

# Alolkooy

*The  
Publication  
of the  
Channel  
Islands  
National  
Marine  
Sanctuary*

Fall  
1996

Volume 9  
Number 3



## Inside

Coast Guard Rescue  
Maritime Safety  
USCG Auxiliary  
Graveyard of Ships  
Probing for History  
New Maritime Museum

**Research**  
Withering Syndrome

**Sanctuary News**  
Whale Study Ends  
New NOAA  
Sanctuary Chief

Alolkoy is published quarterly through a cooperative agreement between the Santa Barbara Museum of Natural History and the Channel Islands National Marine Sanctuary, pursuant to National Oceanic and Atmospheric Administration (NOAA) Financial Award No. NA67OM0112. Opinions expressed in Alolkoy do not necessarily reflect the official position of the Sanctuary or the museum.

The Channel Islands National Marine Sanctuary is part of the National Marine Sanctuary Program, established under Title III of the Marine Protection, Research, and Sanctuaries Act, as amended. For more information, contact: Sanctuaries and Reserves Division, Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, 1305 East-West Highway, SSMC4, 12th Floor, Silver Spring, MD 20910.

Direct correspondence, submissions, and address changes to Editor, Alolkoy, CINMS, 113 Harbor Way, Santa Barbara, CA 93109, 805/966-7107.

Editor: Vic Cox  
Production: Rebecca Ditmore

"Alolkoy" is a Chumash word meaning dolphin.  
Printed with soy-based ink on recycled paper.



SANTA BARBARA MUSEUM  
OF NATURAL HISTORY

CHANNEL ISLANDS



NATIONAL MARINE  
SANCTUARY

## From the Bridge

# All to the Rescue

By Ed Cassano, Sanctuary Manager

For those who go to sea in ships there is an unwritten law to aid fellow sailors in distress. Within the community of mariners who make their living, or sail for pleasure, in the Santa Barbara Channel region, agencies and organizations like the United States Coast Guard and the various harbor and marine patrols stand ready to respond to disasters at sea.

The staff and vessels of the Sanctuary are proud to be included in the emergency response plans of these agencies. Channel Islands National Marine Sanctuary (CINMS) staff are highly skilled mariners with specialized training in marine fire fighting and damage control, first-aid, diving and on-scene coordination.

On May 12 the CINMS staff participated in a disaster readiness drill put on by the city of Santa Barbara and the Coast Guard. The exercise simulated a downed aircraft in the ocean off of the Santa Barbara Airport to hone the skills of the CINMS staff, Coast

Guard Auxiliary, harbor patrol and Coast Guard.

The drill successfully demonstrated the professionalism and response capabilities of Santa Barbara's harbor patrol and the expertise and leadership of the Coast Guard cutter *Point Camden*. As a public agency and professional mariners, CINMS stands ready to help these agencies whenever and wherever we can.



Ed Cassano

A Santa Barbara Harbor Patrol boat practices going to the aid of a downed aircraft.

## Editor's Watch

# Auxiliary Power

Much as we might hope rescues accompany shipwrecks, that is not always true, especially in the wind-whipped Santa Barbara Channel. The more than 130 wrecked vessels and airplanes within the Sanctuary's six nautical miles hint at the toll. In the past, survivors could not count on an organized search and likely rescue.

Today, federal and state laws require Personal Flotation Devices and emergency radio beacons to locate vessels in distress. However, there are limitations and exceptions to these rules. Don't assume every vessel has this equipment. For example, safety inspections of noncommercial pleasure craft are voluntary.

Helping the Coast Guard with safety training and voluntary inspections are groups like the Coast Guard Auxiliary. The Coast Guard depends on the volunteer Auxiliary to extend the safety message to all seafarers. But a more basic theme underlies the message: Respect the ocean. Without that basic humility the sailor only courts disaster.

## Upcoming

Tales of whales dominate the next *Alolkoy*, and that's no fluke.

Cover: Rescue calls are the Coast Guard's regular fare, even in the placid waters off Santa Barbara. (Photo: Laura Gorodezky)

# The Coast Guard's Helping Hand

By USCG Lt. (jg) Tony Ceraolo

The winds blew from the north/northwest at about 35 knots (40 mph); the sea swell was from almost the same direction at 17 feet. It was not a pleasant day last May when 10 men in an 82-foot-long vessel swiftly motored to San Nicholas Island, due south of Oxnard, California. The hull crashed against every fourth or fifth wave; standing upright was an effort, yet the Coast Guard crew pressed on. A vessel was disabled and the crew of the *Point Camden* was determined to intervene in a menacing situation.

Engine failure had exposed the fishing vessel *Sockeye* to the rising sea. Anchored about two miles north of San Nicholas, the 37-foot-long boat faced growing waves as winds gusted to 40 knots (46 mph). Coupled with pending nightfall, the situation threatened possible loss of property or worse, the loss of life. Realizing his plight, the skipper had broadcast his position and called for help, a signal known as a mayday.

Normally, a disabled vessel that is in no imminent danger can be serviced by the nearest commercial vessel assist company, which is comparable to calling a towing service on the freeways (except it may take longer). However, the *Sockeye* was more than 70 miles from the mainland, and daylight was fading. Its mayday had been picked up by the Coast Guard's Search and Rescue Controller in Los Angeles/Long Beach, and a helicopter was dispatched to assess the scene.

