

Grants Online Coming Soon

—By Jana Goldman

By November, applicants for NOAA grants will use a computer instead of pen and paper. With a new initiative called “Grants Online,” NOAA plans to have a consolidated system manage the nearly \$900 million in grants awarded annually to recipients ranging from individual fishermen to major institutions.

This past December, NOAA was the first federal agency to receive grant applications through “Grants.gov,” a 26-agency effort that acts like a matchmaker, finding the appropriate agency or office that would best fit a grant application.

This month, NOAA’s Grants Online moves nearer to fruition with the purchase of equipment and the completion of requirements for basic requests and processing.

“It used to take almost a year to get a grant out of NOAA,” said Sarah Maloney, chief information officer for the Grants Online program management office. “When [NOAA Administrator] Lautenbacher came on board in 2001, that’s one of the first things he wanted to improve.”

Although an online NOAA grants systems was envisioned in the mid-1990s, it wasn’t until March 2002 that the current effort got underway. That’s when Maloney brought together a small
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NOAA Mounts North Pacific Humpback Whale Survey

—By Jim Milbury

In February, NOAA announced the start of an unprecedented international research project designed to learn more about endangered humpback whales.

The study, known as the “Structure of Populations, Level of Abundance and Status of Humpbacks,” or SPLASH for short, is a three-year project involving NOAA scientists and hundreds of other researchers from the United States, Japan, Russia, Mexico, Canada, the Philippines, Costa Rica, Panama, Nicaragua and Guatemala.

The announcement was made appropriately in Honolulu, Hawaii, the one-time hub to hundreds of

whaling ships that sailed the Pacific Ocean in the mid-1800s.

Humpback whales and several other species are recovering after being driven nearly to extinction by commercial whaling. An international ban on commercial whaling was adopted in 1964.

“We have never ever systematically surveyed the entire North Pacific Ocean at the same time for humpback whales,” said Paul Wade, a NOAA scientist and leader of the Cetacean Assessment and Ecology Program at the National Marine Mammal Laboratory, part of NOAA Fisheries’ Alaska Fisheries
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Jorge Urban/UABCS
A humpback whale breaches in February off the coast of Mexico, as NOAA researcher Sally Mizroch prepares to fire a biopsy dart with a crossbow to take a tissue sample.

Sea Grant Teams With Newspapers To Fight Invasives

—By Sami Grimes

The NOAA-cooperative National Sea Grant College Program has enlisted the power of the press to help stem the spread of non-native species of fish and plants in the Great Lakes.

With the help of the seven Great Lakes Sea Grant programs, newspapers in the region have featured invasive species in news supplements and other aspects of their "Newspapers in Education" programs that provide schools with newspapers and other educational resources for use in classrooms.

Since 1970, at least 150 new species have invaded the Great Lakes, many transported there accidentally in the ballast water of ships arriving from Europe. These exotic organisms can have a devastating effect on native species and the marine environment.

Some invasive species, such as the zebra mussel, have spread from lake to lake and to other waterways in the region. Since boaters, fishers and others who visit affected waters can accidentally introduce invasive species to other waters they visit, educating the public is a key ingredient to stopping their spread.

"In the long term, education is one of the most, if not the most, effective ways to combat invasive species," said Dorn Carlson, NOAA's invasive species matrix manager. "Sea Grant's efforts in the Great Lakes continue to show results, and this project is another way they are making a difference."

In February alone, 400 Ohio schools received invasive species newspaper supplements from the *Toledo Blade's* Newspapers in Education program.

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Grants Online

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core team of people to see what systems were commercially available that NOAA could use to speed up the grants process, while ensuring safety and security.

"But there just wasn't anything out there that we could put into place," Maloney said.

The core group grew into a steering committee of more than 25 individuals representing NOAA's grant-making line offices to offer ideas and recommendations that would fit their offices' needs, yet mesh with an all-NOAA system.

A coordinated effort was essential, as each grant-awarding group had its own system or process. But all recognized that a coordinated effort was needed, and they worked toward that end.

What came out of the group's weekly meetings is an electronic grants process that will significantly reduce the amount of time it takes from application to approval of a grant, eliminating most of the duplication of both effort and information.

