

SANCTUARY WATCH

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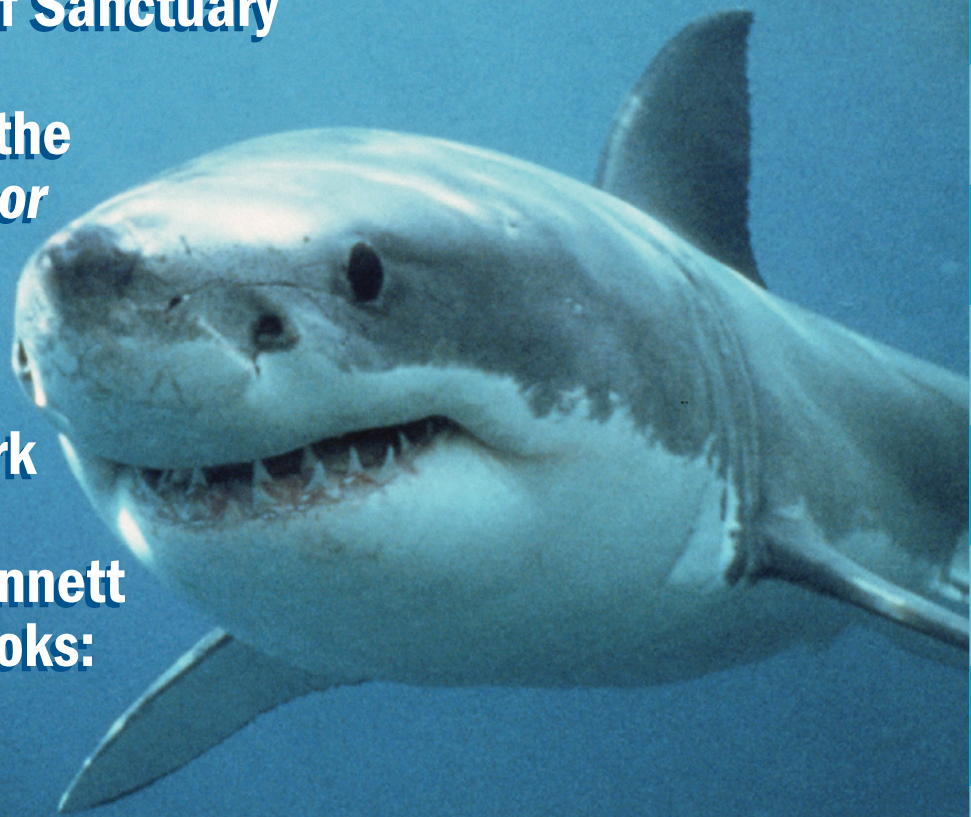
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NATIONAL MARINE
SANCTUARIES™



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Letter from the Director



“My fellow Americans, ask not what your country can do for you—ask what you can do for your country.”

These famous words by President Kennedy are more important now than ever before.

Today our oceans and coasts are subject to great environmental pressures. More than 50 percent of our nation's people live within 50 miles of the ocean or Great Lakes. This migration to our coastlines for home, work or recreation is predicted to increase. Our demands on the sea for food, commerce and recreation are also growing. With these increasing pressures come additional stresses on the health of our coastal and marine environments. This includes declines in marine life populations, increased pollution and habitat loss.

Addressing these issues presents unique challenges for managers in an era when staff and financial resources are limited. How do we best protect the reasons why we visit or move to the coast in the first place—the spectacular scenery, economic prosperity and opportunities to enjoy the ocean's beauty with family and friends? We do it by working together.

President Bush has renewed the challenge for all of us to work together to find creative solutions to the problems facing our country. Fortunately for our national marine sanctuaries, many people have answered that challenge.

Thousands of people have volunteered their time over the years to help preserve these places because they are important to them. From looking for signs of oil spills to educating boaters on how to keep from damaging coral reefs, volunteers offer sanctuaries a wealth of experience and knowledge. In this issue of *Sanctuary Watch*, you will learn about two extraordinary sanctuary volunteers who have truly made a difference. We hope you will find their stories as inspirational as we do.

