FROM THE EXECUTIVE DIRECTOR

It seems like every year is unique, but this one does have a special asterisk that we will not forget.

Between Harvey, Irma and Maria, not much of the Gulf of Mexico — or the Caribbean for that matter — escaped a devastating hurricane. The one silver lining is that those who suffered through Katrina were spared this time, to their great relief. I returned to the Harte Research Institute (HRI) for Gulf of Mexico Studies the day after Harvey headed to Houston and was gratified that our building, and for the most part, our staff and students, had missed the worst. That relief was diminished when I heard what had happened to our sister institute, the University of Texas Marine Science Institute, just twenty miles away. It is amazing what a few short miles, essentially the width of Corpus Christi Bay, can mean during a storm. We were able to share some of our good fortune with our colleagues by offering a helping hand. Many of our colleagues at the University of Texas Marine Science Institute are sharing space and support at HRI until they can get back on their feet.

There is nothing like a hurricane to put us in our place when dealing with Mother Nature. An important part of HRI’s ongoing mission is to help us all learn from such challenges and then apply those lessons going forward. I am always amazed and pleased to learn what great breadth of expertise and experience exists within our staff and students.

We have a lot to offer through our work in recovering from Harvey and I am excited to move into high gear doing so. I was greatly moved by how quickly and selflessly our HRI family, students in particular, gathered themselves up after the storm and spent days in Port Aransas and Rockport helping people get back on their feet and start the long road to recovery. We did not forget our colleagues in Cuba, and both money and equipment are on their way to help speed their recovery. I have never been so proud to be associated with any organization as I was to be part of HRI after Harvey.

All I can do is thank you whenever I get the chance, and yes brag on you, just a bit. We will continue looking forward, personally and professionally, and fulfilling our institute’s mission to “make a difference.”

Dr. Larry D. McKinney
On Friday, Aug. 25, Hurricane Harvey made landfall as a Category 4 hurricane near Rockport, Texas, about 30 miles north of HRI’s home on the Texas A&M University-Corpus Christi campus.

Destructive winds and storm surge devastated many Coastal Bend communities on landfall, and rain caused historic floods in Houston, Beaumont and Port Arthur. Thankfully the institute was undamaged, but some of our staff from Rockport and Port Aransas suffered damage to their homes and continue on the long road to recovery.

HRI is rapidly moving forward with projects focused on learning about the storm’s impacts. Our Geospatial Sciences Lab quickly deployed into the field to conduct shoreline assessments on impacted coastal zones. HRI also has ongoing studies into the storm’s impact on freshwater inflows — the fresh water, nutrients and sediments flowing into our coastal estuaries. HRI’s extensive monitoring of freshwater inflows will help us study how Harvey’s flooding impacted the coastal ecosystem. Our Socio-Economics Group is also partnering with Houston-area researchers to help plan for long-term community recovery.

The Texas OneGulf Center of Excellence, which is hosted at HRI, is also making plans to pivot its focus to amassing a research response to Hurricane Harvey. The Center of Excellence was launched after the Deepwater Horizon spill to advance research into the long-term health and sustainability of the Gulf of Mexico, and rapid scientific response to disasters like Harvey is at the core of its mission.

Unfortunately, our friends at the nearby University of Texas Marine Science Institute (UTMSI) suffered catastrophic damage to their main facilities in Port Aransas. HRI and TAMUCC welcomed UTMSI staff into the building in September and are partnering to make office and lab space, equipment, boats and vehicles available as they move forward rebuilding their campus.
Sea Level Rise

Hurricane Harvey caused heavy damage in the Coastal Bend with its strong surge and showed Texas’ need to adapt to rising sea levels, which will leave the coast increasingly vulnerable to future storms. HRI is now wrapping up one of the most comprehensive, interdisciplinary sea level rise assessments ever performed in Texas. “Living with Sea Level Rise” will provide Texas Gulf Coast stakeholders with the information they need to understand and adapt to higher sea levels within 50–100 years.

