in attendance at the event, including volunteers from the Channel Islands Naturalist Corps (CINC) program and Sanctuary Advisory Council (SAC). 135 Channel Islands Naturalist Corps volunteers donated more than 25,000 hours in fiscal year 2009 to educate the community aboard local whale watch vessels, on island hiking trips and at community events, and played an important role conducting citizen science and monitoring programs. Staci Kaye-Carr, CINC Volunteer of the Year, was commended for her diverse and enthusiastic service for the sanctuary and park, with over 718 volunteer hours in fiscal year 2009. Thirty-nine active Sanctuary Advisory Council (SAC) members were also recognized for 824 hours of service, with member Bruce Steele awarded the SAC 2009 Inspiration Award. Steele was recognized for the passion and commitment he has brought to the important environmental issue of ocean acidification, and for his community leadership as a commercial urchin fisherman.

Amgen Foundation Awards Grant to Channel Islands National Marine Sanctuary for MERITO Academy in 2009-2010

On October 26, the National Marine Sanctuary Foundation received notice of a \$45,000 award from the Amgen Foundation to support the CINMS's Multicultural Education for Resource Issues Threatening Oceans (MERITO) Academy program in the Santa Barbara region during the 2009-2010 school year. The grant was awarded through a competitive process. Amgen Foundation's contribution will provide 26 minority-serving educators with professional development services in marine environmental education, and will provide 900 under-served minority students 2-3 meaningful watershed, coastal and island field experiences. The funds will sponsor field trip transportation for the students and staff time for instruction during field experiences. Through the MERITO Academy program students are immersed in Earth and ocean science education, and learn the connections between our watersheds, coasts, open oceans and atmosphere, while understanding the impact of our daily actions on the health of our oceans and climate.

EDUCATION, OUTREACH, AND VOLUNTEERS

Multicultural Education Program Awarded Grant to Develop Curriculum on Ocean Acidification and Climate Change Effects

On July 23, the MERITO program at CINMS was awarded a \$4,000 project funds grant to support development of three lesson plans focused on ocean acidification and climate change effects on terrestrial plants. The grant was awarded by the U.S. Fish and Wildlife Service. The adapted lessons will adhere to California State Standards and, as part of the MERITO Academy curriculum, will reach an annual average of 23 educators (75% teachers from Title 1 public schools and 25% after school program leaders) and 900 minority students (85% Hispanic, 90% underprivileged, 50% English Language Learners). The MERITO Academy program will pilot the lesson plans during the 2009-2010 school year. This funding will support a new partnership between the NOAA's CINMS and the U.S. Fish and Wildlife Service's Ventura Field Office. These agencies will work together on joint training of educators, and further shared goals of connecting people with nature while building stewardship for their national marine sanctuary, the ocean and their local environments.

Channel Islands National Marine Sanctuary Staff Educates Ty Warner Sea Center and University of California Santa Barbara Volunteers and Staff Aboard R/V *Shearwater*

On August 2nd, CINMS educator Laura Francis coordinated a training workshop for twenty six volunteers and staff from the Santa Barbara Museum of Natural History's Ty Warner Sea Center and the University of California Santa Barbara Coal Oil Point Reserve aboard the sanctuary's R/V *Shearwater*. Participants collected and viewed plankton under a video microscope, learned how to record marine mammal sightings, explored marine protected areas within the sanctuary, hiked on Santa Cruz Island with trained Channel Islands Corps Volunteer Naturalists, learned how to identify fish and invertebrates underwater, and snorkeled in a protected island cove. Prior to this field experience, participants attended a three hour orientation and overview about the sanctuary taught by Sea Center staff. The Sea Center provides educational programs about the Santa Barbara Channel and CINMS for approximately 64,000 visitors each year.