All mayday calls are treated as immediate-risk situations until the scene is assessed and found otherwise. Even when a commercial assist is called in, the Coast Guard closely monitors the disabled vessel until the rescue ship arrives and takes control of the situation.

In the case of the *Sockeye*, the helicopter crew confirmed the problem was serious and that no one was injured or in immediate danger. They also lowered a small radio so that the skipper could communicate with the *Point Camden*, which was the nearest cutter at the time.

Though this boat's home port is Santa Barbara, it was patrolling Santa Monica Bay when the Controller took the distress call. That was not unusual. The Coast Guard Group based at the ports of Los Angeles and Long Beach controls five patrol boats and is

responsible for operations from Morro Bay in San Luis Obispo County to Dana Point in Orange County. Seaward they range 220 nautical miles. One of these five cutters is always on patrol or on a two-hour stand-by status at any one time.

To cover this heavily trafficked area the Los Angeles/Long Beach group has other cutters on stand-by of either 12 or 24 hours. Two other stations can provide smaller, short-range utility vessels on short notice.

That is how the *Point Camden*, in a rough, five-hour-long dash, came to aid the *Sockeye*. Once on scene, the immediate problem was how to secure a tow line to the crippled boat without fouling the cutter's propellers in fishing gear. When the skipper cut his lines the *Sockeye*, which had been heading into the wind, swung sideways and rolled violently back and forth.

Under the hand of Petty Officer Rob Shelton the cutter passed within 10 feet of the *Sockeye*'s bow and a line was tossed to the fishermen. Unfortunately, the weighted heaving line rather than the thicker tow line was

secured, and it soon parted. With wind and sea pushing the *Sockeye* perilously close to San Nicholas, a second approach gave the deck crew, led by Petty Officer Chad Wendt, another opportunity to pass the tow line.

This time the tow line was tied down and the cutter pulled the fishing boat to safety. Altogether the rescue took 14 exhausting hours, but the crew wore smiles on their faces. They had helped a person in need, saved an expensive piece of property in a very dangerous situation, and done it with the utmost professionalism.

Search and rescue are primary Coast Guard responsibilities, right up there with law enforcement, marine pollution prevention and environmental response. But they are never routine operations; the ever-challenging ocean sees to that. As the *Point Camden*'s proud commanding officer, I can add that the crew does not do this kind of service for money or glory. They do it because they like helping people and they love their country.

Lt. (jg) Tony Ceraolo has commanded the Santa Barbara-based Coast Guard cutter *Point Camden* since June 1995.



Ed Cassano

*The USCG cutter Point Camden opens up during a recent disaster drill off Goleta, California. Helicopters are often the service's eyes for on-scene assessment of distress calls.*



CINMS File Photo

# Mission Possible: Maritime Safety

By USCG Lt. Rick Sorrell

The Coast Guard has worn the badge of chief enforcer of United States maritime laws since 1790. Congress charged the service with “enforcement of all applicable federal laws on and under the high seas and waters subject to the jurisdiction of the United States.” Most people think of the agency as going after criminals, like drug and people smugglers, along the nation’s coasts, but much effort is devoted to protecting the marine environment and ensuring boaters’ safety.

Coast Guard enforcement authority ranges from policing fisheries laws in the 200-mile wide Exclusive Economic Zone of the United States to inspections of commercial vessels. Inspections center on preserving life at sea and pollution prevention.

Helping fulfill this latter mission is the Marine Safety Detachment (MSD) in Santa Barbara, a five-person sub-unit of our larger Marine Safety Office in Long Beach, California. This small office has the enormous responsibility of carrying out many of the Coast Guard’s marine safety programs within the tri-counties.

The program emphasizes prevention in its key components: environmental response training for things such as oil spills; inspections of foreign and domestic vessels; Outer Continental Shelf platform inspections; licensing of mariners, and marine accident investigations.

The MSD also is involved in more recently developed programs, like the voluntary inspections of commercial fishing vessels and recreational vessels. These inspections are conducted by the Reserve and Auxiliary components of the Coast Guard, which are of great help in expanding the effectiveness of the MSD. (See accompanying story.)



USCG File Photo

*Commercial passenger-carrying boats are Coast Guard-inspected for safety gear, like these lifeboats.*

Participation in such inspections by vessel owners and operators is encouraged but not mandatory. Besides serving as an important means of safety education and environmental awareness, owners who successfully complete the inspections may also reap a discount on their insurance.

There are mandatory inspections for commercial passenger vessels, and some safety gear is required on all vessels. Congress gives the Coast Guard its basic enforcement authority, and some of these laws are more than 100 years old. The safety program, for example, traces its origin to the Commercial Vessel Safety program of 1838 and the Steamboat Inspection Service of 1871, which were formed primarily in response to public outcry to numerous aquatic accidents.

After passing such laws, Congress directs the Coast Guard to develop enforcement regulations, bearing in mind Congress’ intent in making the laws. Throughout the process of writing the regulations the general public is always asked to provide input through public meetings and written comments.

Prevention through people has become the Coast Guard’s proactive approach to vessel safety and environmental protection. Avoiding loss of life and property at sea, and minimizing damage to the marine environment from pollution, are some of the many benefits gained when we all work together.