In 2003, NOAA awarded 1,506 grants totaling approximately \$854 million. But the process was slow and labor-intensive. Grant paperwork is typically mailed and information retyped. NOAA spends about 17 hours per grant just on data entry. Grants Online's goal is to reduce that to two hours per grant for data entry.

With Grants Online, information will be typed once and travel with the grant application as it electronically winds its way through review by both NOAA and non-NOAA experts.

"Any grant program that takes advantage of Grants.gov and Grants Online can expect to reduce the mailing time by about 30 days," said Ken Sragg, Grants Online

project manager and a member of the original core group. "Many other improvements will follow," he said.

When it is up and running in November, the online system will consolidate the processes from NOAA's 12 separate grant-making programs into one. "That's another reason why we wanted to move to an online system," Sragg said.

Early on, the project looked good on paper, but Sragg was concerned. He worked with Blueprint, a consulting firm, to create a vision of what a software architecture model would look like.

By February 2003, Grants Online's program management office had developed a prototype grants application. "We were able to go to Admiral Lautenbacher and say, 'We did it.' And he liked it," Sragg said.

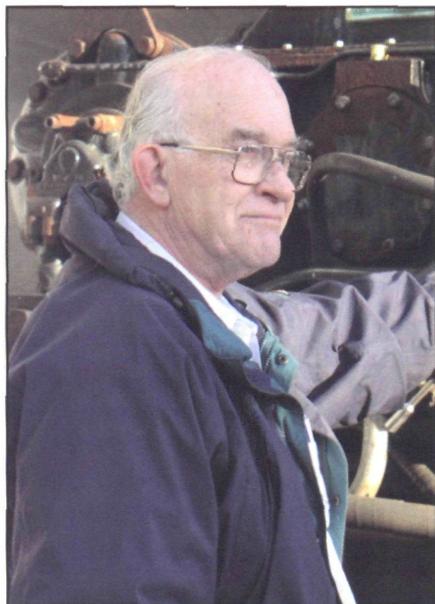
The next step was finding a contractor that could take the Blueprint vision and build the system. "I never thought we could get a contractor with the experience we needed," Sragg said. "But we did."

NOAA selected STG/Bearing Point, the company that successfully deployed the Fastlane grants system used by the National Science Foundation. "They brought the best team to the table," Maloney said. The contract to STG/BearingPoint is for \$6.5 million over four years.

The new system will be introduced in stages, so that any problems can be easily corrected and users can become familiar with the system in segments rather than all at one time.

"We want to work with the users to make sure they are happy," Sragg said. "Not touching paper is going to be a whole new world for many of them."

The entire grants process from start to finish is expected to be online by November.



Gary Gales/NOAA

L.D. Winebrenner.

L.D. Winebrenner Is the Team Member of the Month

—By Jeanne G. Kouhestani

Much of NOAA's research is based on data collected at sea. The science is exciting, the potential for new discoveries endless.

But success depends in great part on properly functioning ships and machinery.

For 30 years, L.D. "Curley" Winebrenner, a contract engineer at the NOAA Marine Operations Center—Pacific in Seattle, Wash., has ensured that the hydraulic systems that power NOAA ships and their equipment are working optimally so NOAA programs can effectively carry out their research.

"It's amazing how heavily dependent the fleet and mission equipment are on fluid power or control systems and circuits," said Gary Gales, a project engineer at the Marine Operations Center. "Winebrenner has touched them all at some time in his career."

Winebrenner began working with NOAA in 1974 on the

NOAA Ship *Miller Freeman* when the ship was outfitted and activated to perform fisheries research in the North Pacific Ocean. He oversaw the shipyard installation of the new hydraulic system and was able to resolve the many problems found with the system despite the skepticism of some who thought it would never work.

Since then, *Miller Freeman* has had many hydraulic system upgrades to meet the evolving mission requirements, and Winebrenner has been an integral part.

"He's as close to being a 'plank owner' [a member of the original crew] as one can get," Gales said.

Winebrenner generally fixes hydraulic problems for NOAA when a shipyard hasn't quite met NOAA's needs.

According to Winebrenner, "[The NOAA Ship] *Chapman* was an example of a ship being designed in a way that didn't fit NOAA's requirements. At that time, very few in the available workforce knew what to do with hydraulic systems. The field was like an orphan child; people just weren't used to it. That's where I was able to excel with some degree of expertise," he said.

Winebrenner's expertise has taken him far afield.

