

# ANNUAL REPORT

## 2014





# **Mote's Mission**

**The advancement of marine and environmental sciences through scientific research, education and public outreach, leading to new discoveries, revitalization and sustainability of our oceans and greater public understanding of our marine resources.**

## Dear Friends...



As I close out my term as Chairman of Mote Marine Laboratory's Board of Trustees, I am reminded of all the progress we have made in just the last two years. It has been my pleasure to support this great institution of marine research, knowing that we are building upon 60 years of historical accomplishments made by those who came before us.

Mote's many accomplishments in marine science, public outreach, and education would not be possible without the strong support of the community — our members, volunteers, Board Members and those who make philanthropic donations that help fund the important research programs that Mote is undertaking.

This impressive commitment to Mote is in itself a testament to the organization's mission and proof that you understand the urgent need to further protect our oceans for today and for tomorrow.

During my time as Chairman of the Board, I have also been honored to be part of ensuring a successful leadership transition that is actively working to build a strong and stable foundation for the organization's next 60 years of marine research. I am grateful for your continued support of this exceptional institution.

Thank you for all you do.

Sincerely,

A handwritten signature in cursive script that reads "Eugene H. Beckstein".

Eugene H. Beckstein  
Chairman, Board of Trustees

# Dear Friends...

I am pleased to have this opportunity to present to you the 2014 Annual Report of Mote Marine Laboratory and Aquarium. There have been so many outstanding accomplishments by our dedicated Mote staff that it is impossible to share all of them with you in these few pages. However, it is my hope that this report provides an inspiring overview of the exciting work we tirelessly undertake in response to the urgent needs and significant threats that our oceans are facing.

This report also offers us an opportunity to demonstrate the significant advances we have made in achieving the goals outlined in our *2020 Vision & Strategic Plan*, the guiding road map for our continued and future success. These goals are for Mote to:

- Increase our ability to conduct world-class research with an emphasis on marine conservation and sustainable use;
- Ensure the long-term prosperity of our research enterprise through focused next-generation staff recruitment and professional development;
- Translate and transfer our science and technology for the betterment of society and the marine environment;
- Provide continued public service to our communities.

In 2014, we added three doctorate-level researchers to our research team through the Mote Postdoctoral Fellowship Program. These young researchers bring with them a new and energetic scientific spark. We look forward to one day helping them to take their places as leaders in marine research.

Our research staff continued to be innovators in diverse fields of marine science, publishing more than 70 articles in peer-reviewed journals and more than 100 technical reports, sharing their latest findings as part of Mote's efforts to advance science and the understanding of the health of our oceans

and the ways we may conserve our natural resources. By bringing together the best and brightest minds for inquiry, discovery, innovation, teaching and policy development, I know that Mote will continue to expand our impact as one of the most creative and fruitful research enterprises in the world.



Through the years, Mote has distinguished itself through the seamless integration of its diverse research enterprise with education, public outreach and public policy programs. In 2014, Mote Aquarium's staff taught more than 300,000 visitors to become better stewards of our oceans and the animals that live in them while our education programs served 25,218 people of all ages, with our traveling exhibits and digital learning programs reaching countless others. We also hosted 209 college interns and our dedicated volunteers contributed 217,376 hours of service.

Mote is stronger than ever now as we are about to begin our 60th anniversary in 2015. We are eager to embrace new opportunities to address the grand challenges facing our oceans and shed light on new discoveries that will help to transform our world for the better.

Sincerely,

A handwritten signature in blue ink, which appears to read "Michael Crosby". The signature is fluid and cursive, with a long, sweeping underline that extends to the right.

Dr. Michael P. Crosby  
President & CEO



# Honors



Dr. Carl Luer in the marine biomedical lab.

## International Society Honors Shark Researcher

The American Elasmobranch Society (AES) presented its Distinguished Fellow Award to Mote scientist Dr. Carl Luer, who has been studying the disease-fighting traits of sharks and rays to support the quest for better human medical care since he joined the Lab's staff in 1979.

AES is the international-level, professional society for those who study elasmobranchs — sharks and their relatives the skates, rays, guitarfish and sawfish. Members include college and university faculty and students, scientific staff at government agencies and museums, conservation biologists, biologists at public aquariums throughout the world and scientists at independent marine research institutions, such as Mote.

The AES Distinguished Fellow Award is presented to a member following a nomination and review process that takes several months. The award recognizes career accomplishments that have contributed significantly to the knowledge and understanding of sharks and their relatives. Including Luer, only 11 people have ever received the award during the Society's 30-year existence, including Mote founder, Dr. Eugenie Clark, along with two of her fellow history-makers at Mote: Dr. Perry Gilbert and Stewart Springer.



Sean Russell

## Mote Intern Alumnus Wins National Conservation Award

Sean Russell, a rising star in marine conservation and outreach, received a national Brower Youth Award for launching an educational campaign about marine debris — a project that ties back to his high school internship at Mote Marine Lab. Russell, who graduated from the University of Florida in December 2013 with a degree in biology, became interested in marine environments through 4-H marine science projects and his high school internship at Mote, which helped him understand the negative impacts of marine debris such as fishing line on dolphins and other marine wildlife. At age 16, Russell worked with Mote, 4-H members and his family to create the Stow It-Don't Throw It Project, an effort to keep fishing line and other debris out of the ocean and prevent it from harming marine wildlife. In 2011, Russell launched the annual Youth Ocean Conservation Summit at Mote, where youths can gain skills to launch their own conservation projects. The Summit has inspired hundreds of students across the country to get involved in ocean conservation and a series of youth-led satellite summits are starting this year.



Kasey Gaylord-Opalewski in the digital learning studio.

### Digital Learning Pinnacle Award

The highest award in educational, interactive videoconferencing was presented to Mote's digital learning program, SeaTrek Interactive.

The CILC Pinnacle Award is given annually by the Center for Interactive Learning and Collaboration (CILC) to organizations that receive outstanding scores on program evaluations submitted by educators. The award recognizes remarkable educational content and presentation skill.



Dwarf cuttlefish in Mote Aquarium.

### Video Earns Henry Award

A video from Mote and its marketing partner Paradise Advertising & Marketing won a Henry Award — first prize for its category in the Flagler Awards for tourism marketing during VISIT FLORIDA's 47th Annual Governor's Conference on Tourism. The Flagler Awards, named for Henry Flagler and established in 2000, honor individuals and organizations that help maintain and improve Florida's position as one of the world's most popular travel destinations.



A young visitor enjoying the Contact Cove exhibit.

### Aquarium is Traveler's Choice

Mote Aquarium made the Top 10 list of best U.S. aquariums from TripAdvisor, which honors top travel spots worldwide based on the millions of reviews and opinions from TripAdvisor travelers. Award winners were determined using an algorithm that took into account the quantity and quality of reviews for zoos and aquariums worldwide gathered over a 12-month period.

# Memorials

## Curator, Volunteer Ruth DeLynn: 1926-2014

Ruth DeLynn, the creator and curator of one of the most important and extensive collections of dolphin and whale bones in the nation, died July 8, 2014, following a long-term illness. DeLynn, fondly known as “The Bone Lady,” was a volunteer and adjunct scientist at Mote Marine Laboratory for 30 years. She created the bone collection and curated it — meticulously cleaning and preserving the skeletons of dolphins and whales so that they may be used in further studies necessary to unlock the cryptic lives of these animals. The collection was officially named the Ruth DeLynn Cetacean Osteological Collection in her honor in 2007.