To find out more about the MSD, visit its web site at: <http://www.1startist.com/uscg>

*Lt. Rick Sorrell supervises the U.S. Coast Guard’s Marine Safety Detachment based in Santa Barbara, California.*



Rick Sorrell, USCG photo

*Oil skimmers and floating booms were part of a recent Coast Guard exercise in Morro Bay, California, involving various oil industry and state officials.*

# Calling All USCG Auxiliaryists

By Tony Gibbs

For well over half a century, the United States Coast Guard Auxiliary has been unique among the organizations promoting safety on and around the water. The Auxiliaryists, who number about 35,000 men and women throughout the nation, are simultaneously part of the Coast Guard and members of the boating public.

Historically, the Auxiliary has pursued three routes to boating safety:

In safety education, Auxiliary instructors teach courses designed to reach every kind of boater—from elementary school kids to yacht skippers, from dyed-in-Dacron sailors to the drivers of jet-propelled personal watercraft. The instruction is always free to the students, though there may be a charge for textbooks.

Besides the boater, Auxiliaryists also deal with the boat through the Courtesy Marine Examination (CME) program—just about the only absolutely free service available in boating. At the recreational boatowner's invitation, Auxiliary examiners perform a safety check that assures skippers their vessel meets (and, in many areas, exceeds) the equipment and installation regulations of federal and state governments. Examiners report deficiencies *only* to the owners. Once the problems are cleared up, the boat receives the Auxiliary's coveted Seal of Safety decal.

In addition, the CME program allows specially qualified Auxiliaryists to perform similar examinations for commercial fishing vessels, concentrating on the special legal requirements of those classes of vessel. There is zero cost to the skipper, and



With the help of Billy the Boat, USCG safety officer Lt. Rick Sorrell teaches children boating safety tips at the Santa Barbara Harbor.

USCG File Photo

infractions are not reported to any higher authority.

The field called Operations has expanded tremendously in the last couple of years. Traditional search-and-rescue missions by Auxiliaryists' own boats and aircraft, safety patrols of regattas, anti-pollution patrols and checks of navigation aids belong to this category. Regular Coast Guard commanders and Auxiliary leaders are stretching Operations into new areas of cooperation. These days Auxiliaryists may even find themselves standing watches aboard Coast Guard cutters or taking over maintenance of lighthouses.

Still civilian, still volunteer, the Coast Guard Auxiliary has now become a fully integrated part of the entity known as Team Coast Guard.

*Tony Gibbs is a Santa Barbara writer and editor who is a long-time member of the U.S. Coast Guard Auxiliary.*



USCG Auxiliary member Harry Davis helps a Washington Elementary School student into a life vest during a session on maritime safety in Santa Barbara.

USCG File Photo

## Boating Safety Classes

Looking for boating safety instruction in your area? In California, call the state Department of Boating and Waterways on Tuesdays or Thursdays and ask for course listings offered by either the U.S. Coast Guard Auxiliary or the U.S. Power Squadron. The toll-free number is 1(800)869-7245.

# Channel Graveyard: Wrecks to Respect

By Don Morris

Imagine the media attention that would be aroused today by an oil tanker grounding at San Miguel Island's Point Bennett, a world-renowned pinniped rookery. Yet that nightmare has already happened.

In January 1914, Shell Oil's *Pectan* grounded in fog and rain at Point Bennett, but no elephant seals or sea lions were disturbed. The *Pectan* was empty, and proceeding toward San Luis Obispo to pick up crude oil. Photographs show the beach devoid of animals, a stunning contrast to the carpets of animals that occupy the beaches today. Though at least five vessels have wrecked within a mile of *Pectan*'s grounding site, this highly significant area has so far escaped damage.

At 7,318 tons, the *Pectan* is the largest vessel to ever ground within the Sanctuary. Between 1853, when the Gold Rush steamer *Winfield Scott* crashed into Anacapa Island, and 1980, when the National Park and National Marine Sanctuary were established, at least 132 vessels and airplanes have wrecked within their boundaries.

Many of the larger vessels, like *Winfield Scott*, *Cuba* (1923), *Aggi* (1915) and *Goldenhorn* (1892) have become popular diving destinations. These were commercial carriers that tried, and failed, to avoid the Channel Islands as they steamed or sailed toward Los Angeles and San Francisco. Bad weather was often a factor in these wrecks.

Smaller vessels of less than 300 tons registry represent the fleet that came to these islands and surrounding waters to use the area's natural resources. They include vessels like the *Santa Cruz* (1960), *Santa Rosa* (1899) and *Billcona* (1952), that supported ranching on the islands, as well as numerous fishing vessels. A surprising number were either ex-military vessels or, like *Del Rio* (1952), served the military during World War II. Her diesel engine now graces Frenchy's Cove on Anacapa Island.

Wrecks represent tragedies and loss to their owners. Harrowing tales of survival



Some island shipwrecks scatter their parts on land, like this piece of windlass from the J.M. Colman site on San Miguel.

© 1996 Adriane Askins

cling to some. Bernice Brown lived two weeks on Anacapa Island after the *Nancy Lee* (1946) sank, and her husband and brother-in-law drowned. Captain Oleson of the *Bell* (1901) drifted at sea on his overturned vessel for an even longer period.