There are many volunteer opportunities with our national marine sanctuaries. To learn more about them, visit sanctuaries.noaa.gov and contact the sanctuary nearest you!

Sincerely,


Daniel J. Basta, Director

Above: A Beach Watch volunteer records the numbers and species of birds present at his designated beach.
 Photo: Gulf of the Farallones NMS

Right: Beach Watch volunteers document the live and dead animals of the sanctuary.
 Photo: Gulf of the Farallones NMS



Sanctuary Wings: Seabirds Find a Home at Gray's Reef

To get a complete ecological picture of Gray's Reef National Marine Sanctuary you have to look above the water, not just under it, according to avid birder Russ Wigh.

Wigh and fellow birder Robert Calhoun spent seven days in June aboard the National Oceanic and Atmospheric Administration ship *Nancy Foster* completing the first formal bird survey ever done for the sanctuary. What the volunteers saw was far more than Wigh expected.

Normally, birders would expect to travel 70 miles or more off the Georgia coast to see true pelagic birds—birds like shearwaters, petrels and bridled terns that spend their entire lives at sea except when they nest or are blown inshore during heavy storms. But Gray's Reef is only 17 nautical miles offshore. Wigh saw the pelagics feeding there alongside seabirds—birds like gulls and royal terns that forage at sea but return regularly to land—during perfectly calm weather.

“And to think it's been going on under our noses and we didn't even know about it,” said Wigh. “Seeing those tubers put me in seventh heaven.”

Tuber is the nickname for the true pelagic birds because they have distinctive external tubes that run along their beaks. The tubes help them manage their intake of seawater when they dive in for their prey and lead directly to an enlarged olfactory gland.

Wigh, who has organized pelagic birding trips for many years

and written articles for the journal of the Georgia Ornithological Society, said pelagic birds like shearwaters and petrels can smell schooling bait fish miles away.

“If the live bottom area is rich throughout the water column, then you should expect to see the very small fish and the even smaller creatures they feed on,” said Wigh. “To find the true pelagic birds here foraging on them completes the ecological picture.”

Several scientists used the *Nancy Foster* this summer as a platform to study how larval fish are distributed in the waters of Gray's Reef. Wigh said that conducting ongoing surveys to uncover patterns of when and where the pelagic birds are feeding will enhance our understanding of the sanctuary's food web.

Because they spend so much of their lives far out at sea, pelagic birds are difficult to study. Like sea turtles, they only come ashore to nest. Thus, the picture of their life cycle is in no way complete.

Studying the pelagics at Gray's Reef could fill

(Cont'd. on pg. 4)

Birder Russ Wigh observed a variety of seabirds during a recent trip to Gray's Reef National Marine Sanctuary.
Photo: Gail Krueger



Revisiting the USS Monitor



Monitor Expedition 2003 got underway on July 19 as a scientific dive team from NOAA, the National Undersea Research Center at the University of North Carolina at Wilmington, East Carolina University and the U.S. Navy assembled in Hatteras, N.C., for dives on the wreck of the USS *Monitor*. Several individual volunteers also participated in this year's effort to survey the wreck following the recovery in 2002 of the Civil War ironclad's revolving gun turret. Photos: *Monitor* Collection, NOAA

Stars of the Sea

Gordon Bennett of Muir Beach, Calif., and Alan Brooks of Olympia, Wash., are the recipients of the National Marine Sanctuary Foundation's first ever Volunteer of the Year Award. Bennett, a volunteer with Gulf of the Farallones National Marine Sanctuary and Brooks, a volunteer with Olympic Coast National Marine Sanctuary, were honored in June at the foundation's Leadership Awards Dinner held in Washington, D.C., during Capitol Hill Oceans Week 2003.



Gordon Bennett of Muir Beach, Calif. is the recipient of the first ever 'Volunteer of the Year' Award by the National Marine Sanctuary Foundation.

Gordon Bennett

Gordon Bennett began volunteering for Gulf of the Farallones National Marine Sanctuary in 1993. Since then, he has dedicated an astounding 2,000 hours to monitoring beaches, responding to oil spills and investigating the impact of natural and manmade events on wildlife. Bennett provided valuable input on the sanctuary's first visitor's center and was instrumental in creating education programs to help alleviate the effects of watercraft on the harbor seal.

