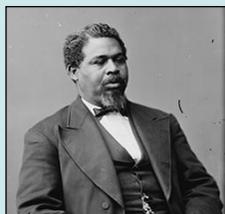


VOYAGE TO DISCOVERY

ONMS Maritime Heritage Program
Volume 1, Issue 1 | September 2014
<http://voyagetodiscovery.org>

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Cathy J. Sakas, Editor

Welcome to *Voyage to Discovery's* (VtD) inaugural newsletter, featuring stories from our VtD partners and from around the National Marine Sanctuary System. Though we all are each on a personal journey of discovery, often we hear stories only about America's majority cultures. We hear such stories about our minority cultures far less often. This is why NOAA's Office of National Marine Sanctuaries began its journey to specifically find stories of significant minority achievements both in maritime history and in the current environmental and maritime landscape. Many of those stories have been included on the VtD website. This newsletter, which we will issue periodically, focuses on some of the actions ONMS and its partners have taken over the past two years to advance their own voyages to discovery. We hope you find it informative and that you will continue to voyage with us.

ONMS Maritime Heritage Program Discovers Robert Small's *Planter*

NOAA's Office of National Marine Sanctuary's Maritime Heritage Program (MHP) discovered the likely final resting place of the steamship *Planter* that was commandeered by enslaved wheelman Robert Smalls while serving under the Confederate flag. On the night of May 13, 1862, while Confederate officers were ashore, Robert Smalls with several other enslaved crewmen surrendered the ship to the Union. In 2012, MHP archaeologists discovered the likely final resting place of the *Planter* off of Cape Romain in South Carolina. Events were held in Charleston on May 12 & 13, 2014 to commemorate Smalls' bold act and the discovery of the wreck. A plaque commemorating Smalls and the *Planter* will be placed at Garris Landing 18 miles southwest of its final resting place.



Portrait of Robert Smalls

Courtesy of Grady-Handy

NABS YES Students Explore Gulf Coast



The 2013 National Association of Black Scuba Divers Youth Educational Summit (NABS YES) was hosted by Flower Garden Banks National Marine Sanctuary (FGBNMS). The seven-day-long summit involved 30 students, 10 NABS chaperones and several sanctuary staff members. Ms. Jimmie Mack, NABS YES Committee Chair and FGBNMS Advisory Council's Recreational Dive Representative, coordinated the summit.



Throughout the summit, students increased their understanding of the ocean and of African-American culture and heritage in Texas. Activities during the summit included:

- Practicing swimming and SCUBA skills;
- Learning scientific field techniques aboard FGBNMS's R/V *Manta*;
- Linking science and art through adventure kayaking and painting with Artist Boat;
- SCUBA diving at the Moody Gardens Aquarium;
- Connecting with nature through surf lessons;
- Giving back to the community through oyster bed restoration; and
- Learning about cultural heritage by participating in Galveston Juneteenth celebrations.

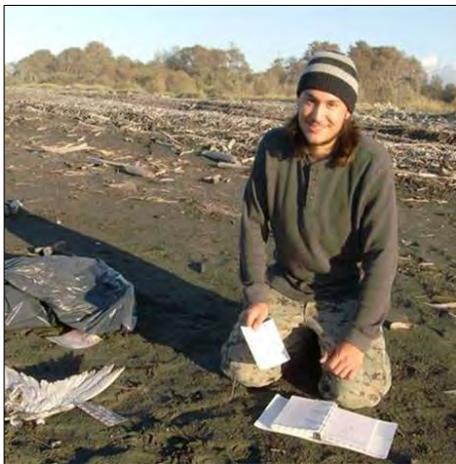


Courtesy of FGBNMS

NABS YES students

Students and sanctuary staff made significant new connections with the local African-American community. The mayor of Galveston issued a proclamation declaring June 19, 2013 as NABS YES Day in Galveston. The Daily News featured a guest column commending FGBNMS for embracing cultural heritage along with conservation of our natural resources.