From its inception in the early 1980s, Winebrenner worked on the Tropical Oceans Global Atmosphere Program. TOGA is the precursor to today's Tropical Oceans and Atmosphere Project in the Pacific Ocean, where an array of about 70 internationally owned buoys provides data that help monitor global climate change.

His service helped ensure a successful scientific joint venture in TOGA between the United States and the Peoples Republic of China.

Winebrenner went to China and Micronesia four times over several years to oversee the installation of

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Shayla Lasalle/NOAA

Wanda Cain.

Wanda Cain Is the March Employee of the Month

—By Susan Buchanan

It doesn't take long to feel you've known Wanda Cain all your life. She puts you at ease the minute she asks you to have a seat. Some say she's made up of stark contrasts that draw you in—humble yet confident, friendly yet pragmatic. But as you sit with her and hear her life story, two traits stand out above all else: protector and giver.

Affectionately known around the halls of NOAA Fisheries as "Candy," a moniker she's carried since high school, Cain is more like a fixture than an employee. She started her career with the agency right out of graduate school almost 30 years ago, then working as a co-op student in Wood's Hole, Mass. Two years later she transferred to Silver Spring, Md., for a position in the NOAA Fisheries Office of Protected Resources, which she has called home ever since.

In the day and age when the average worker changes jobs every

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Focus On...

NOAA Fisheries Patrol Boats Protect Marine Resources

—By Gerald McMahon and Kelly Kirkwood

In the pre-dawn darkness on a recent winter morning, a lone patrol boat cruised along the south Texas coast. “Operation Grinch” teamed NOAA Office for Law Enforcement special agents and Texas Parks and Wildlife game wardens to check for illegal shrimping activity. After several hours, the officers moved to the Brownsville-South Padre Island jetties to monitor fishing vessels departing the port.

This past fall, Office for Law Enforcement special agent Jim Houseman ran a two-day patrol down the lower Rogue River in Oregon to educate and warn the public about poaching California

sea lions. In North Carolina, special agent Joe Wilson, assisted by the U.S. Coast Guard, patrolled an area of coastal waters closed to the use of large-mesh gill nets.

Off the coast of Homer, Alaska, enforcement officers on a routine spring patrol boarded a sport fishing vessel and discovered that the two fishermen aboard had 21 fish over their limit. They were given fines of \$1,650 and \$1,500 respectively.

These are just a few examples of the hundreds of boat patrols that the Office for Law Enforcement’s 150 special agents and enforcement officers conduct each year to protect our nation’s marine fisheries and endangered species in U.S. coastal waters and within the 3.4-million square miles of open ocean that make up the U.S. Exclusive Economic Zone.

To meet the demands of this mission, the Office for Law Enforcement maintains a fleet of seven coastal patrol vessels and 11 river boats stationed throughout the continental United States, Alaska, Hawaii and American Samoa. They range in size from a 36-foot ocean-capable vessel to smaller, inflatable Zodiac river boats designed for operations close to shore.

“Patrol vessels are pretty much a mandatory thing. If we didn’t have them we would have to charter a plane every time we needed to go
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Mark Oswell/NOAA

The NOAA Office for Law Enforcement patrol vessel *Katmai* stands by while a commercial fishing boat off-loads halibut in Kodiak, Alaska.



Mark Oswell/NOAA

Ron Dearmin (right), Office for Law Enforcement assistant special agent in charge, and Coast Guard petty officer Jonathon Skinner conduct a homeland security patrol in Houston, Texas.

continued from page 4 somewhere,” said Dennis Thaute, enforcement officer with the Alaska Enforcement Division.

Special agents and enforcement officers receive extensive training in operating and navigating patrol boats at the Federal Law Enforcement Training Center in Glynco, Ga. During the four weeks of training, they also learn boarding and inspection tactics necessary for gathering evidence and arresting offenders.

Agents and officers utilize both overt and covert methods to monitor sport fishing vessels, charter boats, wildlife tour operators and commercial fishing vessels. They conduct night operations, appearing as disinterested fishermen while observing and planning an inspection of nearby ships. Later, they may board and inspect the vessels for violations of fishing regulations.