"Gordon has distinguished himself among the Beach Watch

volunteers, a highly trained cadre of sanctuary citizen scientists who make direct and meaningful contributions to the health of our oceans planet," said Gulf of the Farallones National Marine Sanctuary Assistant Manager Maria Brown. "In addition to the tremendous number of hours he puts in, he has kept us on our toes, vigilantly monitoring the sanctuary's policies and actions. The sanctuary, San Francisco Bay Area and the nation are all fortunate to have Gordon as a steward of our marine environment."

Bennett said he is flattered by the honor, but his greatest wish is that it results in more attention for the national marine sanctuaries and the other volunteers.

"The sanctuaries need stronger support in Congress," said Bennett. "That support is more likely if we can continue to educate the public about the incredible natural and cultural treasures these sanctuaries protect, and certainly one of the best ways to educate and engage citizens is through well-planned volunteer programs."



Volunteer of the Year Alan Brooks (center) with National Marine Sanctuary Director Daniel J. Basta and actress Lauren Hutton at the foundation's ceremony in Washington, D.C. Photo: Laurie Howell

Alan Brooks

Alan Brooks is serving his second year as chair of the Olympic Coast National Marine Sanctuary Advisory Council, where he has distinguished himself as a passionate and extremely

effective advocate of ocean habitats and marine life. In addition to his duties on the council, Brooks is the District 5020 Rotary Foundation chair for the 81 clubs in Northwestern Washington State and all of Vancouver Island, British Columbia, and has used his contacts to develop new sanctuary partnerships with business leaders. He has also arranged for sanctuary staff to give presentations to numerous organizations in communities adjacent to the sanctuary.

"During his four-year tenure on the sanctuary advisory council, Alan has tirelessly sought to elevate the stature and public awareness of the sanctuary, and the National Marine Sanctuary Program as a whole," said Olympic Coast National Marine Sanctuary Superintendent Carol Bernthal. "As a result of his actions, the council has taken on a much more active role and many members have reached out to their constituent groups, achieving the national goal of having an effective and engaged sanctuary advisory council."

Despite his obvious impact, Brooks said the national award surprised him.

"I am astounded by the personal recognition because I know full well that success comes from the support and cooperation of all those around you," said Brooks. "It has been a personal growth experience working with different views and philosophies and experiencing these divergent opinions come together in a common consensus and at other times respectfully disagreeing – always with the complete resolve to support the mission of the sanctuary."

National Marine Sanctuary Foundation

"The foundation is delighted to honor these volunteers, whose enthusiasm and diligence have contributed so much to the National Marine Sanctuary Program and to ocean preservation in general," said Lori Arguelles, the foundation's executive director.

The National Marine Sanctuary Foundation is the non-profit partner of the National Marine Sanctuary Program. The foundation supports the outreach and education efforts of the program by creating opportunities, such as the annual Capitol Hill Oceans Week, to help raise visibility and support for the sanctuary program. For more information, visit www.nmsfocean.org



Sanctuary Wings *(Con'd from pg. 2)*

in plenty of information and can bring the sanctuary to the attention of the huge birding community.

“We have a tendency to focus on the aquatic rather than the avian species at the sanctuary,” said Reed Bohne, the sanctuary’s manager. “It was a great pleasure to have Russ and Robert touting tubers instead of ctenophores, and it adds a valuable chapter to the richness of the sanctuary that has to date been unappreciated.”



A pair of bridled terns perch on a piece of driftwood in the sanctuary. Photo: Earl Horn

In seven days at sea, their first exposure to Gray’s Reef, Wigh and Calhoun logged 270 bird observations and recorded 13 species.

“This put me solidly in the camp of supporting and protecting the sanctuary,” Wigh said.



New Managers Take the Helm at Two Pacific Sanctuaries

Meet Naomi McIntosh and Dan Howard, the new managers of Hawaiian Islands Humpback Whale and Cordell Bank national marine sanctuaries, respectively. McIntosh and Howard assumed their new roles on June 15.