DeLynn began volunteering at Mote after retiring from the American Museum of Natural History in New York. Key to the Cetacean collection’s taxonomic value is the detailed documentation that accompanies each specimen and the fact that it contains whole skeletons — not just the skulls, as is the case with many animal bone collections.

DeLynn was a New York native who raised her family in Westchester; she is survived by daughter Nina (Donald) Berk of Newton, Mass., son William (Donna) DeLynn, of Rye Brook, N.Y., and granddaughters Kimberly, Amy, Julia and Robin. She was predeceased by her husband, Hubert.

## Director, Major Gifts & Planned Giving: Anna M. Hayes: 1947-2014

In 2005, Anna Hayes joined Mote Marine Laboratory and Aquarium as a Development Officer at Mote Aquaculture Park and quickly rose to become the Director of Major Gifts and Planned Giving until her death in 2014. Anna developed Mote’s first planned-giving program, which helped build a Mote endowment that will serve as a lasting legacy for her work. She also served on the board of the Southwest Florida Planned Giving Council and belonged to the Partnership for Philanthropic Planning and the Association of Fundraising Professionals.

Anna was a world-traveler and golfer who also loved sailing and the outdoors. She also had a passion for animals and her world travels helped her develop a love for beautiful art and music and a relentless energy and passion for the people and things she cared for.

Anna is survived by her brother and his wife, David & Catherine Hayes, of Rochester, N.Y., niece Julie Hayes, of Sarasota, niece June Albanese, of Rochester, great niece Amy Albanese, of Rochester, and great nephew Anthony Albanese, of Rochester.





## Mote Founder Dr. Eugenie Clark: 1922-2015

Dr. Eugenie Clark, known worldwide as “The Shark Lady” for her groundbreaking early studies of sharks, died at age 92 in February 2015. She was a trailblazer for women in science and inspired generations of people — from ocean experts to school children — to love oceans and learn more about them. In 1955, with the philanthropic support of the Vanderbilt family, she began the Cape Haze Marine Laboratory, today known as Mote Marine Laboratory, which celebrates its 60th anniversary in 2015.

Clark, an ichthyologist, was a world authority on fishes — particularly sharks and tropical sand fishes. A courageous diver and explorer, Clark conducted 71 submersible dives as deep as 12,000 feet and led more than 200 field research expeditions to the Red Sea, Gulf of Aqaba, Caribbean, Mexico, Japan, Palau, Papua New Guinea, the Solomon Islands, Thailand, Indonesia and Borneo to study sand fishes, whale sharks, deep sea sharks and spotted oceanic triggerfish. She wrote three popular books and more than 175 articles, including research publications in leading peer-reviewed journals such as *Science* and a dozen popular stories in *National Geographic* magazine.

Clark joined the Zoology faculty at the University of Maryland in 1968 and retired from that institution in 1992. She returned to Mote in 2000 as Senior Scientist and Director Emerita and later became a Trustee. At Mote, she continued to build upon and champion the groundbreaking research that began with her 60 years before.

Clark spent her final days among family, friends and colleagues from the Lab. Her scientific discoveries and her amazing story will continue to inform and inspire people around the globe. She is survived by her four children, Hera, Aya, Tak and Niki Konstantinou, and her grandson Eli.



# Impacts

**2014 was a year filled with extraordinary stories of marine science, conservation, animal rescues, public education and more.**

**Our science team added three postdoctoral-level scientists for a total of 35 Ph.D. researchers. Mote scientists produced 77 peer-reviewed scientific publications and 117 technical reports. Mote Aquarium taught more than 300,000 visitors about our oceans and our education programs served 25,218 people of all ages, with our traveling exhibits and digital learning programs reaching countless others. The Lab also hosted 209 college interns and our dedicated volunteers contributed 217,376 hours of service for the benefit of our oceans.**

# Impacts: World-Class Research

## Mote and Israeli Scientists Partner on International Ocean Initiatives

Mote and the Interuniversity Institute for Marine Sciences (IUI) in Eilat, Israel, signed a memorandum of understanding (MOU) that will lead to new research endeavors designed to understand the impacts that climate change will have on coral reefs and find ways to restore and protect reefs worldwide.

This new research partnership will also support research on ocean acidification, the ecology of sharks and butterflyfish, marine biomedicine and many other key subjects shared by these two world-class marine science organizations.

“Our long history of working with Israeli scientists is bringing about significant benefits for our oceans and for marine science, and these team efforts stand ready to achieve even greater results because of this new agreement,” said Mote President and CEO, Dr. Michael P. Crosby.

In the 1950s, before Mote founder Dr. Eugenie Clark earned world renown as the “Shark Lady,” she studied fishes in the Red Sea — where vibrant coral reefs entice divers from around the world and where, today, Mote science is unfolding in exciting new ways.

Dr. Crosby has also worked closely with top Israeli researchers since 1994 when he led U.S., Israeli and Jordanian partners in the Red Sea Marine Peace Park Cooperative Research, Monitoring and Management Program — an effort to protect coral reefs that support thousands of species in the Gulf of Aqaba. He is also a former chairman of the United States-Israel Binational Science Foundation Board of Governors and has served on the Board since he was appointed by the U.S. State Department in 2002.

Dr. Crosby and Dr. Amatzia Genin, Director of the IUI, signed the agreement at the IUI in Eilat during a historic trip back to the Red Sea with Mote founder Dr. Clark, as she celebrated her 92nd birthday.

## Largest Leatherback Blood Protein Study Leads to New Findings

The largest-ever study of blood proteins in leatherbacks — Earth’s largest sea turtle species — was led by a Mote scientist and published in the peer-reviewed journal *Conservation Physiology*, revealing some of the fascinating biology behind one of nature’s most demanding life cycles.

Leatherbacks feed on jellyfish — nature’s low-calorie Jell-O — but they eat enough of them to power a migration thousands of miles long, from feeding grounds to nesting beaches. Scientists initially believed the turtles had to feed at nesting sites too, but physiology research by others has suggested that leatherbacks nesting in French Guiana are fasting, living on stored energy. The Mote study used the most detailed analysis of blood proteins in leatherbacks to date to confirm that another population at St. Croix in the U.S. Virgin Islands fasts while nesting, strengthening the emerging picture of the leatherback life cycle. Results also show how fasting and migration may affect the turtles’ bodies. These findings provide vital information for resource managers seeking to protect this endangered species.



Nesting leatherback sea turtle.



# Impacts: World-Class Research



Madelaine Verbeek

A shark is fitted with noseplugs — a way to block their sense of smell during studies to understand how shark senses affect shark behavior. (The shark was not harmed during the procedure.)

## Sharks Sense Prey in Surprising Ways, According to Major Study

How sharks hunt prey — from the first whiff to the final chomp — was revealed as never before in a new study about shark senses that was supported by the National Science Foundation and published in the peer-reviewed journal *PLoS ONE*.

The study, led by scientists from Mote, the University of South Florida (USF) in Tampa and Boston University, was the first to show how vision, touch, smell and other senses combine to guide a detailed series of animal behaviors from start to finish. Results show that sharks with different lifestyles may favor different senses, and they can sometimes switch when their preferred senses are blocked. That's hopeful news for sharks trying to find food in changing, sometimes degraded environments.