Patrol vessels provide officers with a rapid reaction capability so that agents and officers can move from port to port and conduct offloading and landing inspections. In the Northwest, special agents also use their patrol vessel to



Mark Oswell/NOAA

The Office for Law Enforcement patrol vessel Hurricane 733 conducts a homeland security patrol in the Houston ship channel.

investigate harassment of marine mammals.

“Patrol vessels allow you to have more contact with the fishing industry and also to make quicker enforcement of laws,” said Charles Raterman, special agent with the Fisheries Southeast Division.

Sea patrols are bolstered by aerial observations and surveillance

missions carried out by aircraft in conjunction with the Coast Guard and the Civil Air Patrol.

The Office for Law Enforcement also has increased the level and effectiveness of seaside patrols by implementing joint enforcement agreements with several coastal states. Last year, Congress appropriated \$14.6 million in joint enforcement funding, which increases enforcement patrols for marine fishing regulations. State and local law enforcement agencies use these funds to purchase equipment, including patrol vessels, ground vehicles and aircraft, to enhance their at-sea patrols.

Whether boarding commercial vessels off the coast of Massachusetts or maneuvering into a Hawaiian harbor to inspect the daily catch, Office for Law Enforcement special agents and enforcement officers are on constant alert to ensure our nation’s living marine resources, endangered species and coastal habitats are protected and preserved for this and future generations. ☺



Les Cockreham/NOAA

NOAA Fisheries enforcement officer John Bower gives information about marine mammals to boaters off the Washington coast.

Humpback Whales

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Science Center. "And without having a full understanding of the ocean-wide abundance and population structure," he said, "we don't really have a way of measuring whether humpbacks are doing well or not doing well in some areas."

Researchers will gather information on humpback whales in all known humpback feeding and breeding grounds throughout the North Pacific. This is no small undertaking, as their feeding areas range from California in the eastern North Pacific north into the Gulf of Alaska and Bering Sea, and then south to Hokkaido, Japan.

The breeding areas include coastal waters of Central America, three areas off Mexico and the Hawaiian Islands and several areas in the western North Pacific, including Japan's Ogasawara Islands, the Ryukyu Islands of Okinawa, and the Philippines.

There are believed to be separate populations found in the western, eastern and central regions of the North Pacific Ocean.

The central North Pacific Ocean population is the largest, with approximately 5,000 whales. These animals migrate from Alaska to Hawaii every year, delighting tourists with incredible acrobatic displays as they either play or attempt to attract mates in the coastal waters of the Hawaiian Islands.

Naomi McIntosh, manager of the Hawaiian Island Humpback Whale National Marine Sanctuary, is anxious for the SPLASH study to begin. "For us to really have a better understanding of how the whales are doing in Hawaii, we need to have a comprehensive understanding about how the population is doing within the entire North Pacific Ocean."

One of the primary questions

researchers and managers need to know is exactly how many humpback whales remain in the North Pacific. It is estimated that prior to commercial whaling there were about 15,000 humpbacks. This number may have dipped to as low as 1,400 by the time commercial whaling was banned. Today, scientists estimate there may be about 6,000 to 8,000 whales. But no one is really sure. Without accurate information it is impossible to determine if the total population size is growing or shrinking.

Fortunately, humpback whales have a unique characteristic that allows researchers to identify individual animals and make an accurate estimate of their population size.

The humpback's tail, or fluke, has a particular pattern of black and white markings that is unique for each individual, similar to a person's fingerprints. Researchers are planning to take thousands of photographs of whale flukes over the next three years to determine population numbers.

"Since each fluke is identifiable to an individual, we can match those individuals that we photograph to other photographs that are taken of the same individual at different places and at different times," said Jay Barlow of NOAA's Southwest Fisheries Science Center and chief scientist for one of the SPLASH research cruises. "Then from the total number of photographs that are taken and [by] determining what fraction are seen again, we can estimate the population size."

Of course, taking photographs of a whale's fluke is much more practical than trying to catch, mark and release an animal that can be 50 feet in length and weigh as much as 80,000 pounds.

The photographs will also be used to determine other aspects of

the threats to humpback whales. "We're interested at looking at human impacts," said David Mattila, science and rescue coordinator for the humpback whale sanctuary. "We are going to be taking photographs of tail stocks of whales to look at [fishing net] entanglement rates and also try to get a handle on the level of vessel strikes."