Twenty-Six Educators Trained for Channel Islands National Marine Sanctuary MERITO Academy School Year

On September 18 and 19, CINMS MERITO Program Coordinator, Rocío Lozano-Knowlton, in partnership with the Channel Islands Marine Resource Institute, trained 26 educators during the 4th annual MERITO (Multicultural Education for Resource Issues Threatening Oceans) Academy Educators Workshop. On September 18, participants were trained on use and implementation of MERITO Academy curriculum by Rocío Lozano-Knowlton, Shannon Newby, Science Education Professor, and Andrea Moe, curriculum developer at Oxnard College Marine Education Center. On September 19, the educators were trained on how to implement related field activities at Santa Cruz Island and aboard NOAA's R/V *Shearwater*. The educators also participated in an interpretative hike led by naturalist Catherine French prior to snorkeling and exploring the island's kelp forest.

Channel Islands National Marine Sanctuary participates in Santa Barbara Harbor & Seafood Festival

Staff and volunteers from the CINMS participated in the Eighth Annual Santa Barbara Harbor and Seafood Festival on Saturday, October 10, 2009. Activities included a sanctuary and Channel Islands National Park information booth next the Fisherman's Market and public dockside tours of the sanctuary's research vessel *Shearwater*. Sanctuary staff worked side-by-side with staff from the Santa Barbara Waterfront Department and local fishermen to serve up local seafood favorites. The festival raises awareness about the Santa Barbara Channel as a bountiful and high-quality source of seafood — from lobster, ridgeback shrimp, rock crab, white sea bass, California halibut, yellowtail, salmon, swordfish, thresher shark, and rockfish to such delicacies as Santa Barbara spot prawns, sea urchin, and sea cucumber. Sanctuary staff enjoy helping out Santa Barbara Harbor's local commercial fishermen at this annual event. 8,000 people were estimated in attendance at the festival.

RESEARCH AND MONITORING

NOAA Research Vessel *Shearwater* Completes Two Week Remotely Operated Vehicle Cruise at Channel Islands National Marine Sanctuary

In July Scientists from the California Department of Fish and Game and Marine Applied Research and Exploration completed a two week research cruise on the CINMS research vessel *Shearwater*. This is the sixth consecutive year of the project which aims to determine changes in fin fish abundance in response to the establishment of marine reserves in 2003 at the Channel Islands. Scientists employ a remotely operated vehicle (ROV) to identify fish and record abundance, size, and habitat type at ten sites (five pairs of sites inside and outside marine reserves). The ROV is equipped with two video cameras which enables the team to conduct video surveys beyond the depths of SCUBA divers. The video is analyzed to determine the abundance of species of recreational and commercial importance and habitat type. Species and abundances

observed are mapped with habitat type to provide a detailed, geo-referenced record of the area. Comparisons between the reserve and reference site pairings are used to evaluate marine reserve effectiveness over time. This work contributes to the marine reserve monitoring effort, which seeks to characterize changes in the ecosystem as a result of marine reserve implementation.

Subtidal Surveys Completed at Outer Islands of Channel Islands National Marine Sanctuary

Calm autumn weather allowed divers from the University of California Santa Barbara (UCSB) Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) program to complete nineteen dives over four days at San Miguel and Santa Rosa Islands. The divers were on board CINMS's research vessel *Shearwater* from September 8-11, 2009 to quantify the density and abundance of the macroalgae, invertebrates and fishes in shallow subtidal kelp forests around the islands. PISCO has over 30 sites around the islands, both inside and outside marine reserves, which they visit annually to monitor changes. Some sites have been monitored since 1999.

Channel Islands National Marine Sanctuary Completes Cruises to Evaluate Large Whale Behaviors Responding to Large Vessel Traffic

From Monday September 14th to Wednesday September 22nd scientists aboard the R/V *Shearwater* conducted a cruise to monitor large whales, including blue and humpback whales, in CINMS— and to document the distribution of large whales around CINMS. The team attached tags that record time, depth, pitch and roll, GPS location and sound intensity experienced by the animal, and performed transect surveys to identify and photograph cetaceans. The study is part of a larger project to evaluate the whales' behavioral responses to the approach of large commercial vessels and the sounds generated by the approaching vessels. The study was developed in response to the spate of ship strikes on whales in and around CINMS in the Fall of 2007, when four whales arrived on local beaches with evidence of ship strikes. On the cruises, a total of 10 whales were tagged. This included 5 animals in and around the shipping lanes, 4 deployments going into the night to evaluate day/night behavioral differences, 2 deployments on both animals of a traveling pair, and 5 deployments southwest of San Miguel Island to evaluate the feeding behavior of animals in a newly recognized aggregation area. On the same cruise, the R/V *Shearwater* performed a series of transects to map the distribution of an anomalously dense band of krill that extended 12 miles long. In total, the surveys yielded sightings and photo ID's of 160 large whales on September 15th, and 215 large whales on September 21st. The project is a partnership between the CINMS research department, Cascadia Research, and the Scripps Institution of Oceanography, and was funded with a grant from the National Marine Fisheries Service's Office of Science and Technology.