The Coast Guard cutter *Aurora* pulled nine crewmen from the wrecked *Dante Alighieri II* (1938) through high surf at Santa Barbara Island in a daring and dramatic rescue. Its counterpart, the *CG-254*, behaved less benevolently toward *Wampas* (1926), a notorious rum runner. It took 59 shots from the Coast Guard deck gun, and ten magazines from the machine gun, before the smugglers' craft beached on the south side of Santa Cruz Island.

The proximity of the islands to Hollywood resulted in the sinking of at least one vessel dressed as a movie set. The *W.T. Co. No. 3* was outfitted as the main deck of *H.M.S. Pandora* for the 1935 film "Mutiny on the Bounty." This wreck may account for the "Spanish cannon" reported in the vicinity years later.

While both field work and documentary research have uncovered more information than was available a few years ago much remains to be learned. Virtually nothing is known of the fleet of Chinese junks that was built in Santa Barbara and sailed the Channel during the last quarter of the nineteenth century. One junk wrecked on Santa Rosa Island, and another on either Anacapa or San Nicolas islands.

Many vessels remain to be located; some of them are reportedly in waters too deep for conventional scuba investigation. Their physical remains provide a storehouse of information to the underwater researcher who, like any good sleuth, combines written records with the artifacts of archeology to construct a solid understanding of past maritime activities.

Some wrecks serve as wonderful dive locations, others are only of scientific interest. Together they tell the story of human endeavor around the islands, of mistakes and storms, and of the isolation and hazards surrounding the remote and beautiful northern Channel Islands.

Don Morris is archaeologist for the Channel Islands National Park, headquartered in Ventura, California.

## Charter Trips and Sanctuary Rules

Federal laws prohibit removal of, or damage to, any items from shipwrecks within Sanctuary boundaries. Please keep this in mind when diving.

Many dive boats from the San Pedro, Oxnard, Ventura and Santa Barbara areas offer charter trips to the shipwrecks of the national park and Sanctuary. Contact your local dive shop for the most up-to-date charter opportunities that fit your level of diving experience and geographic location.

- Information on CMAR is available from Mark Norder at 16902 Cod Circle #C, Huntington Beach, CA 92647.

# Researchers Probe History's Depths

By Robert Schwemmer

When a ship wrecks, everything associated with that vessel stops at that moment. This is why shipwrecks are important historical time capsules: A way of life has been entombed for posterity. Unlike terrestrial land sites, and barring scavengers' incursions, most shipwrecks are not contaminated by modern events and provide accurate windows into society's past.

Even when a wreck rests in a national park or marine sanctuary, both of which protect such sites among the northern Channel Islands, many of these windows remain sealed due to lack of resources. People and private industry must offer partnerships to provide the missing support. One example of a partnership designed for hands-on archaeological support is the Channel Islands Marine Archaeology Resources group, known as CMAR.

CMAR founder Mark Norder started in 1988 as a volunteer certified diver with Channel Islands National Park Archaeologist Don Morris. Norder and Morris realized that with more than 100 wrecks within park and Sanctuary waters it would take many individuals to assist in marine archaeology projects. Norder recruited what is now a talented group of 20 committed partners. Together they research shipwrecks, help document the archaeology and monitor sites for any changes caused by nature or humans.

To track the histories of the many vessels that met their demise within Sanctuary boundaries, CMAR researchers spend hours searching for relevant documents. These documents vary from newspaper accounts of vessel losses to secondary source publications recounting local history. The most sought-after primary source documents recall not only the loss but the vessel's history.

These hours of research are rewarded when the members of CMAR, park and Sanctuary personnel, and most importantly the public, visit the shipwrecks. Suddenly the skeletal remains of these bygone wind machines, leviathans of steam propulsion, or little island sloops take on a personality. In discovering the personality or history of a particular vessel, the social community associated with its trade can be reassembled as well as the methods of ship construction.

Around the northern Channel Islands, CMAR works with Don Morris to record vessel remains through detailed drawings taken at shipwreck sites. Underwater archaeology starts by laying a baseline with attached measurement markers through the center of the site. Once artifacts or vessel remains are located within the site, they are measured and recorded on waterproof Mylar paper attached to individual slates.

The positions are noted through trilateration, a technique of relating known points on the marked line to target features of the

shipwreck. Each individual drawing is recorded on a master site map that eventually provides the archaeologist with an accurate reconstruction of the shipwreck site. The method is generally the same for shipwreck sites located in the intertidal zone on the beach.

Wave action from Pacific storms in the Channel Islands continually removes and deposits sand on underwater shipwrecks as well as on area beaches. Constant monitoring of these sites is crucial to the ongoing mapping of the park and Sanctuary cultural resources. Recently, scoured out sand deposits exposed hull material from the nineteenth-century sidewheel steamer *Winfield Scott*. Knowing these windows of opportunity may be temporary, Morris and CMAR members videotaped and measured the newly exposed material.

Monitoring shipwreck sites documents any damage intentionally inflicted upon the site, as well as nonintentional damage, such as from a boat's anchor. These observations assist in educating visitors to the shipwreck sites on the best method of preserving their cultural resources.