As manager of Hawaiian Islands Humpback Whale National Marine Sanctuary, McIntosh oversees the management of over 1,300 square miles of one of the world’s most important humpback whale habitats. The sanctuary was established in 1997 to protect the North Pacific population of the endangered humpback whale.

“Naomi’s service with the National Marine Sanctuary Program predated the establishment of the Hawaiian Islands Humpback Whale National Marine Sanctuary,” said Richard W. Spinrad, assistant administrator for the National Oceanic and Atmospheric Administration’s National Ocean Service. *(Cont’d. on back page)*



Farallon Islands Celebration - Gulf of the Farallones National Marine Sanctuary recently joined in the celebration of the 400th anniversary of the naming of the Farallon Islands, just outside San Francisco’s Golden Gate Bridge. The islands were named in 1603 by Sebastian Vizcaino, who first charted the Farallones and Pt. Reyes on his travels through the waters that now make up the Gulf of the Farallones National Marine Sanctuary.

Taking Teachers ‘Down Under, Out Yonder’ - Thirteen educators experienced a weekend education workshop, then headed offshore for three days of scuba diving at Flower Garden Banks National Marine Sanctuary on July 25-30. They were participating in the 8th annual “Down Under, Out Yonder” education workshops, coordinated by the sanctuary and sponsored in partnership with the Gulf of Mexico Foundation. The workshop aimed to inform K-12 educators about the issues and science involved in the management of the sanctuary. For more information, visit flowergarden.noaa.gov or www.gulfmex.org.

Hundreds Attend Public Meeting on Sanctuary Issues - More than 400 members of the public gathered in late July in Santa Cruz, Calif., at a meeting of the Monterey Bay National Marine Sanctuary Advisory Council to weigh in on a variety of issues concerning the Monterey Bay, Cordell Bank, Gulf of the Farallones national marine sanctuaries. The council received hundreds of comments during the three-day meeting, continuing the public process of management plan review.

New Artificial Reef Permit Application Policy - The National Marine Sanctuary Program recently released its policy on how it will review permit applications to establish artificial reefs inside national marine sanctuaries. The new policy gives sanctuary managers guidance on the process of reviewing and making decisions on applications for permits to establish artificial reefs and does not ban outright the creation of artificial reefs. The policy is also intended to make the application review process more predictable for prospective permit applicants by clarifying what will be expected and how standards will be applied. The Policy Statement and Permitting Guidelines on Artificial Reefs is available at sanctuaries.noaa.gov.

Seabed Mapping Report - The National Marine Sanctuary Program and the U.S. Geological Survey have issued a report that outlines efforts to strengthen seabed mapping in the national marine sanctuaries. It also highlights work planned for 2003-2004. A copy of the report is available at sanctuaries.noaa.gov.

Reef Watch:

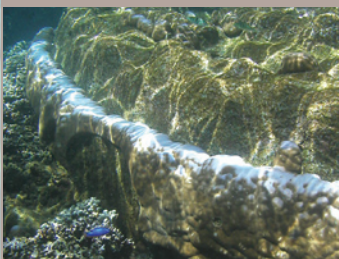
Why the 'Canaries' of Fagatele Bay are Singing the Blues



Young bleached corals dot the side of an outcropping. Photo: Dr. Peter Craig



A mix of bleached and unbleached corals in Fagatele Bay. Photo: Dr. Peter Craig



A massive Porites coral with a fringe of bleached polyps. Photo: Dr. Peter Craig



Samoan students learn about their coral reefs. Photo: Kip Evans

The coral reefs of Fagatele Bay National Marine Sanctuary, located in American Samoa, are in hot water. Literally. Several months of ocean temperatures above 82.4 F (29 C) have caused portions of the sanctuary's reefs to lose their vibrant colors and turn white, a condition known as bleaching.

The good news: Bleaching itself is not fatal. The bad news: If water temperatures stay hot for too long, the coral weakens, becomes victim to disease and dies.

Not only are reefs in Fagatele Bay and around the world in hot water, they're stressed out. They react to this stress by expelling the tiny dinoflagellates, a type of algae known as zooxanthellae, that live in their tissue and provide nutrients (and color) in exchange for a home. This relationship, known as symbiosis, is rare among land animals but common among reef creatures.