Understanding how sharks sense and interact with their environment is vital for sustaining populations of these marine predators, which support the health of oceans around the world. Overfishing is the greatest known threat, but pollution and other environmental changes may affect the natural signals that sharks need for hunting and other key behaviors.

## Great White Shark Breaks Record

Lydia, a 2,000-pound great white shark, broke scientific records when she was tracked swimming across the mid-Atlantic ridge — the first trans-Atlantic journey documented for her species. Mote was a part of the OCEARCH expedition that tagged this shark in March 2013. By December 2014, Lydia impressed the scientific team and members of the public as she departed Jacksonville, swam northeast in a winding course of 19,500 miles and, a year after being tagged, she crossed the mid-Atlantic ridge — a boundary between tectonic plates running roughly down the middle of the Atlantic ocean. By December, she had moved to the western Atlantic Ocean offshore of the border where Maine meets Canada.

## Dugong Conservation in Malaysia

Mote scientists are working on a new project in Malaysia that is focused on a vulnerable population of dugongs — marine mammals related to manatees — with the goal of using findings to help save the nation's dwindling population and improve human health along the way.

Mote scientists began collecting environmental samples in August with the Institute of Ocean and Earth Sciences at the University of Malaya and the nonprofit MareCet Research Organization.



Kristina Vackova

Dugongs (*Dugong dugon*) are cousins to the Florida manatee.



# Impacts: World-Class Research

The three-year health risk assessment of the nation's dugong population is also working to help increase grassroots and management support for protecting the species.

Mote and MareCet are members of the International Consortium for Marine Conservation (ICMC) — a coalition of aquariums, zoos and governmental and nongovernmental organizations hosted by Mote. The ICMC is dedicated to moving marine science from the lab and into the field, where research findings can be used to directly address threats to species and their habitats.

*Dugong dugon* are listed as vulnerable by the IUCN, an international organization that establishes the conservation status of species. But some dugong populations, like the one in Malaysia, are at a locally higher risk of extinction.

Assessing the dugong's health risks is only part of the equation; if the study finds the animals at risk from contaminants, it's likely the human populations in the same region are also at risk and this study will shed light on that issue as well.

## Hatchery-Reared Snook Released into Sarasota Bay

Scientists from Mote and Florida's Fish and Wildlife Conservation Commission (FWC) released hatchery-reared juvenile snook into the wild as part of an ongoing program designed to find the most effective methods to replenish and enhance wild snook populations.

The species is one of Florida's most popular sport fish and plays an important role in drawing recreational anglers to the state. According to the American Sportfishing Association, Florida is the top-ranked state in economic output from recreational fishing, which draws \$8.6 billion to the economy annually. Saltwater fishing alone generates 80 percent — \$6.8 billion — of that income.

Snook, along with red drum, are the main test species for restocking efforts statewide. This project — which involved tagging and releasing more than 2,200 snook into Sarasota Bay over three days — is designed to determine whether snook that have been conditioned for release at Mote have better growth and survival rates in the wild.

## Innovative Aquaponics Project Raises Saltwater Fish and Sea Veggies



Mote Aquaculture Park's marine aquaponics system.

Mote Aquaculture Park (MAP) — Mote's sustainable fish farming research facility in eastern Sarasota County — launched a pioneering project to advance marine aquaponics: farming seafood while using the wastewater to fertilize salt-loving crops. This commercial demonstration project, funded by Florida Sea Grant and done in partnership with the University of South Florida (USF) and Morningstar Fishermen, is using eco-friendly technology developed at MAP to raise the saltwater fish species, red drum, together with plant species, sea purslane and saltwort — sea vegetables popular in European cuisine. The project aims to bring its tasty results from farm to fork, showing communities a new way to produce food locally for farmers' markets and restaurants as well as determine how nitrogen and phosphorus move through the system.

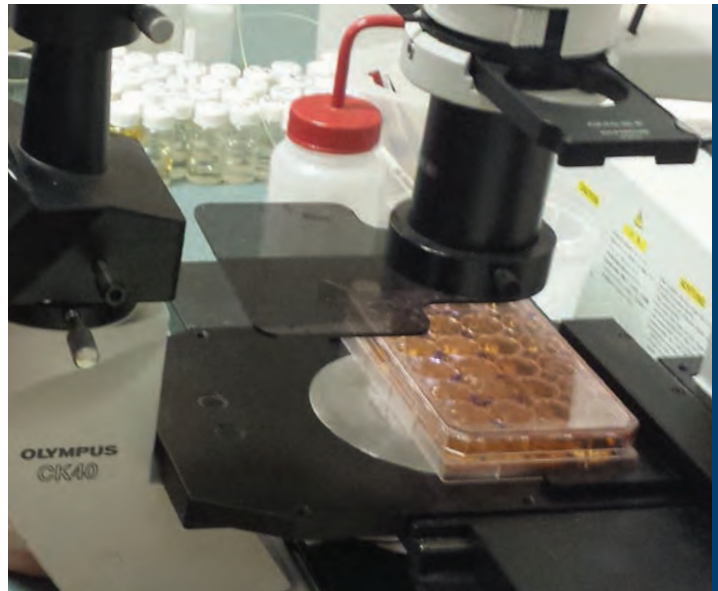
# Impacts: World-Class Research

## Nutrients That Feed Red Tide Under the Microscope in Major Study

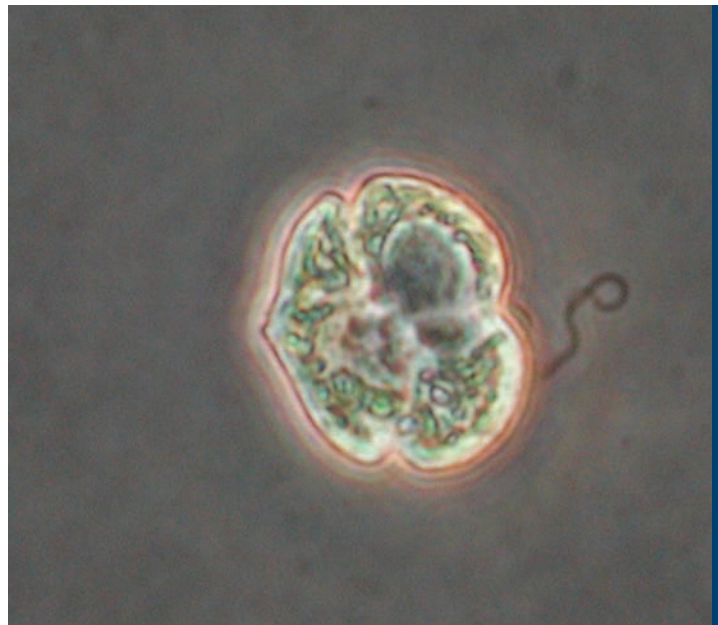
Mote scientists and collaborators announced that the “food” sources supporting Florida red tides are more diverse and complex than previously realized — a key result of five years of research on red tide and nutrients published as an entire special edition of the scientific journal *Harmful Algae*. The multi-partner project was funded by the National Oceanic and Atmospheric Administration’s ECOHAB program and included 14 research papers from seven institutions.

The project documented the microbiology, physiology, ecology and physical oceanography factors affecting red tides in new detail, provided a synthesis of results and offered suggestions for resource managers addressing red tide in the coastal waters of Southwest Florida.