Most recently, CMAR affiliated with the Los Angeles Maritime Museum. Backed by the research resources of this institution and research talents of its members, CMAR has supported the park and Sanctuary in gathering historical documentation on the many ships lost among the Channel Islands. The Olympic Coast National Marine Sanctuary, off Washington state's Olympic Peninsula, has also requested CMAR's help. The group's work is documented in their journal *Wreck Scatter*, which is published four times annually and is available on the Internet.

*Diver and maritime researcher Robert Schwemmer is a senior member of Channel Islands Marine Archaeology Resources. Their web page is: <http://weber.u.washington.edu/~nailgun/cmar/>*



*A standard shipwreck survey map, like this one of the Cuba off San Miguel Island, provides valuable details for researchers.*

# Maritime Museum Afloat in Santa Barbara

By Robert Kieding

The fall of dusk casts long shadows across the choppy waters of Pelican Bay at Santa Cruz Island. Fifteenth-century Chumash Indians prepare meals of freshly caught fish or shellfish, sweetened with berries. A call brings the village to the edge of the west-facing cliffs.

Coming around the point is a small plank canoe, known as a *tomol* (see winter 1995 *Alolkoy*), propelled by four nearly exhausted paddlers. They have completed a rigorous 23-mile crossing from the mainland, battling the high seas and winds that dominate the last eight miles of ocean unprotected by Point Conception—a feat that sparks admiration from today's mariners.

The story of the Chumash *tomol*, and many others tales of human interactions with the sea along the central coast, will shape the heart of the displays next summer at the newly founded Santa Barbara Maritime Museum. Planners have 4,000 square feet in a city-owned building at the Santa Barbara Harbor to turn into the most interactive museum on the Pacific coast.

Visitors will slip into a diving helmet and, thanks to computer technology, experience a simulated 200-foot descent to the sea floor; stand at the helm of a submarine and, using NOAA bathymetric data, fly the length of the Santa Barbara Channel. There they will see undersea geographic features like shipwrecks and sea mounts. Aided by a computer, visitors will watch a crack gun crew “fire” a replica of a Goleta cannon, and sight through a periscope to draw a bead on Elwood oil facilities, just as a Japanese submarine skipper did at the beginning of World War II.

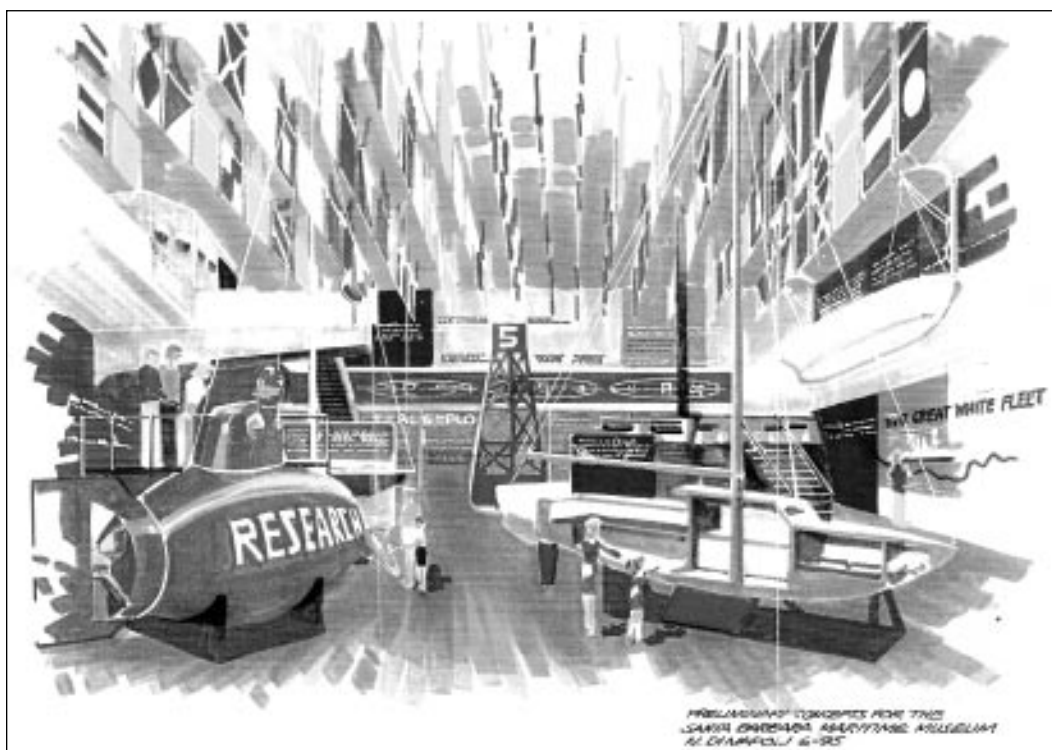
The *tomol* marks the beginning of Santa Barbara's known coastal and channel maritime history, a history so rich and varied it compares favorably with any other such region in America. European vessels, such as Juan Cabrillo's galleon of exploration, eventually followed the Chumash canoes. Trade and settlement was not far behind, with Yankee brigantines, like the *Pilgrim* that carried author Richard Henry Dana on its crew roster, joining first Spanish, then Mexican, ships to supply the Presidio and pick up hides.