Lower Elwha Klallam Tribal Youth Supports Sanctuary Efforts



Courtesy of OCNMS

Karsten Turrey

Meet Karsten Turrey, an ambitious youth of Lower Elwha Klallam Tribe in western Washington, who has been active in a variety of local environmental efforts. Karsten, age 17, is the son of a Game Warden for the Lower Elwha Tribe, and has grown up involved in his community. Inspired by his love for the outdoors and desire to help protect his community's resources, Karsten decided to pursue the Natural Resources Program at North Olympic Peninsula Skills Center under instructor and mentor Dan Lieberman.

In 2013, Karsten began volunteering for Olympic Coast National Marine Sanctuary (OCNMS) as a docent at its Olympic Coast Discovery Center (OCDC). He contributed nearly 80 volunteer hours

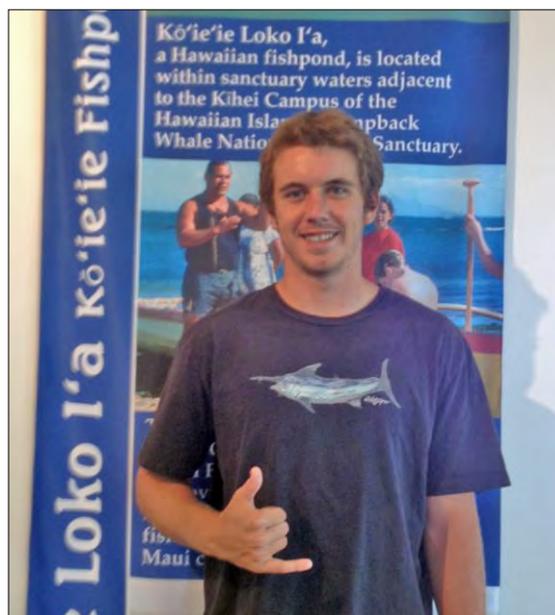
between May and September that year, earning him the Top New Volunteer Award presented by OCDC Manager Karlyn Langjahr. Karsten also helps support the OCNMS marine debris monitoring program by performing data entry for Citizen Science Coordinator Heidi Pedersen. As needed, Karsten occasionally volunteers for other efforts, such as intertidal monitoring led by Resource Protection Specialist Liam Antrim. Karsten was also invited to present to the OCNMS Advisory Council, which was receptive to and inspired by him. Karsten’s enthusiasm and work ethic show great promise for the future of our community and the natural resources upon which we depend.

17-year-old Karsten Turrey was the OCNMS’s Olympic Coast Discovery Center’s Top New Volunteer in 2013.

Pacific Islands Region Sponsors Native Hawaiian Intern

The Office of National Marine Sanctuaries Pacific Islands Region (PIR) is proud to initiate a capacity building program that provides undergraduate and graduate students opportunities to work with PIR offices and staff. These internships further their career goals with hands-on field experience.

One student who has benefitted from the program is Wakea Po, a junior at the University of Hawaii Maui College (UHMC) majoring in marine science. He worked with NOAA scientist Dr. Cheryl Woodley, who trained Wakea to conduct water quality tests on Maui’s shoreline. After his internship, Wakea graduated from Kihei Charter School with enough college credits to enable him to declare as a sophomore during his first year at UHMC. He plans to transfer to UHH to complete his marine science degree.



Wakea Po

Courtesy of Allen Tom/ONMS PIR

“Wakea is the first of what I hope will be many students who have the opportunity to do an internship with the sanctuary office here in Kihei. I think that NOAA and the sanctuary program offer a number of great venues that can be launching pads for the next generation of homegrown scientists,” says Allen Tom, Regional Director for PIR (based in Kihei). “My goal is to not only offer this internship on an annual basis, but have students like Wakea come back home after their studies and become part of the local scientific community,” continued Tom.

In addition to Wakea, PIR is funding another intern in partnership with Kauai Community College that started in the winter semester of 2014.

Cordell Bank National Marine Sanctuary Celebrates the Renovation of a Permanent Gallery in the Oakland Museum of California

The Oakland Museum of California is a cultural hub for the diverse and urban Oakland and East Bay community, and is made up of three wings focused on California: Art, History and Natural Sciences. A recently renovated gallery in the museum highlights the Cordell Bank National Marine Sanctuary (CBNMS) as one of seven significant California areas of biodiversity. It allows visitors to experience the ocean world beyond the San Francisco Bay through innovative, visual and interactive exhibits.