The research team studied four major red tide blooms caused by the harmful algae species *Karenia brevis* (2001, 2007, 2008 and 2009), plus the non-bloom year 2010 to understand which nutrients supported these red tides and the extent to which coastal pollution might contribute, helping reveal what drives red tide in Southwest Florida. Study partners documented 12 sources of nutrients in Southwest Florida waters — including some never before associated with the *K. brevis* organism. Research results also supported the consensus that blooms start 10-40 miles offshore, away from the direct influence of land-based nutrient pollution, but once moved inshore, blooms can use both human-contributed and natural nutrients for growth.



*Karenia brevis* sample analyzed under a microscope.



*Karenia brevis*.

# Impacts: Staff Recruitment and Nurturing

One of Mote's key strategic goals is to ensure the Lab's long-term research success through focused staff recruiting and the development of programs that nurture and support scientists at all career stages — from those newly minted post-doctorate researchers all the way through those with senior scientist status who have made countless contributions to marine science during their careers.

To reach this goal, we have established three programs:

**Mote Postdoctoral Research Fellowship**, a two-year fellowship that provides 100 percent salary support, research start-up, supplies, equipment and mentorship to postdoctoral scientists conducting outstanding work early in their careers.

**Mote Scholarly and Service Activities Award**, which provides 25 percent salary support so that staff may conduct scholarly and service activities that reinvigorates their scientific research and gives back to the community.

**Mote Eminent Scholar Awards**, which provides 50 percent salary support to Mote Senior Scientists who have great potential to advance a current research initiative or develop a new initiative that is consistent with the organization's *2020 Vision & Strategic Plan*.

Congratulations to the staff members who received awards in 2014 through these programs:

## Mote Postdoctoral Fellows:



Dr. Andrea M.  
Larsen



Dr. Heather  
Marshall



Dr. Justin  
Perrault



Dr. Paul  
Suprenand

## Mote Scholarly and Service Activities Awardees:



Dr. L. Kellie  
Dixon



Dr. James  
Locascio



Dr. Kimberly  
Ritchie



Dr. Cathy  
Walsh



Dr. Dana  
Wetzel



Dr. Nick  
Whitney

## Mote Eminent Scholars:



Dr. Carl Luer



Dr. Kevan Main



# Impacts: Translate & Transfer Technology to the Public

## First Major Private Business Spin-Off from Mote Research

In 2014, Mote announced the sale of its Siberian sturgeon and caviar production operation to Southeast Venture Holdings, LLC (Seven Holdings), marking the first major transfer of Mote-developed technology to the private sector. Seven Holdings will integrate the fish and caviar operation into its Healthy Earth brand of sustainable foods businesses. The licensing agreement is a great example of how basic research in sustainable land-based aquaculture led to the development of innovative water recirculation technologies that will help advance a new industry in Southwest Florida and expand employment in the region.

The sale includes investment in Mote's ongoing sustainable, land-based recirculating marine and freshwater aquaculture research at the 200-acre Mote Aquaculture Park in eastern Sarasota County, which will significantly increase our ability to continue



Sustainably raised sturgeon at Mote Aquaculture Park.

and expand scientific studies needed to discover and improve sustainable technologies for growing seafood for human consumption and restocking declining and depleted fish species in the wild.

## Connecting the Public to Marine Science through Citizen-Science Experiences

**Coral research:** Volunteers from SCUBA nauts International, the Combat Wounded Veteran Challenge and Gold Star Teen Adventures joined Mote scientists in Mote's underwater coral nursery for a critical mission in 2014: coral reef restoration.

Working with Mote scientists, these volunteers helped plant threatened staghorn corals in a special restoration site near Looe Key. By the end of the mission, the groups planted 850 coral fragments and helped to create another 2,300 fragments that will be grown in Mote's underwater coral nursery and then planted on the reef.

The event also marked the creation of a new restoration area, a patch reef about a mile long east of Looe Key, to honor the men and women of America's military.

**Scallop research:** Scallops and other important species of Florida shellfish have seriously declined due to changes such as habitat loss, pollution, dredge-and-fill operations, overharvesting and red tide blooms. To restore depleted populations in Sarasota Bay, Mote has teamed up with Sarasota Bay Watch, Sarasota Bay Estuary Program, the Florida Fish and Wildlife Conservation Commission, Sarasota County, Manatee County, Bay Shellfish Co., local business leaders and many volunteer citizen scientists of all ages to release hatchery-raised scallops into the Bay and monitor for signs of recovery.

Each year during Sarasota Bay Watch's annual Scallop Search, Mote volunteer "citizen scientists" team with Mote researchers to tally the local scallop population. Mote scientists were also joined by members of Japan's Research Institute for Humanity and Nature (RIHN), which is documenting Mote and the local partnership scallop restoration effort as part of a global study on science and society.



## Impacts: Public Service



A combat wounded veteran and SCUBAaut work in Mote's coral restoration site in the Florida Keys.

### New Fisheries Forum Gets Anglers Involved

Mote and the University of Florida partnered on a new series of public forums designed to pinpoint the needs and status of fisheries in more detail at the local level, allowing communities to give more complete, collaborative and sustained feedback to government agencies and researchers. The Sarasota Bay Fisheries Forums, funded by Florida Sea Grant, allowed for an ongoing exchange between anglers who use the resource, the scientists who study it and the resource managers whose goal is to protect it for all users. The series will continue in 2015.

### Reaching Policy Makers

Many of today's leading marine scientists, oceanographers and ecologists received their scientific spark at a marine laboratory or public aquarium. But Mote's role in educating the public also extends to educating today's resource managers

and elected officials in order to inform policy and provide a scientific basis for decisions that affect the use and conservation of our natural resources.

State Rep. Holly Merrill Raschein, R-Key Largo, visited Mote's Tropical Research Laboratory on Summerland Key — and went diving in Mote's coral restoration nursery — to learn how Mote is studying and restoring coral reefs.

Other visitors to Mote facilities who had an opportunity to learn more about Mote's many research activities throughout the year included Robert Beltran, Director of the Southwest Florida Water Management District; Tom Barwin, Sarasota City Manager; State Rep. Greg Steube, R-Sarasota; State Rep. Dr. Julio Gonzalez, R-Venice; and GeeDee Kerr, Legislative Assistant to Florida Sen. Nancy Detert, R-Venice.



Rep. Holly Raschein visits Mote's underwater coral nursery in the Florida Keys.

### Mote's Farmed Seafood Featured During Capitol Hill Ocean Week

Each year, the National Marine Sanctuary Foundation hosts Capitol Hill Ocean Week, which brings together members of Congress, representatives of state and local governments, academics, business experts, scientists and ocean explorers.

# Impacts: Public Service

The week of activities includes the annual National Oceanic and Atmospheric Administration (NOAA) Fish Fry, which promotes public understanding of aquaculture and sustainable marine fisheries and the National Marine Sanctuary Foundation's Awards Gala. The events featured caviar and Siberian sturgeon raised by Mote on its sustainable fish farm in eastern Sarasota County.

Mote's President and CEO, Dr. Michael P. Crosby, attended the leadership awards gala where he had a chance to meet some budding Florida scientists who are members of SCUBAnauts International's St. Pete and Tarpon Springs Chapters. SCUBAnauts allows young men and women ages 12 through 18 to get involved in marine science through underwater marine research activities to build character, promote active citizenship and develop effective leadership skills.