Dr. James Gibeaut, Chair for Geospatial Sciences, is principal lead on the project, working with Dr. David Yoskowitz, Chair, Socio-Economics, and Dr. Richard McLaughlin, Chair, Marine Policy and Law.

The project takes a unique, holistic approach to studying sea level rise and its impact on the Gulf Coast, employing HRI’s interdisciplinary team to examine and model potential environmental and human impacts and survey existing coastal management strategies to see how they apply to projected sea level rise.

The project aims to explore the problems posed by sea level rise on multiple fronts, and offer solutions in a format that can be easily accessed and understood by the general public or explored in depth by interested stakeholders. Gibeaut’s team in the Geospatial Sciences Lab are currently working on a website divided into interactive story maps where users can browse a narrative of the research conducted; explore interactive maps that depict future sea level rise, the risk to human populations, their infrastructure and essential services; and view models depicting the level of storm surge penetration we could expect in the future on top of sea level rise.
To build the site, Gibeaut’s team has generated and collected mapping data from numerous federal and state agencies to run three models examining sea level rise impacts on natural and human environments.

Yoskowitz’s Socio-Economic Group is capturing data about the value residents from different communities and socioeconomic backgrounds place in the local environment. Attributing a value to the ecosystem can help us to better understand the importance that endangered coastal features like coastal marshes can offer. Wetlands help to buffer storm surges and absorb water during rain-driven flooding events, but they’re increasingly being squeezed out as sea level rise brings the coast closer to communities.

McLaughlin worked with researchers and students from the University of Houston Law Center to examine law and policy could affect potential adaptation strategies for dealing with sea level rise.

All the data will be made publically available on this interactive website so that policy makers, managers, landowners, developers and the general public can better evaluate the impacts of future sea level rise on their communities with greater precision and accuracy.

The project is sponsored by the Houston Endowment, the Meadows Foundation, the Shield-Ayres Foundation, the Trull Foundation and the Jacob and Terese Hershey Foundation.

Our HRI Geospatial Science researchers are using state-of-the-art computer models to examine how storm surges, when combined with rising sea levels, may impact the Texas Coast, giving Texans a better understanding of their vulnerability in a changing coastal environment. This modeling work will be included in the Texas General Land Office’s updated 2019 Texas Coastal Resiliency Master Plan, the state’s official framework for coastal management, restoration and protection.
RESTORATION SURVIVES THE STORM

Restoration projects in the Coastal Bend got their ultimate test when Hurricane Harvey made landfall in August. Scientists and students with Texas A&M University-Corpus Christi are now hoping that lessons learned from what survived Harvey’s winds and surge can be applied to future restoration as we face the possibility of more frequent and intense storms.

The St. Charles Bay Oyster Reef and Shoreline Stabilization project was one of the newest restoration projects in local waters when Harvey came roaring through Rockport. The 2,000 linear foot reef had just been installed as a living shoreline along the Big Tree unit in Goose Island State Park in late July, the latest effort of the Oyster Recycling Program founded by HRI and the College of Science and Engineering. The program reuses shell collected from local seafood restaurants and sellers and places it back into the bay to build new oyster habitat, and already has constructed eight acres of new oyster reef in other areas of the park.

The Big Tree unit had suffered steady land loss from wind and waves, losing as much as 100 feet of shoreline in some areas. The reef was designed to buffer erosive wave action, but it took a direct hit from the most intense portions of Hurricane Harvey.

“I thought the reef was going to be gone,” said TAMUCC Associate Professor of Marine Biology Dr. Jennifer Pollack. “But instead, not only is it there — there’s new oyster growth on it.”

The hurricane will open the project up to new questions about how these restoration efforts fare in the wake of major storms. Because there are a mixture of new and established oyster reef restoration projects and natural reefs in Goose Island State Park, scientists can monitor and compare how each site bounces back from the storm. Knowing more about how restoration projects fare in the face of large storms will be increasingly important as scientists anticipate future hurricanes will only increase in number and severity due to the effects of climate change, Pollack said.