But the pictures won't tell researchers everything they need to know about humpback whales. They also need to determine if there is breeding going on between the different populations, the ratio of males and females, the size of the gene pool and any pollutants that may be affecting the health of the animals.

To accomplish this task, researchers will gather tissue biopsies for genetic and toxicological analysis from whales during the same period that they are taking photographs of the flukes. The tissue will be taken by firing a small dart into the whale and recovering a sample of skin and blubber about the size of a pencil eraser in diameter and about an inch long.

Precautions are taken to ensure the safety of the animal in this well-established technique, which has been used for 20 years on even small animals like dolphins.

"There's a stopper that prevents the dart tip from going further in the whale," Wade said. "The dart hits the animal and takes a sample of skin with a little bit of blubber attached and then it bounces out of the whale and floats and we retrieve the dart."

Humpbacks, known as "baleen" whales because they strain their food through a series of plates called baleen, have plenty of blubber, especially when they're feeding and eating over a ton of food a day. They can take in as

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Invasive Species

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"The hope of this project was not only to have students read about invasive species, but also to have high school students think critically about these aquatic problems by writing an essay on how to successfully manage invasions," said Sharon Moen of Minnesota Sea Grant, who coordinated the Newspapers in Education partnerships.

By this summer, all the Great Lakes Sea Grant programs—Pennsylvania, Wisconsin, Minnesota, Michigan, Illinois-Indiana, New York and Ohio—will have worked with newspapers to provide students with aquatic invasive species learning materials.

The *Erie Times-News* created a 16-page invasive species newspaper supplement called "The Great Lakes Invasion" that was adapted and distributed by a number of other papers in the region, including the *Toledo Blade*, the *Chicago Tribune*, the *Milwaukee Journal-Sentinel*, the *Muskegon Chronicle* and the *Buffalo News*.

Most Great Lakes Sea Grant programs also coordinated with Newspapers in Education programs to provide an educational workshop on invasive species for teachers.

The supplement prepared by the *Erie Times-News* and distributed throughout the Great Lakes region features in-depth articles about zebra mussels, sea lamprey, round goby, purple loosestrife and other invasive species, including how to identify them and help stop their spread.

The invasive species newspaper supplements are not just for students. "Since we felt this information was important in educating not only the students, but also our general readership, we produced an extra 65,000 copies to distribute to our general readership, making our

total circulation 85,000 including the copies that were sent to area schools," said Anna McCartney, Newspapers in Education coordinator for the *Erie Times-News*, which is Pennsylvania Sea Grant's partner in the project. "The success of our partnership with Sea Grant that included the supplement on invasive species and a joint Newspapers in Education-Pennsylvania Sea Grant teacher workshop, allowed us to sell the supplement to additional newspapers such as the *Rochester Democrat and Chronicle* in Rochester, N.Y., and five others not originally involved in the project. Partnering with programs such as NOAA Sea Grant allows [the *Erie Times-News*] to produce strong, scientific supplements," McCartney said.

In fact, the Newspapers in Education supplement on invasive species became a model for other programs and led to the development of a supplement on international coastal cleanup.

"The Great Lakes invasion publication fits exactly in our study of the Great Lakes," said Rick Carveth a teacher at Monroe (Mich.) Middle School. "The workshop was entertaining, eye-opening and educational."

Luciana Taschini, a teacher at the Choir Academy in Chicago, Ill., said, "Next year I plan to use Sea Grant's Great Lakes [invasive species] guide in my fourth and eighth grade classrooms. The guide is very easy to understand, so the kids should really enjoy it. This will fit well with my fourth grade units on how different species interact and [with] survival and food web concepts, and I can use this for my eighth graders as they study vertebrates and invertebrates."

Thus far, the Sea Grant programs in Pennsylvania, Illinois-Indiana, Wisconsin, Minnesota and Michigan have reached an esti-

mated 1,000 classrooms, or about 40,000 students, with the invasive species supplements and related educational resources.

Other Great Lakes states are launching their own initiatives this year. This month, Ohio Sea Grant is hosting an invasive species essay contest, and Illinois-Indiana Sea Grant is hosting a contest in which students suggest ways to tell others about how to control invasive species from spreading.

By the end of 2004, an estimated 48,000 students will have received invasive species information through the Newspapers in Education partnerships with Sea Grant. 🌊

Humpback Whales

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much as 500 gallons in any one mouthful to catch their food.