When the zooxanthellae leave, it is readily apparent—the coral colony loses all color and appears stark white. Although the bleaching at Fagatele Bay was patchy, in some places up to 50 percent of the coral was bleached, and as much as 50 percent of those corals subsequently died. This is not the first time the sanctuary has experienced bleaching.

"In the past ten years there have been three episodes," said sanctuary manager Nancy Daschbach. "By far the most serious was in 1994, when over 95 percent of all the corals bleached."

Florida Keys National Marine Sanctuary, too, has been stung by bleaching events.

"Bleaching for the Keys is always associated with warm water episodes coupled with 'slick calm' waters," said Billy Causey, superintendent of the Florida Keys sanctuary.

"Bleaching is becoming a too familiar condition that seems to coincide with El Niño events."

Flower Garden Banks National Marine Sanctuary, located off the coast of Texas, also has coral reefs. Protected by their depth and distance from land, the banks have been spared—so far. But water temperatures there are also on the rise.

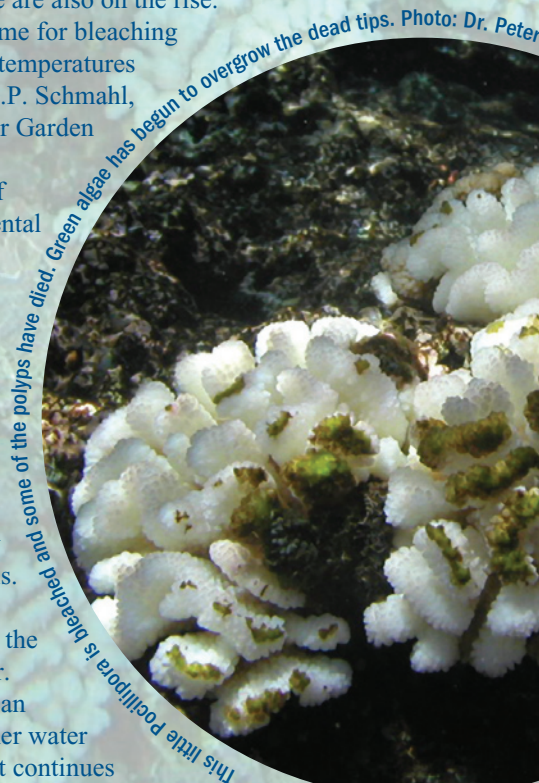
"It's just a matter of time for bleaching to begin for us as water temperatures continue to rise," said G.P. Schmahl, who manages the Flower Garden Banks sanctuary.

The sensitive nature of coral reefs to environmental changes has earned them the comparison to canaries in the coal mines. Miners carried male canaries into the mines to alert them to dangerous gases. When the canaries stopped singing, the miners knew that the air quality approached deadly levels. Many coral reefs have "stopped singing"—and the culprit is often hot water.

Management actions can do little to reduce summer water temperatures. The planet continues to warm and coral reefs are being forced to adapt to the changes or die. Fortunately, there are indications that some corals tolerate higher temperatures better, suggesting that there could be adaptations to the changing temperatures. Only time will tell. Hopefully, the coral reefs will continue to "sing" for generations to come.



Diver examines a staghorn coral showing bleaching. Photo: Dr. Peter Craig



This little Porolithothamnion has begun to overgrow the dead tips. Photo: Dr. Peter Craig



Critter Files: White Shark

Off San Francisco in the Gulf of the Farallones, a massive dark shape swims stealthily, hugging the rocky submarine slopes surrounding Southeast Farallon Island. Above, a juvenile elephant seal, a blubbery butterball, bobs at the surface looking for a place to haul-out on the island's jagged fringe. Suddenly, the shape launches its 5,000-pound bulk at the hapless seal; seconds later, the water is crimson. The predator methodically—even meditatively—devours the carcass, one of perhaps only three or fewer kills it might make during its entire feeding season at the Farallon Islands. Meet *Carcharodon carcharias*, the white shark.