As Santa Barbara grew, and again changed flags, John Stearns built a wharf in 1872 to off-load lumber from gaff-rigged schooners. That same year Santa Barbara Yacht Club was founded, and started to trace a long line of interesting private visitors to the harbor.

Commercial fishing has a long anchor line to Santa Barbara, one whose economic influence is felt today. Abalone became a culinary delight as divers developed the skills and technology to go deep into Channel Islands waters after these animals. After World War II, the oil industry recruited abalone divers to extend their offshore reach. Santa Barbara became a world center for diving skills and new technology.

Much more will be on tap at the new Santa Barbara Maritime Museum when it opens. Other interactive exhibits are planned, and numerous ship models, historic artifacts and pictures will be displayed.

*Bob Kieding is a co-founder of the Santa Barbara Maritime Museum and owns The Chandlery supply store at the city's harbor.*



Santa Barbara Maritime Museum

*Inside the proposed new Santa Barbara Maritime Museum one area may look like this view by artist N. DiNapoli.*

## Volunteers Sought

Volunteers are needed to turn the Santa Barbara Maritime Museum into a reality. For information, contact Executive Director Milt Schwartz at (805) 962-8404.



## Research

# Update on Abalone Withering Syndrome

By Carolyn S. Friedman, Ph.D.

Withering Syndrome (WS) is a fatal disease affecting wild abalone populations along portions of the central and southern California coast. It has been observed in a single pink abalone (*Haliotis corrugata*) from San Clemente Island, south of Santa Catalina, and in as many as 4 percent of red abalone (*H. rufescens*) surveyed on San Miguel Island.

The black abalone (*H. cracherodii*), however, is the species where WS was first discovered and which has suffered the most. Since the disease appeared in 1986, black abalone populations from San Diego to Cayucos have declined as much as 99 percent, compared to densities recorded in the mid-1980s. No abalone species other than these three have been confirmed with WS.

Visual signs of WS feature a progressive atrophy of the foot muscle, which is used by the mollusk to move in search of food and to attach itself to hard surfaces for protection. The animal also shows weakness, weight loss, lethargy and little response to touch. Eventually, it dies of starvation.

Death occurs within one month of developing clinical signs of WS at water temperatures of 18 to 20 degrees Celsius (61 to 68 degrees Fahrenheit), according to laboratory and field research. Although some animals seem to survive the disease in the wild, no animals have ever been observed to recover from a case of WS.

Studies conducted in our containment facility at Bodega Marine Laboratory revealed severe physiological alterations or damage prior to the onset of visible signs. These changes include a decrease in blood cells and in the hemocyanin concentration in the blood; changes in types of blood cells, and depleted glycogen in the foot muscle.

The loss of the carbohydrate called glycogen precedes degeneration of the foot muscle fibers. A marked increase in ammonia excretion indicates protein from the foot muscle is being used as an energy source. The foot muscle withers and a reduction in feeding follows. It is difficult to pinpoint exactly when some of these changes happen. The evidence suggests the disease may be interfering with nutrient absorption, but this has not yet been proven.

Identifying the disease agent is also in progress. When we transmitted WS between ill and healthy black abalone in an aquarium, tissue samples revealed the presence of a rickettsiales-like bacterium. Animals kept in separate aquaria as negative controls remained healthy and showed no signs of this bacterium.

However, a field study found no correlation between the



Withering Syndrome in black abalone is apparent when comparing the foot of a healthy animal (left) with an ill one.

©1988 Mick Kromman

presence or intensity of rickettsiales-like bacterial infection and the physical condition of the abalones. The role of this bacterium in WS is still under scrutiny in conjunction with investigators Ronald Hedrick and Christopher Wilson (UC Davis), Jeff Shields (Virginia Institute of Marine Sciences) and Frank Perkins (North Carolina State University).

Our current research aims to identify the causative agent(s) of Withering Syndrome, a treatment for the disease and characterization of the disease's blood parameters.

Carolyn S. Friedman, Ph.D., is a pathologist with the California Department of Fish and Game at UC Davis' Bodega Marine Laboratory at Bodega Bay, California.

## Research Vessel Activities

The *R/V Ballena* and the Hurricane spent June, July and August:

- Taking local high school teachers out as part of the program "Teachers as Marine Scientists;"
- Supporting seabird studies by National Biological Service scientists off all five islands in the Sanctuary;
- Conducting WHAPS96 tagging and tracking of blue whales (see story on page 10);
- Continuing support for UC Santa Barbara rockfish studies.

## Channel Tidings

### Channel's Surprise Catches Displayed at Sea Center

A rare spotted batfish (*Zalieutes elater*) recently took residence in a Sea Center aquarium tank, courtesy of a commercial fisherman who caught the bottom-walking fish off Goleta, California, last July. Tim Castagnola was trawling for halibut when he found the batfish in his nets. Biologist Kristine Barksy of the California Department of Fish and Game arranged temporary public display of the batfish at the Sea Center.

The batfish followed a giant Pacific octopus (*Octopus dollieni*) in this year's roster of unusual Sea Center residents. Caught by Bruce Brammel, another commercial fisherman, the octopus was about eight feet long. It was held for two months before being released last May into Sanctuary waters. Santa Barbara Museum of Natural History zoologist Eric Hochberg said the animal was the only verified mature male of this species from local waters.