Courtesy of CBNMS

Oakland Museum of California

In addition to general museum visitors, school programs are conducted in the gallery throughout the year to allow more in-depth



Courtesy of CBNMS

Oakland Museum of California

learning for teachers, students and parents. One such program is called “Under the Sea: Exploring Cordell Bank National Marine Sanctuary” for grades 2-5. About 40% of participating students are from the Oakland Unified School District (OUSD), which includes an extremely diverse population of African American, Latino, Asian/Pacific Islander, Anglo/European American, and American Indian/Alaskan Native students. Nearly 55% of these children come from low-income families and more than 35% are recent immigrants who speak English as a second language. CBNMS will work closely with the museum in coming years to increase learning opportunities about California’s national marine sanctuaries.

Second Annual Voyage to Discovery Essay Contest

The National Marine Sanctuary Foundation, in collaboration with NOAA’s Office of National Marine Sanctuaries, conducted an essay contest open to all middle and high school students in the United States. The



Courtesy of U.S. Navy

Carl Brashear, the first African-American diver in the U.S. Navy

essay contest ran from January 6 through April 4, 2014. The purpose of this contest was to encourage students to research and learn about African-American contributions to U.S. maritime history. Applicants submitted an essay on an African-American individual or group who made a significant contribution to U.S. maritime history, beyond those already profiled on the National Association of Black Scuba Divers (NABS) website (nabsdivers.org) or the *Voyage to Discovery* website.

Please visit <http://voyagetodiscovery.org> for details of the winners and their essays.

Youth Diving with a Purpose

Youth Diving with a Purpose (YDWP) is an underwater archeology advocacy training program designed to teach volunteers essential skills, such as compass reading, identifying artifacts, trilateration mapping and in-situ drawing. The goal of YDWP is to give students better insight about the ocean and the history it holds. The program was developed from the curriculum of its founding organization, Diving with a Purpose (DWP), which provides adult lay-divers with knowledge to become an underwater advocate for conservation and preservation through the pursuit of maritime archeology. Both DWP and YDWP are week-long programs held each summer to teach the basic skills of maritime archaeology.



Courtesy of NPS

Park ranger Brenda Lanzendorf and volunteers from Youth Diving with a Purpose

Ken Stewart led the first YDWP cohort in summer 2013, which was held in Biscayne Park (FL) with significant monetary and other assistance from the National Park Service. Fourteen students participated, including one student from Mozambique, Africa. Much of the learning occurred at the pool in the Miami Gardens Park and Recreation Center. This launch of YDWP was very successful. Ken hopes to take YDWP to a national marine sanctuary within the next two years.

YDWP is important because it aims to teach students the skills necessary to become successful candidates for university programs and professional fellowships in maritime archaeology or similar pursuits. The students will gain a greater appreciation for the ocean environment and the cultural heritage that is threatened on a daily basis. As part of the program, they must help spread what they learn to their school and home communities.

At the conclusion of YDWP, six of the students participated in a very successful coral reef restoration in the Florida Keys National Marine Sanctuary, which was sponsored by the Coral Reef Restoration Foundation.

Preserving Cultural Traditions

Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHWNMS) promoted the following programs with local communities that host Hawaiian culture, including traditional practices, values, and important sites.

Promoting Pono Fishing Practices

Throughout the summer of 2013, the HIHWNMS promoted the use of pono (responsible) fishing practices and perpetuated the transfer of traditional fishing knowledge from one generation to the next. Workshops, fairs, fishing camps, and demonstrations were held with the assistance of community partners, staff and sanctuary volunteers.



Courtesy of Susan Scott

Pono fishing

Hanalei Moon & Tide Calendar Project

This project is a melding of western science and traditional Hawaiian knowledge to promote site-based understanding of fish populations and wise harvest to ensure future catches. Research on fish spawning cycles continue to be conducted, the results of which are reflected in the moon and tide calendar, along with fishing regulations, pono (responsible) fishing practices, and information on Hawaiian culture. The calendar, which is a collaborative effort by a number of agencies and community partners, serves as a model for similar efforts to understand and educate about site-specific resources and management in other geographic areas.