For more information on the Oyster Recycling Program visit their website at OysterRecycling.org. The reef’s construction was funded by grants from the Texas General Land Office, Coastal Conservation Association and the National Fish and Wildlife Foundation and built through partnerships with CCA, HRI, the Building Conservation Trust, Texas Parks and Wildlife Department and others.
The devastation caused by Hurricane Harvey is a stark reminder that Texas is situated in a precarious region, the Gulf of Mexico, and is subject to a variety of natural and man-made threats.

For the nation on the whole, the Gulf is a critical asset and a growing population center, with U.S. metropolitan areas generating $1.1 trillion in economic output in 2015. Coastal populations in Gulf states are expected to grow from 44.2 million to 61.4 million by 2025, with Texas and Florida leading the way. The region also is vital to our energy security, with more than 45 percent of the nation’s petroleum refining capacity and 51 percent of natural gas processing capacity. The Gulf hosts 13 of this country’s 20 largest ports, and is a major hub for our seafood industry. In 2009 commercial fishery landings totaled 1.4 billion pounds, generating more than $16 billion in sales and 100,000 jobs. Statistics on recreational fishing are equally impressive, with 2.5 million Gulf anglers spending $10.4 billion on trips and goods in 2015.

Texas and our national assets are increasingly at risk from climate and environmental change. While we cannot say that the extremeness of Hurricanes Harvey and Irma were caused by climate change, a draft of the Climate Science Special Report has found that the last few years have seen “record-breaking, climate-related weather extremes” and “the three warmest years on record for the globe.” The report also finds these trends are expected to continue.

In Harvey’s wake, Texas has an opportunity to lead the nation in demonstrating that society and infrastructure can adapt to changing conditions while creating harmony across varied interests.

As I write this, Congress is passing a $15.25 billion Harvey aid package to help Texans recover from the destructive storm. Most experts expect significantly more funding for longer-term recovery efforts to follow. In the aftermath of Hurricane
Sandy, which caused $65 billion in damage along the East Coast, Congress authorized $9.7 billion in immediate relief, but ultimately provided more than $49 billion to help communities rebuild. As a member of the Hurricane Sandy Task Force required to create a Rebuilding Strategy for the funds, I learned two points that may be helpful for Texans to consider as we start to rebuild.

First, an investment strategy that is shared by state, local and federal officials can help leverage large federal programs and dollars toward fortifying communities against future disasters. Strategies should be forward looking, focusing on recouping losses but also addressing current and future risks across infrastructure, society and the environment. However, the majority of recovery funding likely will go to rebuilding cities and towns as they were — addressing yesterday’s problems. This is for a host of reasons, including time constraints for spending recovery dollars; difficulties in gaining federal support to mitigate impacts of future disasters; understanding multiple funding streams and regulations; and the longstanding tension between balancing long-term hazard mitigation investments with short-term economic development goals.

Which raises the second point: One way to overcome these challenges is to reserve a portion of recovery funds for innovation through a proven American tradition — competition. Following the release of the Sandy funding, the Department of Housing and Urban Development (HUD) collaborated with the Rockefeller Foundation to launch Rebuild By Design, a multi-stage competition that invited proposals for innovative, implementable schemes to enhance the region’s capacity to weather future disasters. By 2014, HUD announced $930 million in disaster recovery grants as seed funding to implement top designs. The projects continue today and each has leveraged additional dollars to continue their work.

Perhaps one of the greatest achievements of Rebuild was that it required experts to work with communities in crafting designs that locals wanted. It convened stakeholders from government, business, academia, non-profit and community organizations to better understand how overlapping environmental and human-made vulnerabilities leave cities and towns at risk, and how we can use the rebuilding process to design a better future.