Channel Islands National Marine Sanctuary Completes Cruises Characterizing Habitat Inside MPAs using Autonomous Underwater Vehicles

From Monday September 28th to Friday October 2nd, CINMS research department staff conducted a collaborative project with staff from the Fisheries Resources and Monitoring Division (FRAM) of the NMFS' Northwest Fisheries Science Center and Woods Hole Oceanographic Institution (WHOI) to map habitat and estimate densities of fish inside federal marine protected area (MPA) sites using an Autonomous Underwater Vehicle (AUV). The AUV is a SeaBED bottom profiling AUV designed and built at WHOI, which uses an onboard acoustic doppler current profiler to maintain a constant distance from the bottom while taking high resolution digital images that can be used post-mission to evaluate habitat, enumerate biotics and map maritime heritage sites. This was the second cruise for this project this year. The team conducted seven successful missions of the AUV at several sites around CINMS including the Anacapa Island and Scorpion MPAs. The AUV performed missions between 40 and 300 meters depth and forms a significant component of the CINMS monitoring of deep water (i.e. deeper than SCUBA operational envelope).

Channel Islands National Marine Sanctuary Completes Cruises to Evaluate Potentially High Nutrient Inputs to Santa Barbara Island Marine Reserve

From Monday October 26th to Wednesday, October 28th the R/V *Shearwater* conducted a cruise to monitor nutrient flux in the kelp forest food web around Santa Barbara Island within CINMS. Santa Barbara Island is a seasonal home for large aggregations of California Sea Lions – particularly in the southeast lee of the island in the Santa Barbara Island Marine Reserve. Recent subtidal observations have suggested a shift from ecotypes dominated by kelp to ones dominated by filamentous green algae and cyanobacterial mats. These shifts are distinct from common urchin barren habitat and are potentially indicative of a condition of high nutrient inputs called eutrophication. The island is far from the mainland nutrient inputs, nominating the sea lions as the likely source of nutrient. Divers collected water samples and algal and invertebrate grazer and predator tissue samples inside and outside of the sea lion rookery on Santa Barbara Island to identify the source of nutrients in the food web and assess the relative magnitude of the sea lions as a nutrient source. This project is a collaboration between the CINMS research department, the Santa Barbara Coastal Long Term Ecological Research site, and the Department of Fisheries and Oceans Canada.

RESOURCE PROTECTION

Support Building for Ocean Acidification Recommendations from Channel Islands National Marine Sanctuary Advisory Council

In September 2008 the CINMS Advisory Council adopted a comprehensive report on ocean acidification, calling on sanctuaries and NOAA to prioritize research, monitoring, education and leadership on this issue (see: <http://www.channelislands.noaa.gov/sac/pdf/cwg-oar.pdf>). The report, which was developed by the Council's Conservation Working Group, has proven to be widely influential with other advisory councils throughout the National Marine Sanctuary System. To date, seven of the thirteen other advisory councils have adopted by resolution or motion recommendations from or based on the CINMS council's report, including councils from the Cordell Bank, Monterey Bay, Olympic Coast, Gulf of the Farallones, Fagatele Bay, Hawaiian Islands Humpback Whale, and Florida Keys national marine sanctuaries. Several other councils are planning to discuss this important issue at upcoming meetings. These community-based actions come at a time when NOAA is ramping up efforts to better understand and address ocean acidification and its effects.