Native Hawaiian Fishpond Restoration



Courtesy of Allen Tom/ONMS PIR

Fishpond restoration

Working with partner Kō‘ie‘ie Loko I‘a (Fishpond Association of Maui), HIHWNMS staff have had the opportunity to blend Hawaiian culture with science in teaching Native Hawaiian students. Using an ancient Hawaiian fishpond just steps from the sanctuary’s Kīhei visitor center, staff members conduct science-based lessons while adding culturally appropriate learning experiences. Collecting species data, identifying marine life, and conducting research are a few things Native Hawaiian students learn besides the cultural components. Students not only grasp the science concepts, but learn to appreciate the traditional knowledge of the host culture.

Michigan Was Home to Several African-American Air Combat Units

During the middle years of World War II, Michigan was home to several African-American air combat units, including many graduates of the Tuskegee pilot training program. While U.S. Navy pilots were training on makeshift aircraft carriers in Lake Michigan far from the perils of the Atlantic and Pacific theaters, Army Air Force pilots were likewise simulating aerial combat and bombing exercises over Lake Huron.



Courtesy of TBNMS

2nd LT Wilmeth W. Sidat-Singh

Airfields at Selfridge and Oscoda on the shores of Lake Huron became bases for many units, including the all-African-American 32nd Fighter Group.

As with many similar programs during the war, dozens of accidents occurred that resulted in the loss of both aircraft and crewmen. Several of the 32nd Fighter Group aircraft remain missing in Lake

Huron. Michigan's State Maritime

Archaeologist, Wayne Lusardi is stationed at Thunder Bay National Marine Sanctuary

in Alpena and is currently researching the potential for lost aircraft within existing sanctuary waters and in adjacent areas that may ultimately be included within the boundaries of the sanctuary. Historic information is being collected to better understand and interpret the 32nd Fighter Group's impact on northeast Michigan, its contribution to the war effort, the biographies and personal stories of individual pilots and crewmen, and the potential for submerged archaeological sites directly related to the group's presence over Lake Huron.

Pictured above is 2nd Lieutenant Wilmeth W. Sidat-Singh, who was killed when his pursuit plane crashed into the Lake Huron on May 9, 1943. Sidat-Singh, a former star football player at Syracuse University, was a graduate of the U.S. Army flying school in Tuskegee, Alabama. His plane was based at Camp Skeel, a gunnery range for Selfridge Field, Michigan.



Courtesy of TBNMS

Tuskegee airmen stationed at Selfridge Field, MI during World War II

Historic information is being collected to better understand and interpret the 32nd Fighter Group's impact on northeast Michigan and its contribution to the war effort.

Olympic Coast National Marine Sanctuary Supports Characterization of Tribal Cultural Landscapes



Courtesy of OCNMS

Makah, Quileute, Hoh and Quinalt tribes depend on the sanctuary for protection of marine resources

Characterizing tribal cultural landscapes is a collaborative effort to support tribes in identifying areas of tribal significance. The groups involved are the Bureau of Ocean Energy Management (BOEM), NOAA's Office of National Marine Sanctuaries (ONMS), NOAA's National Marine Protected Areas Center, a tribal facilitator, and Tribal Historic Preservation Offices (THPOs) from three tribes (Yurok Tribe of CA, Confederated Tribes of Grand Ronde, OR and Makah Tribe of WA). The project involves inter-tribal workshops, an analysis guide, case studies and outreach, and will be adaptable for other Native American communities.

Robert Steelquist, representing the Olympic Coast National Marine Sanctuary (OCNMS), is part of the project team working with all three tribes in this process. He and two other OCNMS staff members, George Galasso and Nancy Wright, participated in the workshop held by Makah Tribe in late September 2013. The two-day workshop included participation of Washington coastal tribes and numerous state and federal agencies. The workshop resulted in a refined working definition of tribal cultural landscape, and considerable discussion of the use of the concept in the contexts of Tribal Treaties, the National Historic Preservation Act, the National Environmental Policy Act, marine spatial planning and other regulatory and management planning contexts.