Autonomous underwater vehicle (AUV) used in red tide research.

action to gather data on the bloom's movements using satellite imagery, sending autonomous underwater vehicles (AUVs) into the Gulf to map the bloom and even taking boat trips offshore to collect water samples. Mote scientists led or participated in 20 sampling trips by boat and collected about 775 samples, including some meant to be analyzed for 25 different variables.

Mote scientists also conducted six AUV missions, which last about 30 days and allow the robots to collect frequent data points about the presence or absence of Florida red tide and the environmental conditions that might influence it. Mote robots carry the optical phytoplankton discriminator, or BreveBuster, designed by a Mote scientist to detect red tide algae.

Mote keeps the public updated about red tide conditions online at [mote.org/beaches](http://mote.org/beaches).



Mote President & CEO Dr. Michael P. Crosby with SCUBAnauts.

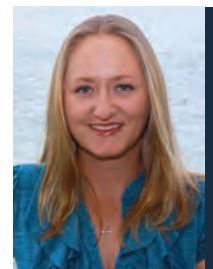
## Tracking Red Tide

Mote works closely with its research partners, including the Florida Fish and Wildlife Conservation Commission (FWC), to monitor our coastlines for red tide blooms. These efforts are undertaken so that the public may have an early warning when onshore impacts are likely to occur and can act to protect their health.

When a bloom was located about 40 miles offshore in 2014, Mote and its research partners jumped into

## New Community Engagement Coordinator

Mote created a new Community Engagement Coordinator position to help share our world-class marine science with people of all ages, particularly students in underserved communities. The new position is one way Mote is fulfilling the public service mission outlined in its *2020 Vision & Strategic Plan* and is allowing Mote to help people engage in science and connect with the



Elaina Todd

# Impacts: Public Service

environment in fun, interactive and meaningful ways that inspire stewardship of natural resources.

## Outreach through Special Lectures

Each year, Mote hosts its annual Special Lecture Series, which brings some of the world's leaders in marine research and outreach to the Lab to share their stories and their work. By sharing knowledge from thought leaders around the world, Mote is helping to engage audiences of differing interests, knowledge levels and generations and, in turn, developing a more ocean-literate society.

The Series is made possible through the generous philanthropic support of Bob and Jill Williams each year and in 2014 included talks by photographer Anne Doubilet; Lad Akins, Director of Operations for Reef Environmental Education Foundation; Dr. Justin Perrault, Mote Postdoctoral Research Fellow; Dr. Gerald Pollack, an international leader in science and engineering; Mote scientist Dr. Kevan Main, immediate Past-President of the World Aquaculture Society; and Gene Brighthouse, Superintendent of Fagatele Bay National Marine Sanctuary in American Samoa.

## Protecting Nesting Sea Turtles

Beaches from Longboat Key through Venice hosted a near-record number of sea turtle nests in 2014, according to Mote's Sea Turtle Patrol — a group of scientists, interns and volunteers who monitor 35 miles of local nesting beaches each day of nesting season. The team members are trained to look for nesting and to help protect nests as part of Florida's overall sea turtle conservation efforts.

In all, the Patrol recorded 2,448 nests from loggerhead sea turtles, nine from green sea turtles, two from Kemp's ridleys and two nests that are being genetically tested to determine the parent species.

Mote staff also documented and ID tagged 228 nesting female turtles as part of a long-term nesting study. One turtle they found nesting in 2014 was a turtle that Mote originally tagged in 1987 and later tracked with a satellite transmitter to the Florida Keys.

## Wildlife First-Responders

Mote's Stranding Investigations Team was recognized by NOAA's National Marine Fisheries Service for its role in responding to a mass stranding of pilot whales that resulted in the deaths of 38 whales in Collier County. Mote responders — who are members of the national Marine Mammal Stranding Network — led and assisted with efforts to handle, transport and assess the condition of the whales, to humanely euthanize whales that were too sick to survive and to conduct necropsies (animal autopsies) to investigate why the whales stranded.

In addition to responding to such mass strandings, Mote's team also helps sick and injured sea turtles and dolphins that are found in Sarasota and Manatee counties and sometimes brings them to Mote's animal hospitals for emergency care — services that receive little state or federal funding support. Through their role in the Marine Mammal Stranding Network, Mote staff also respond to animals outside of their immediate coverage area. In 2014, Mote staff were part of a team that rescued two dolphins — one that was stuck in a freshwater area after getting in on a high tide and then unable to leave after tide receded and a second that was entangled in fishing gear.

Since Mote's animal hospitals opened full-time in the 1990s, dedicated and talented staff members have been able to rehabilitate and return 26 dolphins and 251 sea turtles to the wild. These animals — which would have died without intervention — are now back in their natural habitat helping to ensure the survival of their populations.



# Women's Giving Circle & Tea for the Sea



**Left** Terri Derr and Sally Crowell.



**Above** Mote Scientists Dr. Emily Hall and Dr. Barbara Kirkpatrick, world-famous Oceanographer and Mote Trustee Dr. Sylvia Earle, Mote Founder Dr. Eugenie Clark, Mote Scientists Dr. Cathy Walsh, Dr. Erinn Muller and Dr. Kim Ritchie and Mote President and CEO Dr. Michael P. Crosby.

**Right** Keynote speaker Dr. Sylvia Earle addresses the audience.





# Ocean Fest

**Right** Artists Wyland and BJ Royster painting murals with the Kids.



**Above** Attendees enjoyed many activities at Mote's Ocean Fest in Key West.

**Left** Mote's Protect Our Reefs booth.



# Oceanic Evening



**Left** Back row, left to right: Lisa and Bob Morris, Ellen Hanson, Richard Perlman, Sue and Bob Lifeso. Front row: Elizabeth Moore, Mote Trustee Bob Essner with wife Anne and David Morgan.



**Above** Left to right: Dr. Bob Hueter, Jim Culter, Dr. Carl Luer, Pete Hull, Kim Bassos-Hull, Dr. Eugenie Clark, Dr. Michael P. Crosby, Dr. Abe Robinson and Dr. Rich Pierce.

**Right** Mote Trustee and Event Chair Susan Gilmore-Clarke and Dr. Michael P. Crosby.





# Party on the Pass

**Right** Left to right: Mote Trustees Nigel Mould, Jim Ericson and Bob Essner.



**Above** Party on the Pass crowd enjoying the festivities.

**Left** Mote Trustee Judy Graham and Dr. Michael P. Crosby.



# Volunteers

## Volunteers Give the Gift of Time

Volunteers are the lifeblood of Mote, supporting everything from cutting-edge marine science, education and outreach programs to providing support in administrative offices. In 2014, volunteers generously contributed 217,376 hours of their time to support Mote, providing benefits valued at more than \$4 million.

During our annual awards ceremony, we recognized volunteers with one, three, five, 10, 15 and 25 years of service, including those who have served more than 4,000 hours total during their lifetime who received the national President's Volunteer Service Award. We also created a new Volunteer Emeritus Program, that allows volunteers with 10 years or 1,000 hours of service to be nominated by Mote's Volunteer Board and approved by Mote's President & CEO to receive special honors upon retirement.

### The 2014 Volunteer Board

<b>President</b> Bob Cameron	<b>Treasurer</b> Tom Norton
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## President's Volunteer Service Award

Jack DeCaprio  
Nigel Mould  
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Bobi Sanderson

## 25-Year Awards

Bobby Hilbrunner  
Thekla Kahn  
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## 20-Year Awards

Mary Abraham-Kinney  
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Connee Beckwith  
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**VOLUNTEERS EMERITUS:** From left to right: Ted Rehl, Robert Rogers (Director of Volunteer Resources at Mote), Fran Rehl, Chuck Demuth, Hermina Shugol, Dr. Michael P. Crosby (President & CEO of Mote), Ethel Athanas, Mote Mascot Gilly the Shark, Lisa Kinsella, Al Wertheim, Bob Cameron.