In winter, humpback whales migrate 3,000 miles from cold Alaskan waters to the tropical waters of Hawaii, where they mate and give birth to their young, or calves.

"It's a little bit of a mystery why baleen whales migrate," Wade said. "There is an argument that pregnant females go down to these [tropical] areas to give birth to their calves in warm water so they won't be as cold. There is also the hypothesis they are trying to avoid predation from killer whales."

Later this summer, NOAA scientists will sail from Seattle, Wash., on the NOAA research vessel *McArthur II* for a 120-day cruise to the humpback whale feeding grounds. They'll be taking photographs and tissue biopsies in hopes of finally understanding these animals enough to ensure their survival.

Researchers from NOAA and other countries will continue their SPLASH research for the next three years. 🌊

Winebrenner

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U.S. equipment aboard Chinese vessels. He said he made some wonderful friends there, but found the cultural difference in shipboard management could be frustrating.

"The Chinese boatswain was the most negative person I've ever worked with," Winebrenner said. "I would be on deck looking at the layout, and would tell him I need to put a pulley or shiv here. The boatswain would say, 'You can't do that.' Later I'd look in the wardroom and see him in conference with the officers. Then he'd come back down and say, 'Okay, you can do it.' In the United States, the boatswain or engineers usually make a decision on the spot."

For Winebrenner, the best part of the job is "meeting people on various vessels and bringing a smile to their faces when everything works right."

Often when a ship is "down hard," awaiting repairs in some remote port, Winebrenner gets the call.

"Science can't begin until a winch, pump or circuit problem is diagnosed and repaired," Gales said. "No one is happy until Winebrenner steps aboard, and then a calm begins to settle in as he methodically listens to everyone, catalogs their input and duplicates the symptoms. He makes himself at home as a part of the crew and in a short time has assembled a group of interested crew members," Gales said.

"In a Tom Sawyer-like role," Gales said, "he quickly has the crew disassembling equipment and problem solving with a knowledge and confidence that just a little earlier was chaos. The project ends with the crew making repairs and adjustments under his direction and the ship is shortly underway." 🐟

Cain

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three years, why has Cain remained so committed to her work at NOAA Fisheries for almost three decades? "Simply, it's a good place to work," she said. "It's easy to stay on because I believe in our mission and I work with great people."

The Office of Protected Resources is charged with carrying out the Endangered Species and Marine Mammal Protection Acts to promote conservation of some of nature's most loveable critters: whales, sea turtles, dolphins and sea lions.

Cain said marine mammals and endangered species are what keep her coming to work every day. "Humans have an obligation as stewards of the Earth's natural resources to strike a balance between our subsistence uses and conservation," she said.

One of Cain's most notable contributions over the years has been her part in establishing a regulatory structure to save thousands of dolphins from drowning in tuna nets in the eastern tropical Pacific Ocean.

Cain currently works as the first chief of the new Planning and Program Coordination Division. Her supervisor, Donna Wieting, said Cain is the key gear that keeps the office running smoothly.

"Candy has worked in every division, and she made a significant impression everywhere," Wieting said. "Her high quality of dedication and responsiveness has made her the go-to person who we all trust to get the job done well."

That dedication and responsiveness, coupled with her giving and protective nature, led Cain to sign up as a U.S. Army reservist 21 years ago, a move she delayed until the time was right.

"I wanted to go into the Army after high school, but I couldn't

pass up a college scholarship. Then after college, I almost signed up, but I was offered a graduate fellowship," she said.

Cain earned a B.S. degree in zoology from Howard University and an M.S. degree in fisheries biology from Ohio State University. Her first job followed, forcing another postponement of her dream.

"I always wanted to serve my country to give something back for all the opportunities I have been afforded," she said.

Cain's unit was activated last year for Operation Iraqi Freedom. She served at Ft. Dix, N.J., the largest reserves mobilization unit on the East Coast, where her mission was to make sure all the reserve units were trained to standard and could perform their tasks before deployment to the Middle East. "This was the mission I had been training for over the past 20 years," she said.

Cain will soon retire as a command sergeant major, the highest enlisted rank. "I am fortunate to have been born in this country, to have had educational and job opportunities I still enjoy, and to have been able to serve my country through my work here at NOAA Fisheries as well as in the Army Reserve," she said. 🐟

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