"We hold these animals to assess their health, rehabilitate them if necessary and release them after taking important information," explained Sea Center Manager Gary Robinson.

### Sanctuary Curriculum Now Available

The Natural History Museum and the Sanctuary have together produced a new curriculum guide entitled "34 Degrees North: Sanctuary Interaction." It is now available to middle school teachers. This information-packed guide provides background and activities relating to the biological diversity and physical features of the Sanctuary.

Continued on page 11

# Great Whale Search of 1996

By Colleen Angeles and Laura Gorodezky

Blue whales starred in a major research project in and around the Channel Islands National Marine Sanctuary this summer. They were also in the media.

Fourteen different print and broadcast media visited the Sanctuary to report on blue whales and the scientists studying them. Even with foggy mornings the journalists, ranging from the *Los Angeles Times* to Cable News Network, returned to their editors with great stories.

Chief among those stories was the 1996 Whale Habitat and Prey Study (WHAPS96). Six vessels and dozens of researchers sought to map the distribution of krill and whale aggregations, and to tag and track blue whales. Two surveys were accomplished: A large scale survey conducted aboard the NOAA ship *David Starr Jordan*, and a small scale survey conducted aboard the Sanctuary's *R/V Ballena*.

The large scale survey acoustically searched for krill along designated lines. Simultaneously, scientists observed whale feeding behavior, like lunge feeding, and recorded all whale sightings. Krill were captured for analysis, and oceanographic data were collected.

The small scale survey attempted to tag feeding blue whales with time-depth recorders encased in specially designed crossbow darts. This is harder than it sounds when the tagging platform is a small, bouncing craft. During the month of WHAPS96 only four blues were successfully tagged from the Sanctuary's inflatable Hurricane. However, this doubled the number of blue whales that have ever been tagged.

Once a whale was tagged, the *Ballena* followed it and acoustically tracked krill distribu-



Two blue whales cruise past the *RV Ballena* during the massive research effort known as WHAPS96.

© 1996 David O. Brown

tion along the whale's path. Blue whale fecal samples were also collected.

Results are under evaluation, but participants from the National Marine Fisheries Service (NMFS), Southwest Fisheries Science Center, University of California at Santa Cruz and the Sanctuary want to continue the project next summer—if the blues return. As Sanctuary Executive Officer Stephen Beckwith said, "Any information we can gather will help us better understand them, and hopefully better manage our marine environment."

Learning from the big whales continues even after they die. A week after WHAPS96 ended a 73-foot male blue washed ashore on San Miguel Island. A charter dive boat reported the carcass. Within two days a Sanctuary-led team drawn from the Santa Barbara Museum of Natural History, the Channel Islands National Park, NMFS and the California Marine Mammal Center reached the whale.

No external signs of injury, much less a cause of death, were apparent. Working on the whale was difficult because it was in the surf zone and its dorsal fin was buried in sand. Tissue samples were taken, but an attempt to extract the blue's ear bones, which are age indicators, failed due to the animal's size.

Colleen Angeles and Laura Gorodezky are the Sanctuary's education assistant and education coordinator, respectively.



Shanama Fry

This 50-ton blue lies upside down on San Miguel Island after dying of unknown but probably natural causes.

# Thornton's Many Skills Harnessed to Benefit Ocean

A new hand directs the nation's 12 marine sanctuaries, and it belongs to scientist-business-woman Stephanie Revesz Thornton. As NOAA's head of the National Marine Sanctuaries and National Estuarine Research Program, Thornton has had plenty to handle since her appointment last spring.

With the aid of staff in Silver Spring, Maryland, and managers of the individual sanctuaries, Thornton oversees the protection and wise use of 17,500 square miles of ocean. In addition, she directs 22 estuarine research programs encompassing another 425,000 acres of salt marshes, mangroves, upland forests and sandy beaches. After 30 years of marine experience, which covers a variety of interests, she comes well-qualified for the responsibilities.

Until recently, Thornton was executive director of the Coastal Resources Center (CRC), a nonprofit organization dedicated to preserving and enhancing marine fish habitats along California's 1,100 miles of coast. She had helped to create the CRC, and led it for eight years.

Prior to managing the conservation- and education-oriented CRC, Thornton ran a commercial fishing industry's marketing association in northern California. Among her projects was a



*Stephanie Revesz Thornton is NOAA's new head of the National Marine Sanctuaries and National Estuarine Research Program.*

salmon fishery management plan she worked on for the Pacific Fishery Management Council. She was also appointed to the Pacific States Marine Fisheries Commission during this time.

She began her career at Humboldt State University by studying to be a fisheries biologist, which led to employment with the California Department of Fish and Game. Later, Thornton became an onboard fisheries observer for NOAA's National Marine Fisheries Service.

Switching to management, Thornton got her master's in business administration from San Francisco's Golden Gate University. The practical experience with commercial fishermen and conservationists promises to stand her in good stead for her NOAA duties.

Thornton noted that the sanctuary and estuaries programs "represent the best examples of citizens working with their government to secure a future that includes healthy coasts and oceans."