# Campaign Update

## Looking Ahead: Oceans of Opportunity in 2015

In 2015, Mote Marine Laboratory will be celebrating its 60th anniversary year. It will also mark the public start of its first major comprehensive campaign: an ambitious goal to raise \$50 million to secure the organization's future and allow it to continue to benefit the world's oceans for generations to come.

A successful campaign will allow us to advance:

- Our world-class research enterprise
- Mote's best and brightest people — including our seasoned expert marine scientists and the next generation who will one day lead their fields
- Our positive impact on our oceans, both locally and globally

Under the leadership of Campaign Chair Bob Essner, a Lido Shores resident and retired pharmaceuticals executive, *Oceans of Opportunity: The Campaign for Mote Marine Laboratory*, will provide vital funding to grow our endowment, strengthen our research and operations and build a new international center for coral reef research and restoration.

The campaign's success will allow Mote's scientists to continue to address threats to our oceans, expand the frontiers of science, provide the intellectual fuel that drives the region's economy and improve the quality of life for us all.



## Donors

### Donors Who Make World-Class Research Possible

Our work to protect and conserve our ocean resources would not be possible without the generous philanthropic support of individuals and private foundations. We thank the community of donors who believe in our mission and show their support by making generous and supportive gifts.

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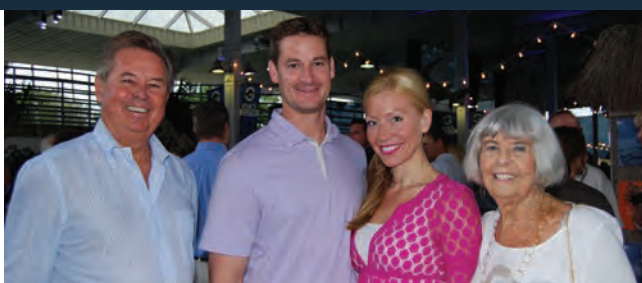
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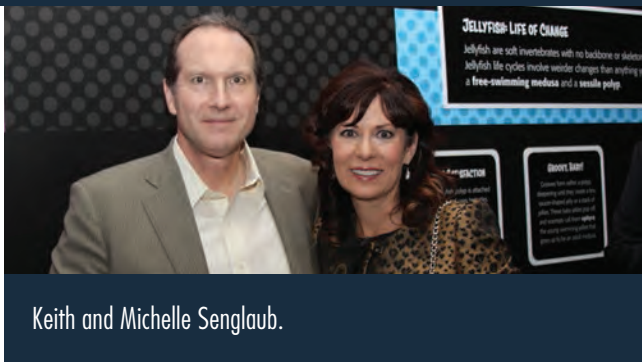
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We would like to extend a special thank you to all of our loyal members. Mote Aquarium serves as an informal science center that makes learning fun and interactive and we are grateful for the families who provide important support to Mote through their membership dues. Thank you for helping us to keep the lights on, the boats running and the staff humming.

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**We have deep gratitude for the members of our Legacy Society who have designated Mote as a beneficiary in their estate plans. Society Members show exemplary generosity and vision by making these gifts that will help ensure the future of our world-class organization.**



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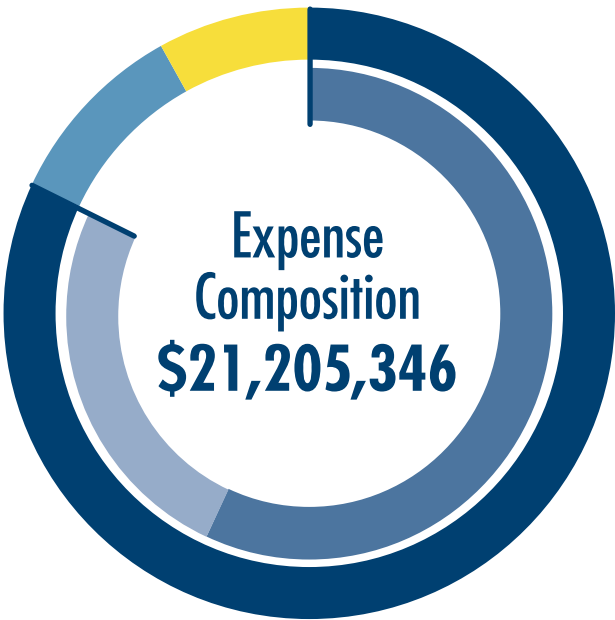
- 53% **Research<sup>1</sup>** \$10,825,149
- 26% **Education & Outreach<sup>2</sup>** \$5,424,994
- 21% **Contributions, Memberships, Other** \$4,408,815

*\* Does not include beneficial interest in Mote Marine Foundation*

<sup>1</sup>**Research** includes Protect our Reefs program and Mote Aquaculture Park management

<sup>2</sup>**Education and Outreach** includes Aquarium and science education programs

- 82% **Program Services** \$17,423,240
  - 57% **Research<sup>1</sup>** \$12,066,632
  - 25% **Education & Outreach<sup>2</sup>** \$5,356,608
- 10% **Administrative & General** \$2,155,190
- 8% **Fundraising** \$1,626,916



# Vital Statistics

Incorporated as a 501(c)(3) Nonprofit in 1955

## RESEARCH

77 RESEARCH STAFF  
36 DOCTORAL LEVEL

75 PUBLICATIONS  
6 PUBLIC POLICY

## NET ASSETS

\$21 million LABORATORY  
~\$15 million FOUNDATION (ENDOWMENT)

## ECONOMIC IMPACT

\$96.8 million  
STATEWIDE

## MEMBERSHIPS

9,000+ INDIVIDUAL  
160+ CORPORATE

## PROPERTIES & FACILITIES

### MAIN CAMPUS

Sarasota, FL 10.5 acres  
(Long Term Lease, City of Sarasota)

### MOTE AQUACULTURE PARK

Sarasota, FL 200 acres

### BOCA GRANDE FIELD OFFICE

Boca Grande, FL

### CHARLOTTE HARBOR FIELD STATION

Demere Key, FL

## RESEARCH PROGRAMS

Behavioral Ecology & Physiology • Benthic Ecology • Chemical Ecology • Coral Reef Restoration • Coral Reef Science • Dolphin Research • Ecotoxicology • Environmental Health & Monitoring • Environmental Laboratory for Forensics • Fisheries Habitat Ecology • Manatee Research • Marine & Fresh Water Aquaculture Research • Marine Biomedical Research • Marine Immunology • Marine Microbiology • Marine Stock Enhancement • Ocean Acidification • Ocean Technology • Phytoplankton Ecology • Sea Turtle Conservation & Research • Sensory Biology & Behavior • Shark Biology & Conservation • Spotted Eagle Ray Conservation • Stranding Investigations