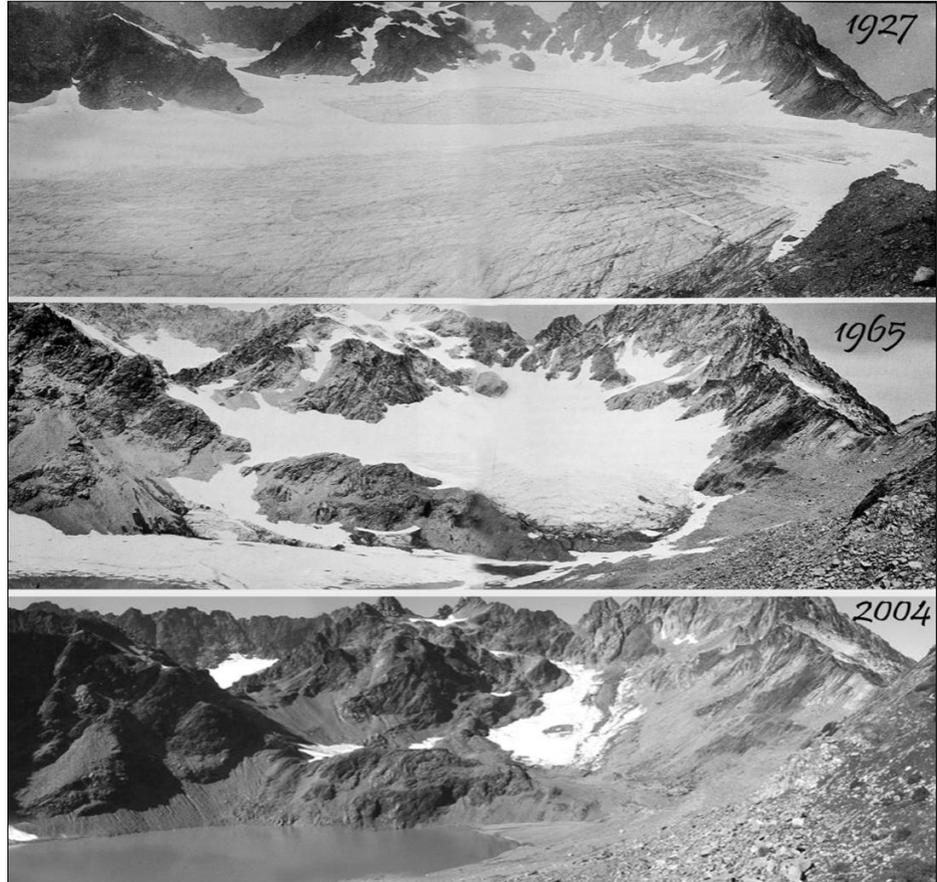


Courtesy of OCNMS

Hands-on field investigations expose young people to the rigors of science in the real world

Quinault Indian Nation Awarded a Climate Change Grant from Bureau of Indian Affairs

The Quinault Indian Nation was awarded a Bureau of Indian Affairs (BIA) grant to do a coastal vulnerability assessment as related to climate change. The proposal, entitled “Assessing Climate Change Vulnerabilities of Three Coastal Treaty Tribes of the Pacific Northwest,” is a collaboration among the Quinault Indian Nation in partnership with the Quileute and Hoh tribes (collectively, the Quinault Treaty Area [QTA] Tribes), and is designed to develop a vulnerability assessment to project climate change impacts on culturally and economically important natural resources such as marine fish and shellfish, salmon, rivers and lakes, wetlands, forests, native and invasive plants, and wildlife. The vulnerability assessment will serve as a basis for building tribal climate change adaptation plans for the communities and unique coastal ecosystems of Washington's Olympic Peninsula. Olympic Coast National Marine Sanctuary staff provided edits and suggestions during the development of the proposal, as well as an official letter of support for the project.



Anderson Glacier, on the southern slope of Mount Anderson. The top two images are from Rowland W. Tabor's *Guide to the Geology of Olympic National Park*.

Courtesy of W.M. Cady and Cathy J. Sakas

Pacific Islands Region 2014 Hollings Scholar and Intern

Each year, NOAA's Office of National Marine Sanctuaries Pacific Islands Region (PIR) provides opportunities for internships so that students can add to their college experiences. At the same time, these students give PIR important products or information from the work that they accomplish. This year, the PIR will sponsor two interns—one a Hollings Scholar and one a local Maui resident attending the University of Hawaii Maui College (UHMC). “These internships provide a unique opportunity for students to apply their new skills to projects in Hawaii,” said Allen Tom, Regional Director for PIR. “The region remains committed to the goal of supporting

young scientists and building local capacity in the sciences,” he continued. The internships also enhance partnerships with island partners, this year the Waikiki Aquarium and the UHMC.