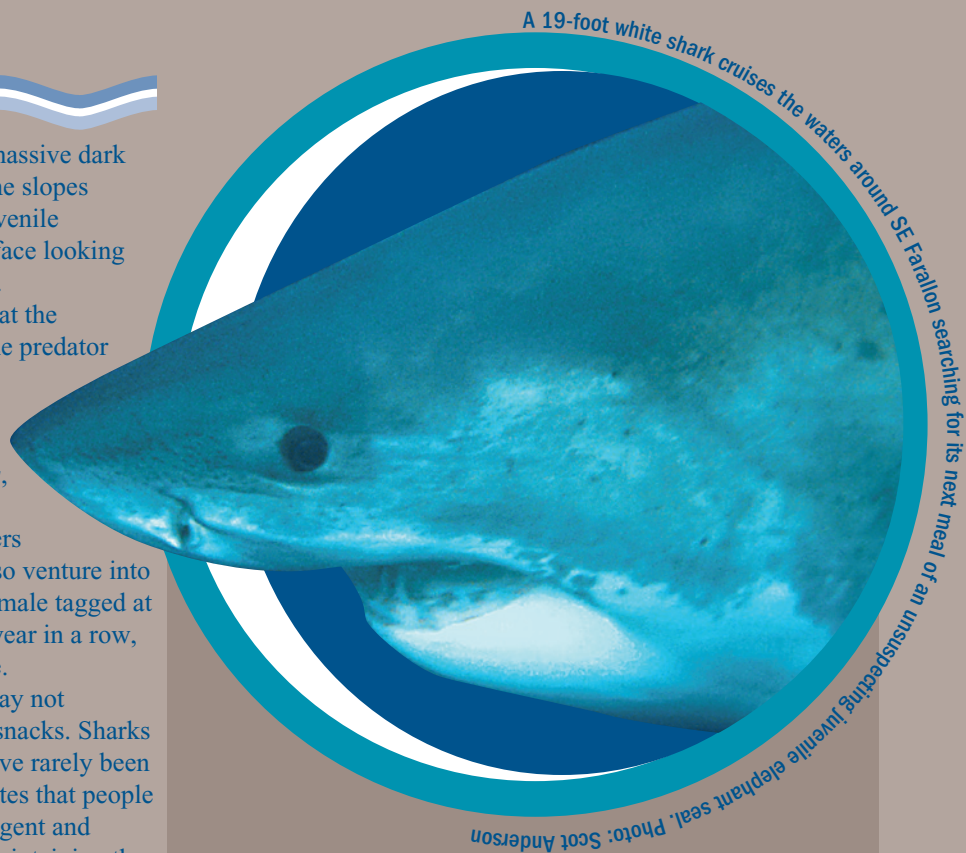
White sharks are found in temperate oceanic waters worldwide. Radio tagging has revealed that they also venture into more tropical waters. Recently, "Tipfin," a 15-foot male tagged at the Farallones, turned up in Hawaii for the second year in a row, indicating this may be a regular winter/spring range.

Contrary to their fearsome image, white sharks may not consider humans perfect for those in-between-seal snacks. Sharks may "investigate" swimmers with their teeth but have rarely been known to kill or eat them. Researcher Peter Pyle notes that people "just do not feel like seals." White sharks are intelligent and effective predators, and play an important role in maintaining the balance of the ocean ecosystem.

Gulf of the Farallones National Marine Sanctuary hosts a significant population of reproductive-age white sharks. Scientists have witnessed hundreds of white shark attacks here since the mid 1980s, and are gaining valuable knowledge about their hunting strategies, biology and behaviors. Whites keep in check the area's burgeoning seal and sea lion populations.

In 1982, a trophy hunter killed four whites at the Farallones in a single day, resulting in a drastic drop in attack incidents. Recognizing the sharks' role in the ecosystem's health, an unlikely coalition of sea urchin divers, surfers, scientists and conservationists called for protection of white sharks. California law now prohibits hunting or fishing for white sharks, but they face other threats from human disturbance.

The National Oceanic and Atmospheric Administration supports shark research, and through the sanctuary's outreach program, continues to make known the challenges to white sharks' survival. To ensure their continued existence, through its Joint Management Plan Review the sanctuary may consider legislation to prevent the use of attractants or other disturbances that could have negative impacts on this important population.