## EDUCATION

25 EDUCATION PROGRAMS  
20 EDUCATION STAFF MEMBERS

After School Programs • Birthday Parties • Breakfast at Mote • College Internships • Educational Travel Programs • Field Trips • Gills Club • High School Internships • High School Volunteers • Home School Programs • Kayaking with Mote • Mommy & Me • Mote Science Cafés • Outreach Programs • Partnership Schools • Research Experience for Undergraduates (REU) • Scout Workshops • SeaTrek Digital Learning • SeaSnooze Overnights • Shark Encounter • Special Lecture Series • Summer Camp Programs • Teacher Workshops • Traveling Exhibits • Volunteer Opportunities

## VOLUNTEERS & STAFF

210 TOTAL STAFF  
1,713 VOLUNTEERS CONTRIBUTING  
MORE THAN 217,376 HOURS A YEAR

MOTE TROPICAL RESEARCH LAB  
Summerland Key, FL 1 acre

LIVING REEF EXHIBIT NOAA ECO-DISCOVERY CENTER  
Key West, FL

31 TOTAL BUILDINGS & STRUCTURES  
320,049 TOTAL SQUARE FEET

24 TOTAL

## AQUARIUM

35 AQUARIUM STAFF  
DOCTORAL LEVEL 1  
8 OFF-SITE AQUARIUMS

300,000+

VISITORS TO THE AQUARIUM

MOTE MOBILE EXHIBIT

300,000

VIEWERS



60 EXHIBITS RELATING TO MOTE RESEARCH

1 DOLPHIN, WHALE & SEA TURTLE HOSPITAL

(co-managed with Research Division)



PEOPLE SERVED\*

25,218 Grades K-12

College Level 209  
\* INCLUDES IN-SCHOOL, DIGITAL LEARNING AND ON-CAMPUS PROGRAMS

1,500 students & scientists visited Mote's Tropical Research Lab

FLORIDA SPECIALTY LICENSE PLATE

PROTECT OUR REEFS | EST. 2003

\$945,000

TO SUPPORT CORAL REEF RESEARCH, RESTORATION & EDUCATION IN 2014

SEAWATER SYSTEMS

RESEARCH:

1,224,152



EXHIBITS: 614,680

# Publications

Since Dr. Eugenie Clark started Mote as the Cape Haze Marine Laboratory in 1955, the Lab's staff and their collaborators have made significant contributions to the field of marine science. The first scientific paper based on work that was conducted at the Lab back in those early years was published in the journal *Nature* and focused on the biological makeup of shark livers ("Squalene content of various shark livers," M. S. Heller, S. Springer and E. Clark). Since then, the staff has published more than 1,372 articles, book chapters and theses and another 1,894 technical reports. Here are the works published in 2014.

## Books Authored or Edited

**Spotte, S.** 2014. *Free-Ranging Cats: Behavior, Ecology, Management*. Wiley-Blackwell.

## Theses and Dissertations

**Kenkel, C.D.** 2014. Investigating Local Adaptation in a Reef-Building Coral. Dissertation, University of Texas at Austin.

## Abstracts, Articles, Book Chapters and Reviews

Adimey, N.M., C.A. Hudak, J.R. Powell, **K. Bassos-Hull**, A. Foley, N.A. Farmer, L. White, and K. Minch. 2014. Fishery gear interactions from stranded bottlenose dolphins, Florida manatees, and sea turtles in Florida, U.S.A. *Marine Pollution Bulletin* 81 (1): 103-15. Online first. doi:10.1016/j.marpolbul.2014.02.008



Mote scientists and Cuban colleagues tag silky sharks during a landmark research expedition in Cuba.

Aguilar, C., G. González-Sansón, **R. Hueter**, E. Rojas, Y. Cabrera, A. Briones, R. Borroto, A. Hernández, and P. Baker. 2014. Captura de tiburones en la región noroccidental de Cuba/ Shark catches in the northwest region of Cuba. *Latin American Journal of Aquatic Research* 42 (3): 477-87. doi:10.3856/vol42-issue3-fulltext-8

Aksenov, A.A., L. Yeates, A. Pasamontes, C. Siebe, Y. Zrodnikov, J. Simmons, M.M. McCartney, J. Deplanque, **R.S. Wells**, and C.E. Davis. 2014. Metabolite content profiling of bottlenose dolphin exhaled breath. *Analytical Chemistry* 86 (21): 10616-24. Online first. doi:10.1021/ac5024217

Amaral, A.R., **G. Lovewell**, M.M. Coelho, G. Amato, and H.C. Rosenbaum. 2014. Hybrid speciation in a marine mammal: the Clymene dolphin (*Stenella clymene*). *PLoS ONE* 9 (1): e83645. doi:10.1371/journal.pone.0083645

**Balmer, B. C., R. S. Wells**, L. H. Schwacke, J. H. Schwacke, B. Danielson, R. C. George, S. M. Lane, W. A. McLellan, D. A. Pabst, K. Sparks, T. R. Speakman, F. I. Townsend, and E. S. Zolman. 2014. Integrating multiple techniques

to identify stock boundaries of common bottlenose dolphin (*Tursiops truncatus*). *Aquatic Conservation: Marine and Freshwater Ecosystems* 24: 511-521. Online first. DOI: 10.1002/aqc.2357

**Balmer, B.C., R. S. Wells**, L. E. Howle, **A. A. Barleycorn**, W. A. McLellan, D. A. Pabst, T. K. Rowles, L. H. Schwacke, F. I. Townsend, A. J. Westgate, and E. S. Zolman. 2014. Advances in cetacean telemetry: a review of single-pin transmitter attachment techniques on small cetaceans. *Marine Mammal Science* 30: 656-673. Online first.

**Bassos-Hull, K., K.A. Wilkinson, P.T. Hull, D.A. Dougherty**, K.L. Omori, L.E. Ailloud, **J.J. Morris**, and **R.E. Hueter**. 2014. Life history and seasonal occurrence of the spotted eagle ray, *Aetobatus narinari*, in the eastern Gulf of Mexico. *Environmental Biology of Fishes* 97 (9): 1039-56. doi:10.1007/s10641-014-0294-z

Bezjian, M., J.F.X. Wellehan Jr, M.T. Walsh, **E. Anderson**, and E. Jacobson. 2014. Management of wounds in a loggerhead sea turtle (*Caretta caretta*) caused by traumatic bycatch injury from the spines of a spotted eagle ray





A hatchery-reared snook is weighed before being released to the wild for fisheries enhancement research.

(*Aetobatus narinari*). *Journal of Zoo and Wildlife Medicine* 45 (2): 428–32. doi:10.1638/2013-0178R.1

**Blankenship, H.L.** and **K.M. Leber**. 2014. A Responsible Approach to Marine Stock Enhancement. Republished in *Foundations of Fisheries Science*, edited by G. G. Sass and M. S. Allen, 659–67. Bethesda, MD: American Fisheries Society.