Hollings Scholar



Courtesy of Allen Tom/ONMS PIR

Charline Quenée

The Hollings Scholar Program in NOAA’s Office of Education has provided the Pacific Islands Region with outstanding students over the past few years, and 2014 was no exception. PIR hosted one intern on Oahu, Charline Quenée, who spent her summer working at the Waikiki Aquarium. The University of Miami senior assisted with aquarium summer camps and other projects. Charline will graduate in 2015 with a Bachelor of Science in Marine Biology and Fisheries, with minors in Marine Policy, Chemistry and Anthropology. Previously, she spent a semester in the Galapagos gaining experience in small community fisheries, as well as completing marine science courses.

Intern from University of Hawai'i Maui College

Daniel Mendiola is a junior at the University of Hawaii Maui College (UHMC) majoring in marine biology, but he plans to transfer to UH Manoa to complete his marine science degree. He spent summer 2014 working with Dr. Damian Cie from UHMC investigating the habitats inside and outside the Ko'ie'ie Fishpond, which is adjacent to the Hawaiian Islands Humpback Whale National Marine Sanctuary. His work will build on similar studies by a previous Hollings Scholar, Alexandra Giametti, who completed a survey in 2013 during her internship. The results will provide a longer term assessment of the biological impacts that the fishpond has on the local shoreline.



Courtesy of Allen Tom/ONMS PIR

Daniel Mendiola

Daniel’s internship was facilitated and supported by UHMC's Ka Hikina O Ka Lā program, through funds provided by the National Science Foundation's Advanced Technology Solar Telescope Mitigation Initiative. The program is committed to increasing participation by Native Hawaiians in higher education, particularly in Science, Technology, Engineering and Mathematics (STEM). “We are pleased to offer this internship with the sanctuary office here in Kihei. NOAA and the sanctuary program provide a number of great venues that can be launching pads for the next generation of home grown scientists,” says Allen Tom, Regional Director for PIR (based in Kihei). “Our ultimate goal is to have students come back home after their studies and become part of the local scientific community,” continued Tom.

Savannah State University Students Participating in a Research Experience for Undergraduates Visit Gray's Reef National Marine Sanctuary Offices

At least a dozen mostly African-American students participating in the Savannah State University's Research Experience for Undergraduates (REU) program visited Gray's Reef NMS headquarters for a presentation on the natural history of the reef and an overview of the research projects in progress. Education Coordinator Cathy Sakas engaged the students with high definition footage taken by Deputy Superintendent Greg McFall as she explained the inner-workings of this subtropical reef system that locals refer to as a hard-ground, live-bottom reef.

Cathy proposed two projects that the students may want to choose as their own. After the presentation, one interested student wrote back to reserve his place on the sustainable fish in restaurants project. This project gets to the heart of conservation through supply and demand by educating restaurant chefs in sustainable fisheries best practices. The other proposed project involves working with local charter boat captains to intercept catches as they come off their boats for gut analyses. This data will be sent to a NOAA lab in Charleston for archiving and will be useful in managing regional fisheries.

Interns at Gray's Reef National Marine Sanctuary Provide Valuable Research

Gray's Reef National Marine Sanctuary was the site chosen by rising sophomore Justin Shaifer of Hampton University for his work in the Research Experience for Undergraduates program conducted by sanctuary partner



Left to Right: Cathy Sakas, Justin Shaifer and Abbigail Rigdon Murphy

Savannah State University. Justin worked under Education Coordinator Cathy Sakas to research sustainable fisheries awareness. He developed a survey of eleven questions initially intended to target chefs and restaurant owners. When it became apparent the survey response was going to be too small due to limited time in reaching the target audience, Justin broadened the scope to include national canvassing of seafood consumers. The main findings of his research indicated that seafood consumers, chefs and restaurant owners are aware of the need to purchase only seafood from sustainable fisheries. However, a knowledge gap exists as to how to ensure seafood purchased is really from a sustainable fishery. Justin created a webpage with the results of his study and offered several solutions to address the knowledge gap.