Channel Islands Sanctuary Advisory Council Approves Ship Strike Recommendations

The CINMS Advisory Council met Friday September 18, 2009 and voted unanimously to approve recommendations to reduce the threat of ship strikes on large whales in the Santa Barbara Channel and CINMS. In general, the recommendations include consideration of research and monitoring, education and outreach, ship speed reduction, changes in vessel patterns, and engagement of agency partners and industry. The Advisory Council has devoted considerable effort to this issue since several blue whales were struck in 2007. The advice was developed by the council's Ship Strike Subcommittee, a group composed of agency, business, conservation community, and public partners working with CINMS staff, and in consultation with shipping industry leaders, whale experts and others. Media coverage in the Ventura County Star: <http://www.venturacountystar.com/news/2009/sep/19/panel-seeks-to-prevent-more-blue-whale-deaths-in/>.

Ashy storm-petrels and Xantus's murrelets at Channel Islands are focus of meeting

The Audubon Society brought together staff from NOAA, National Park Service, USGS, Fish and Wildlife Service, and the Nature Conservancy on September 16, 2009 to discuss the status, threats, recovery efforts, and next steps for two seabirds at the Channel Islands, including CINMS. Ashy storm-petrels and Xantus's murrelets breed at the Channel Islands and face numerous threats such as visitor disturbance, climate change, non-native and native predators, and lights. Recent restoration efforts such as native vegetation re-planting

and non-native predator removal are expected to help the species recover. Audubon Society is interested in assisting and may focus efforts on an education campaign about vessel lighting.

MARITIME HERITAGE RESOURCES

Chumash Community Gathering at Santa Cruz Island Supported by Channel Islands National Marine Sanctuary

On September 12th hundreds of Chumash community members came together at Scorpion Valley on Santa Cruz Island for an annual cultural gathering. Unfortunately, inclement weather this year prevented paddlers of ELYE'WUN, a traditionally built tomol (plank Chumash canoe), from embarking on the twenty-two mile crossing from Channel Islands Harbor to Limuw (Santa Cruz Island). However, the community gathering at Swaxil (former Chumash village site at Scorpion Valley) was nonetheless very special. Mike Murray and Robert Schwemmer from CINMS were honored to join the group and participate in the traditional community circle ceremony honoring tomol paddlers and several special guests. Historically, and still today, the northern Channel Islands are a special place to Chumash Native Americans, who have traveled to the islands in tomols. Chumash people are restoring their heritage of intimacy with the sea, and work closely with sanctuary staff on a range of projects and programs. NOAA's Maritime Heritage Program is committed to preserving historical, cultural and archaeological resources within the National Marine Sanctuaries. Photos of the event can be viewed at <http://journeytolimuw.blogspot.com/>.

Science team from Channel Islands National Marine Sanctuary search for Early Holocene Human Occupation at San Miguel Island

CINMS staff, along with divers from Coastal Maritime Archaeology Resources (CMAR) and the State of Alaska, completed dive operations on board the R/V *Shearwater* to survey and explore possible early Holocene sites of the now submerged area known as Santarosae (Northern Channel Islands). The expedition's principal investigator Jack L. Watts of the Oxford University, Kellogg College, in collaboration with Jon Erlandson of the University of Oregon, briefed divers on earlier terrestrial findings at Daisy Cave on San Miguel Island and at Arlington Springs on Santa Rosa Island that indicate occupation of the Northern Channel Islands as early as 13,000 B.P. Although the expedition was initially hampered by storm seas and high winds, the science team safely conducted reconnaissance dives off Daisy Cave, Wyckoff Ledge, Willow Canyon mouth, and San Miguel Island 239 site (chert outcrop). During the systematic search divers discovered submerged chert cobble stones, but no verified evidence of human tooling. Further exploration is planned, including an offshore site known as Oil Springs off Castle Rock.