Byrd, B.L., A.A. Hohn, **G.N. Lovewell**, K.M. Altman, S.G. Barco, A. Friedlaender, C.A. Harms, W.A. McLellan, K.T. Moore, P.E. Rosel, and V.G. Thayer. 2014. Strandings as indicators of marine mammal biodiversity and human interactions off the coast of North Carolina. *Fishery Bulletin* 112 (1): 1–23. doi:10.7755/FB.112.1.1

Cammen, K.M., L.A. Wilcox, P.E. Rosel, **R.S. Wells**, and A.J. Read. 2014. From genome-wide to candidate gene: an investigation of variation at the major histocompatibility complex in common bottlenose dolphins exposed to harmful algal blooms. *Immunogenetics* 67 (2): 125–33. Online first. doi:10.1007/s00251-014-0818-x

Cammen, K.M., P.E. Rosel, **R.S. Wells**, and A.J. Read. 2014. Lack of variation in voltage-gated sodium channels of common bottlenose dolphins (*Tursiops truncatus*) exposed to neurotoxic algal blooms. *Aquatic Toxicology* 157: 150–8. Online first. doi:10.1016/j.aquatox.2014.10.010

Chapman, D.D., K.A. Feldheim, Y.P. Papastamatiou and **R.E. Hueter**. 2014. There and back again: a review of residency and return migrations in sharks, with implications for population structure and management. *Annual Review of Marine Science* 7 (1): 547–70. Online first. doi:10.1146/annurev-marine-010814-015730

Clingham, E., J. Brown, A. Dove, J. Tyminski and **R. Hueter**. 2014. Observations and first tagging of whale sharks off St. Helena in the south Atlantic. Abstracts, 30th Annual Meeting of the American Elasmobranch Society/ Joint Meeting of Ichthyologists & Herpetologists, Chattanooga, Tennessee.

**Colbert-Luke, D.E., J.C. Gaspard**, R.L. Reep, **G.B. Bauer**, **K. Dziuk**, **A. Cardwell**, and **D.A. Mann**. 2014.

Eight-choice sound localization by manatees: performance abilities and head related transfer functions. *Journal of Comparative Physiology A, Neuroethology, Sensory, Neural, and Behavioral Physiology* 201: 249–59. Online first. doi:10.1007/s00359-014-0973-4

**Crosby, M.P.**, E.S. Reese, and M.L. Berumen. 2014. Corallivorous butterflyfishes as ambassadors of coral reefs. In *Biology of Butterflyfishes*, edited by M.S. Pratchett, M.L. Berumen, and B.G. Kapoor, 246–68. Boca Raton, FL: CRC Press.

**Culter, J.K.**, J.R. Leverone, and **M.C. Crosby**. 2014. Recent bay scallop restoration activities in Sarasota Bay: Combining science-based strategies and community involvement. In Abstracts, 106th Annual Meeting, March 29–April 2, 2014, Jacksonville, FL. Published in *Journal of Shellfish Research* 33 (2): 599.

Curtis, T.H., C.T. McCandless, J.K. Carlson, G.B. Skomal, N.E. Kohler, L.J. Natanson, G.H. Burgess, J.J. Hoey, and **H.L. Pratt Jr.** 2014.



Measuring a scallop placed in Sarasota Bay for shellfish restoration and research.

# Publications



Scientists handle an autonomous underwater vehicle used in red tide research.

Seasonal distribution and historic trends in abundance of white sharks, *Carcharodon carcharias*, in the Western North Atlantic Ocean. *PLoS ONE* 9 (6): e99240. doi:10.1371/journal.pone.0099240

**Dixon, L.K.** 2014. Tools for understanding sea grass health improved: Optical model spectral validation and water clarity reporting tool refinement project. *Harbor Happenings*: Spring.

**Dixon, L.K., G.J. Kirkpatrick, E.R. Hall, and A. Nissanka.** 2014. Nitrogen, phosphorus and silica on the West Florida Shelf: Patterns and relationships with *Karenia* spp. occurrence. *Harmful Algae* 38 (September): 8-19. Online first. doi:10.1016/j.hal.2014.07.001

**Dixon, L.K., P.J. Murphy, N.M. Becker, and C.M. Charniga.** 2014. The potential role of benthic nutrient flux in support of *Karenia* blooms in west Florida (USA) estuaries and the nearshore Gulf of Mexico. *Harmful Algae* 38 (September): 30-39. Online first. doi:10.1016/j.hal.2014.04.005

**Frydenborg, B.R., C.J. Krediet, M. Teplitski, and K.B. Ritchie.** 2014. Temperature-dependent inhibition of opportunistic *Vibrio* pathogens by native coral commensal bacteria. *Microbial Ecology* 67 (2): 392-401. Online first. doi:10.1007/s00248-013-0334-9

**Gamble, A.** 2014. Innovations & Elasmobranchs: Consilience in the Marine Laboratory Archives & Library. Paper presented at Rocking the Boat: Disruptive Ideas, Technologies, Experiences and Innovations, SAIL (IAMSLIC) Annual Meeting, St. John's, NL, 14-16 May.

**Gamble, A.** 2014. Digital Consilience: Integrating the Archives and Library of a Marine Research Facility. Paper presented at Association for Information Science and Technology, Digital Liaisons panel, Seattle, WA, 3 November.

**Gardiner J.M.** and J. Atema. 2014. Flow sensing in sharks: Lateral line contributions to navigation

and prey capture. In *Flow Sensing in Air and Water: Behavioral, Neural, and Engineering Principles of Operation*, edited by H. Bleckmann, J. Mogdans, and S.L. Coombs, 127-46. Berlin: Springer-Verlag.

**Gardiner, J.M., J. Atema, R.E. Hueter, and P.J. Motta.** 2014. Multisensory integration and behavioral plasticity in sharks from different ecological niches. *PLoS ONE* 9 (4): e93036. doi:10.1371/journal.pone.0093036

Hansen, C.M., K. Hueffer, F. Gulland, **R.S. Wells, B.C. Balmer, J.M. Castellini, and T. O'Hara.** 2014. Use of cellulose filter paper to quantify whole-blood mercury in two marine mammals: validation study. *Journal of Wildlife Diseases* 50 (2): 271-78. Online first. doi:10.7589/2013-08-214

Hardy, R.F., **A.D. Tucker, A.M. Foley, B.A. Schroeder, R.J. Giove, and A.B. Meylan.** 2014. Spatiotemporal occurrence of loggerhead turtles (*Caretta caretta*) on the west Florida shelf and apparent overlap with a commercial fishery. *Canadian Journal of Fisheries and Aquatic Sciences* 71 (12): 1924-33. Online first. doi:10.1139/cjfas-2014-0128

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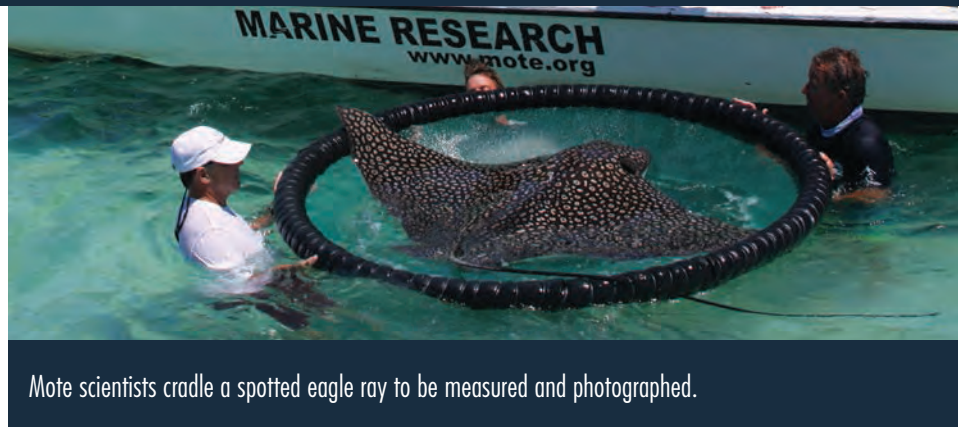
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A dolphin calf swims with its mother in Sarasota Bay. (Photo taken under NMFS Permit No. 15543)



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