Abbigail Rigdon Murphy worked for four months under Cathy Sakas to complete work on her Masters of Science at University of Miami Rosenstiel School of Atmospheric and Marine Sciences. Abby chose watersheds as her focus of study, for which she produced eye-catching fact sheets on three different watersheds that were adopted by each of the river keepers for those watersheds, as well as the Georgia Conservancy.



Courtesy of Amy Rath/GRNMS

Justin and Cathy paddle on the Altamaha River

Research Experience for Undergraduates (REU) interns Justin Shaifer and Abigail Rigdon Murphy researched sustainable fisheries awareness and watersheds, respectively, as part of their work under Education Coordinator Cathy Sakas.

Savannah GIS Day Promotes Use and Understanding of Geographic Information Systems for Schools, Students, Area Businesses, and Local Citizens

Gray's Reef National Marine Sanctuary staff joined numerous partners, including but not limited to, Savannah State University, Georgia Power, Georgia Southern University, U.S. Army Corps of Engineers, Skidaway Institute of Oceanography, Jenkins High School of Engineering and Savannah-Chatham County Public Schools for Savannah's 7th Annual GIS Day. This event introduces Geographic Information Systems (GIS) education to local school children and promotes the capabilities and use of GIS to the general business community.



Courtesy of GRNMS

Savannah-area middle school students learn GIS through Gray's Reef NMS data

GIS Day is celebrated internationally as part of National Geographic's International Geography Week. Chatham County middle school students, area business owners, GIS users, and local citizens were invited to experience GIS in action in our community. With over 400 students and 100 adults participating in GIS Day last year, a GIS Day 2013 Birth Place Map revealed attendees of the event represented five continents, ten countries, 32 states and 86 cities. Now that is truly geographic!

Monterey Bay National Marine Sanctuary Continues Work with MERITO Program Teachers



Courtesy of MBNMS

MERITO program students

MERITO (Multicultural Education for Resource Issues Threatening Oceans) is a marine conservation outreach effort comprising local and regional groups participating in ocean and watershed education programs serving primarily Latino students, teachers, adults and families in under-performing schools near Monterey Bay National Marine Sanctuary (MBNMS). Approximately 400 4th-7th grade students and 20 teachers and youth leaders are reached through the MERITO program. MERITO was launched in Fall 2002, and over the past decade has worked with a

cadre of partners to provide classroom support, field trips,

training and resources, college internships, event support and a forum for expanding bilingual outreach programs within sanctuaries. Through enhanced knowledge of MBNMS and its associated watersheds, our diverse citizens will better understand the importance of protecting our resources.



Courtesy of MBNMS

MERITO program students

Hanalei Ocean Fair and Hōkūle‘a Education for Students

Kaua‘i Program Coordinator Jean Souza and staff from the Papahānumokuākea Marine National Monument helped organize an ocean fair held at Hanalei Beach. The fair coincided with the visit of the Hawaiian voyaging canoe, Hōkūle‘a, which was docked at Hanalei Pier. Twelve hands-on stations staffed by partner agencies, non-profits, and volunteers, presented activities on Hawaiian culture, ocean science and awareness. Participants were able to tour the Hōkūle‘a and learn about ancient sailing techniques. Over 300 students from Kapaa High School, Kilauea Elementary School, and several charter schools attended the event.



Courtesy of Susan Scott

The Hōkūle‘a voyaging canoe

Papahānaumokuākea Marine National Monument's Native Hawaiian Program Develops Intern Partnership

On September 11, 2013, Papahānumokuākea Marine National Monument's (PMNM) Native Hawaiian Team attended "Kukalaulama: A Reception for Native Hawaiian Scholars," an event at the University of Hawai'i at Mānoa (UH-M) to recruit potential future leaders in conservation who received scholarship awards based on academic excellence and financial need. The students represent many of the degrees offered at UH-M, and their backgrounds could help to strengthen PMNM capacity and support a variety of current and future PMNM projects. The theme of the evening was "Aloha 'Āina," a Native Hawaiian construct that reflects a deep commitment to Hawaii's natural and cultural resources. All interested students were encouraged to apply for the PMNM internship program, which is currently operating under a rolling selection process.