Maritime Heritage Resources Recorded at Channel Islands National Marine Sanctuary

Several ship and aircraft wrecks within CINMS were surveyed and documented during a five-day expedition Oct. 19-23, 2009 on board the R/V *Shearwater*. The work was part of an ongoing monitoring program to evaluate environmental and human impacts to the sanctuary's submerged maritime heritage resources. Sites recorded at Anacapa Island included the California Gold Rush passenger steamer *Winfield Scott* (1850-1853), fishing vessels *Equator* (1949-1949) and *Del Rio* (1935-1952), a newly recorded wreck known as the *Bar-Bee*, and a WWII U.S. Navy Grumman Avenger TBF 1-C aircraft. The science team also searched for a second aircraft lost off east Anacapa Island that was involved in the midair collision with the Avenger TBF 1-C torpedo bomber. At Santa Cruz Island, a WWII era mine-sweeper was surveyed as well as a Grumman AF-2W Guardian antisubmarine aircraft (1950-1954). The shipwreck reconnaissance program at the Channel Islands dates back to the early 1980s and is a collaborative partnership between the sanctuary, National Park Service, Coastal Marine Archaeology Resources (CMAR) volunteer organization and the California State Lands Commission. The science team included divers from CINMS, Channel Islands

National Park Service and CMAR. The Santa Barbara Maritime Museum provided a Seabotix ROV that was utilized for deep-water site surveys in excess of 130 feet and for live boat survey searches.

Sanctuary Staff

Santa Barbara Harbor Office

Christopher Mobley *Superintendent*

Todd Jacobs *Deputy Superintendent for
Administration and Operations*

Michael Murray *Deputy Superintendent for Programs*

Amy Cale – *Web and Kiosk Developer*

LTJG Matt Davis – *Operations Officer*

Laura Francis – *Education Coordinator*

Reginald Greenwood – *Vessel Operator*

Sean Hastings – *Resource Protection Coordinator*

Dr. Steven Katz – *Research Coordinator*

Charles Lara – *Vessel Captain*

Dani Lipski – *Research Specialist*

Robert Schwemmer – *Regional Maritime Heritage Coordinator*

Natalie Senyk – *Physical Scientist*

Terrence Shinn – *Vessel Captain*

Ben Waltenberger – *Physical Scientist*

Rebecca Young – *Program Support Specialist*

Ventura County Field Office

Julie Bursek – *Team Leader for Education and Outreach*

Shauna Bingham – *Volunteer Program and Outreach
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Lorri Herr – *Program Support Specialist*

Tina Johnson – *Administrative Support Coordinator*

Rocío Lozano de Knowlton – *Bilingual Education & Outreach
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CINMS Interns

Kristin Bor – *Resource Protection Intern*

Jonathan Weber – *Resource Protection Intern*

ONMS West Coast Region Staff

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Matt Brookhart – *Policy Coordinator*

Nicole Capps – *Management Support Specialist*

Dave Lott – *Operations Coordinator*

Local ONMS Staff

Claire Fackler – *West Coast Education Liaison*

Sarah Marquis – *West Coast Media Coordinator*

Matt Pickett – *ONMS Aviation Coordinator*

Learn More About Your Sanctuary

The Channel Islands National Marine Sanctuary produces the Sanctuary Superintendent's Report in conjunction with every other bi-monthly Sanctuary Advisory Council meeting. To learn more about the sanctuary please visit our web site at: <http://channelislands.noaa.gov>.

To learn more about the Sanctuary Advisory Council please visit: <http://channelislands.noaa.gov/sac/main.html>.

Office of National Marine Sanctuaries (ONMS)

The National Marine Sanctuary System consists of 14 marine protected areas that encompass more than 150,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys, and from Lake Huron to American Samoa. The system includes 13 national marine sanctuaries and the Papahānaumokuākea Marine National Monument. The ONMS, which manages the system, was established under the National Marine Sanctuaries Act of 1972. Visit the ONMS web site at: <http://sanctuaries.noaa.gov/>.

Channel Islands National Park

To learn about Channel Islands National Park visit their web site at: <http://www.nps.gov/chis/homepage.htm>.

GET INVOLVED AND STAY INFORMED!

To learn how to get involved in the sanctuary visit: <http://channelislands.noaa.gov/focus/involved.html>

Sign up for the CINMS listserv to receive email notices about upcoming sanctuary events, and public meetings of the Sanctuary Advisory Council and its working groups: <http://channelislands.noaa.gov/focus/list.html>

- CONTACT INFORMATION -

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