A 19-foot white shark cruises the waters around SE Farallon searching for its next meal of an unsuspecting juvenile elephant seal. Photo: Scott Anderson

Scientific name: *Carcharodon carcharias*

Max. length: 20 feet (6 meters)

Max. weight: 7,000 pounds (2,613 kilograms)

Max. lifespan: Probably 50 to 100 years, or older

Distribution: Coastal and offshore waters, in surface waters and to depths of 2,275 feet (700 meters).

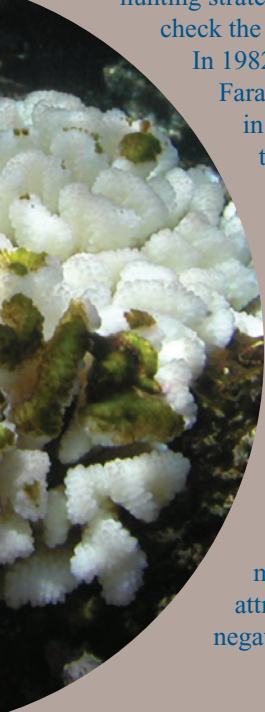
Concentrations are found off South Africa, Southern Australia and California.

Diet: Bony and cartilaginous fishes when young. On reaching 10-12 feet in length they begin to prey on seals, sea lions, dolphins and porpoises, and to scavenge dead whales.

Status: Unknown; but due to their extremely low reproductive rate (only 2-14 pups every two years), this is regarded as a vulnerable species, with low populations worldwide. There may be fewer than 100 white sharks in California waters; they were placed on California's Protected Species List in 1992. However, because of their wide-ranging habits, they are vulnerable to hunting outside state waters.

Notes: White sharks are warm-blooded; their body temperature can reach 62.6 F (17 C), well above average sea temperature.

Craig





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The National Marine Sanctuary
Program is managed by NOAA's
National Ocean Service

vision

People value marine
sanctuaries as
treasured places
protected for future
generations.

mission

To serve as the trustee
for the nation's system
of marine protected
areas to conserve,
protect and enhance
their biodiversity,
ecological integrity, and
cultural legacy.

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New Sanctuary Managers *(Cont'd. from pg. 2)*

"We are pleased that she will continue her stewardship of these important resources from a leadership position."

McIntosh came to the sanctuary program in March 1994 as the sanctuary's Oahu office liaison. Since then, she has helped develop a number of important resource protection and research and monitoring projects. She has also coordinated the sanctuary's public education and media outreach efforts. She was named acting sanctuary manager in September 2000.

As acting manager, McIntosh oversaw the successful completion of the sanctuary's five-year management plan review and gubernatorial approval, undertook innovative actions to foster public and private partnerships to promote conservation and management of the humpback whale and its habitat in Hawaii, and established several successful partnerships to benefit the sanctuary's marine and cultural resources.

Like his colleague in Hawaii, Cordell Bank National Marine Sanctuary's Dan Howard is no stranger to the sanctuary he now manages. Howard came to the sanctuary in 1995 to oversee research and education activities, and has spent much time exploring Cordell Bank and the surrounding environment. Recently, Dan participated in a series of dives in a research submersible as part of an effort to better understand the sanctuary resources he helps protect. He, too, served as assistant manager before moving into the sanctuary's top job.

"Dan has for many years played a key role in exploring Cordell Bank National Marine Sanctuary and increasing our knowledge and understanding of the distinctive marine ecosystem it encompasses," said National Marine Sanctuary Program Director Daniel J. Basta. "We are pleased that he will continue to serve the sanctuary in his new role as its manager."

Designated in 1989, the sanctuary protects an area of 526 square miles off the northern California coast that is home to wide variety of marine life, including seabirds, porpoises and endangered humpback whales.

For more information about Hawaiian Islands Humpback Whale National Marine Sanctuary, please visit hawaiihumpbackwhale.noaa.gov. More information about Cordell Bank National Marine Sanctuary is available at cordellbank.noaa.gov.