Aloha 'Āina" is a Native Hawaiian construct that reflects a deep commitment to Hawai'i's natural and cultural resources.

Papahānaumokuākea Marine National Monument Supports Hōkūle'a Education and Outreach at Sand Island



Courtesy of Jeff Alexander

PMNM Outreach at Sand Island

From January 13-15, 2014, Papahānumokuākea Marine National Monument's (PMNM) staff worked with the Polynesian Voyaging Society (PVS) on educational outreach events at the Marine Education Training Center on Sand Island. PVS, a longtime partner, is a local organization that seeks to perpetuate the art and science of traditional Polynesian voyaging and inspire people to respect and care for each other and their natural and cultural environments.

PMNM worked with staff from PVS, the Office of Hawaiian Affairs and other NOAA offices to offer educational activities that included an introduction to PMNM, star compass orientation, marine debris exploration, and an ocean voyaging learning game. Approximately 60 second- and third-graders from Anuenue School and 80 high school students from Kamehameha's Marine Science program attended during the three days.

The traditional double-hulled sailing canoe Hōkūle'a has since set sail on PVS's Worldwide Voyage (Mālama Honua), the mission of which is to raise awareness and stewardship for the ocean and mankind.

Utilizing Traditional Knowledge to Build Youth Leadership Capacity

On September 7-8, 2013, Papahānumokuākea Marine National Monument's (PMNM) partner organization Nā Kama Kai held an overnight camp at Kahana on O‘ahu as part of their Alaka‘i Program, which mentors youth grades 7-12. The 3-year-old partnership between Nā Kama Kai and PMNM has recently grown to include support of this program, which seeks to help youth strengthen ties to community and build stronger commitments to the conservation and stewardship of the ocean utilizing Native Hawaiian cultural concepts of mālama ‘āina and mālama kai (stewardship of the land and sea). Activities are designed to develop the self-respect and self-reliance necessary to accomplish long-term goals. A key set of activities have been built in partnership with the Polynesian Voyaging Society to help develop ocean navigational and boating skills, including traditional Polynesian wayfinding. PMNM is helping to expand the ocean stewardship component and develop holistic, culturally grounded curricula like Navigating Change. The program is free to youth willing to commit to the program and participate in community service activities .



Courtesy of James Watt

Corals in Hawaiian waters

Junior Scientists in the Sea

Founded by Les Burke and co-managed by Jay Haigler, Junior Scientists in the Sea is a cooperative educational program that combines on-the-job training, hard work and fun. Jr. Scientists is designed to expose youth to the wonders of the earth and sea, and foster leadership and peer mentoring by blending bright, energetic leaders of tomorrow with youngsters from all walks of life.

Jr. Scientists is a member of the American Academy of Underwater Sciences (AAUS), which allows use of reciprocity arrangements to partner with several post-secondary institutions and aquariums nationwide. Many of the partner aquariums provide the program with year-round access to climate-controlled diving. The program also has an underwater habitat, the SeaView, which is currently being retrofitted with computers and systems for direct communications with teachers and students in classrooms around the nation.



Courtesy of Les Burke

Meet Jr. Scientists in the Sea: Savannah, Liza, Kiarra and Skyler. Veteran CJ gets into the photo, because it's just a great shot.

The original outing of the group was to help restore coral reefs around the Florida Keys. Not only do the students learn to dive during the program, but they may also earn college credit for their PADI certifications as recommended by the American Council on Education. Participating students are exposed to careers in marine science, including those with the National Oceanic and Atmospheric Administration (NOAA), U.S. Navy Seals, and others. They receive lectures from experienced scientists and divers, such as Dr. A. Jose Jones, a retired marine biologist and co-founder of the National Association of Black Scuba Divers, and Dan Basta, Director of NOAA's Office of National Marine Sanctuaries and master dive instructor.

Jr. Scientists has started programs in three high schools, most recently at Bishop McNamara High School in Maryland. The intention is to slowly expand the program to high schools across the nation. Due to the tremendous success of this program, Les Burke also has been invited by two international resort owners to bring Jr. Scientists to their countries.

For more information about Junior Scientists in the Sea, visit <http://jrscientistsinthesea.com/>.