In announcing her appointment, Commerce Undersecretary for Oceans and Atmosphere D. James Baker said, "Ms. Thornton's diverse marine experience, with special expertise in fisheries, makes her an ideal candidate to lead the marine sanctuary and estuarine reserve programs." —V.C.

## Channel Tidings

*Continued from page 10*

Activity kits to complement the guide are also available from the museum specimen loan program. For copies of the guide, contact Mary Gosselin at the museum or Laura Gorodezky at the Sanctuary (see back cover for addresses).

### **GAFIC Results Due Out in Newsletter**

Data sheets from 50 sites between San Diego and Monterey visited in this year's Great American Fish Count are under evaluation, but some results from earlier years are available. At Cat Rock on Anacapa Island, for example, divers spotted 33 different species of fish between 1993-1995. *Senorita* had the highest abundance index of all of the fish seen here.

Count organizers meet in Santa Barbara on November 18 to plan the next GAFIC. Divers who participated in past fish counts will soon receive a newsletter summarizing the results from the last three years of the annual event.

### **Professional Development for Marine Educators**

The Natural History Museum and Sanctuary will host the Southwest Marine and Aquatic Educators Association's first professional development seminar this fall. The day-long, October 7 event, "Buckets, Baleen, and Other Beachy Stuff," focuses on the development, use, care and evaluation of hands-on materials in marine education.

This special seminar is open to SWMEA members. For further information, contact Sheila Cushman at (805) 682-4711 ext. 311.

## Sanctuary Waves

*A roundup of selected activities—from May to August 1996—relating to the Channel Islands National Marine Sanctuary (CINMS) off Santa Barbara, California.*

Sanctuary personnel and resources were largely devoted to planning and preparation for the Whale Habitat and Prey Study, and then participation in the research effort that ran from July 8 through August 2 (see story). *Sanctuary personnel:*

- Coordinated Marine Education and Research Activities panel meetings;
- Organized two fish identification workshops with Milton Love, Ph.D.;
- Co-sponsored with Natural History Museum an illustrated lecture on blue whales by Don Croll, Ph.D.



U. S. Department of Commerce  
National Oceanic and Atmospheric Administration  
Channel Islands National Marine Sanctuary  
113 Harbor Way  
Santa Barbara, CA 93109

Address Correction Requested

# Alolkoy

**Need more information?  
Contact:**

## **Channel Islands National Marine Sanctuary**

113 Harbor Way  
Santa Barbara, CA 93109  
805/966-7107  
email: [cinms@rain.org](mailto:cinms@rain.org)  
web page: <http://www.nos.noaa.gov/nmsp/cinms/welcome.html>

## **Channel Islands National Park**

1901 Spinnaker Drive  
Ventura, CA 93001  
805/658-5700  
web page: <http://www.nps.gov/chis/>

## **Santa Barbara Museum of Natural History**

2559 Puesta del Sol Road  
Santa Barbara, CA 93105  
805/682-4711  
web page: <http://www.rain.org/~inverts/>

## **Sea Center**

211 Stearns Wharf  
Santa Barbara, CA 93101  
805/962-0885

## Things to Do, Places to Go

### See a Gold Rush Shipwreck on Last Sanctuary Cruise

Shipwrecks are the theme of the **October 6** special cruise from Santa Barbara Harbor into the Channel Islands National Marine Sanctuary. This all-day voyage aboard the *Condor* features a diver-conducted video tour of the remains of the *Winfield Scott*, courtesy of Passage Productions. The sidewheel steamer went down in 1853 off middle Anacapa Island. Cost is \$65 for adults; \$35 for children. For more information or ticket reservation, call Sea Landing in Santa Barbara, (805) 963-3564.

### Nature Conservancy Offers Santa Cruz Island Field Trips

One-day educational field trips continue to Santa Cruz Island on **October 5, 19** and **26** and **November 9**. Led by naturalists with the Nature Conservancy, the trips depart Ventura Harbor at 8 a.m. aboard an Island Packers vessel.

Cost is \$49 a person, and you must be 10 or older. For reservations, call Island Packers at (805) 642-1393; for field trip details, call the Nature Conservancy (805) 962-9111.

### Discounts Possible on Two-Island Kayak Trip

If you bring your own kayak and gear you can save \$100 on the **October 12-13** expedition to Santa Rosa and San Miguel islands. Total cost is \$350 otherwise. The kayak trip planned by the Sanctuary and the Sea Center will take you by the island rookeries of the elephant seal and the

California sea lion. Call Santa Barbara's Sea Landing for place and gear reservations: (805) 963-3564.

### 'Whales Today' Theme of ACS Conference

"Whales in Today's World: Bridging Science, Policy and People" is the title of a **November 8-11** conference in San Pedro, California. Sponsored by the American Cetacean Society, the conference includes the effects on whales and dolphins of noise pollution, captivity and other human activities.

Conference costs, which include an opening reception and a closing banquet, run from \$120 for students to \$190 for the public. ACS members receive a \$20 discount. For details, contact ACS at (310) 548-6279.

### Visit the Gray Whales at Baja's Magdalena Bay

The Santa Barbara Museum of Natural History plans a special **February 2-9** trip to Magdalena Bay in Baja California to view gray whales. Cost is \$1,995 a person. For more details, call the Baja tour coordinator at (805) 969-9665.