Texas now has a similar opportunity to help the state and nation leap forward in disaster recovery. We have a chance to show what we can do with our renowned disaster resilience experts, industry partners, engineers, architects, natural and social scientists, and our state and local community leaders and citizens. We can show that, as we saw during Harvey, Texans have the most stubborn, unrelenting care for their communities. We can lead the way in developing the new standard for recovery by embracing dialogue, innovation and design excellence. We have the talent, the determination and will likely have some funds. We need only the directive to act.
HRI Endowed Chair for Ecosystems and Modeling Dr. Paul Montagna will lead a team of Texas A&M University-Corpus Christi researchers in examining the impacts of Hurricane Harvey’s massive floods on Coastal Bend lagoons.

Montagna was awarded a National Science Foundation Rapid Research Response (RAPID) grant with Co-Principal Investigators TAMUCC Physical and Environmental Sciences Assistant Professor Dr. Xinping Hu and TAMUCC Life Sciences Associate Professor Dr. Michael Wetz for their project, “Capturing the Signature of Hurricane Harvey on Texas Coastal Lagoons.”

The team will conduct widespread sampling across the Matagorda, San Antonio, Corpus Christi and Baffin Bay systems to examine whether the storm triggered changes in these important estuarine environments, and the consequences for the coastal environment.

“We’ve been studying the effects of freshwater inflows into our bays for the last 30 years, and this is another piece of the puzzle,” Montagna said. “There’s no way to replicate a huge disturbance like this in an experiment, so this could be a significant opportunity to look at the immediate short-term impacts of an event like this, and how recovery progresses.”

Beyond the immediate impacts of Hurricane Harvey’s winds and surge, coastal flooding occurred as the storm lingered along the coast for four more days, dumping as much as 50 inches of rain near Houston, one of the largest floods to ever hit the Texas coast.

Severe rain flooding can cause inflows of freshwater into coastal zones to increase dramatically, upsetting the balance in these brackish environments and possibly triggering enormous algal blooms that consume oxygen and turn the bays hypoxic. It could even convert these lagoons temporarily into freshwater environments, potentially stressing marine animals to the point of death.

The National Science Foundation’s RAPID grants aim to make immediate research dollars available to urgent projects aimed at understanding the immediate impacts of natural disasters like Harvey and help the United States better prepare for, respond to, recover from and mitigate for future catastrophic events. That’s important, as extreme events, such as hurricanes, are only expected to increase in frequency and intensity in the future.
HRI HELPS

HRI and the Texas A&M University-Corpus Christi campus were fortunate to emerge from Hurricane Harvey relatively unscathed, but many of our neighbors in the Coastal Bend were not so lucky. Immediately following the Hurricane, HRI researchers, students and colleagues went to impacted areas such as Port Aransas, Rockport and Aransas Pass to help our friends dig out. We especially want to thank these individuals for the hard work they put in under stressful conditions, helping strangers without question and asking for nothing in return but to alleviate a piece of the devastation. HRI hosts model citizens, and they continue to make us proud.

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The Gulf of Mexico spans 615,000 square miles and three international borders, and so does our work. To better ensure the economic and ecological health of the Gulf, part of HRI’s mission is to promote international collaboration that spans the US, Mexico and Cuba.

HRI has active international research partnerships in Mexico and after many years of laying the groundwork for Cuban research partnerships, the institute took great strides forward in that relationship in 2017. HRI hosted Cuban participants at the 2017 State of the Gulf of Mexico Summit and the Gulf of Mexico Workshop on International Research (GOM-WIR). HRI attended and hosted workshops in Cuba and signed new research agreements with our Cuban partners.

In fact, the year opened with HRI signing a Memorandum of Understanding with the Acuario Nacional de Cuba, the national aquarium of Cuba, to work on a series of joint environmental initiatives to deepen our knowledge of the Gulf of Mexico and the Caribbean Sea.

“This agreement opens the door to working with not just the aquarium, which is an important institution in Cuba, but with Cuban environmental agencies and the government,” said HRI Executive Director Dr. Larry McKinney. “With this agreement we hope to partner, to conduct new research and better exchange knowledge between Gulf scientists.”

HRI has also had active relationships with Mexican partners, organizing a series of energy policy workshops exploring transboundary offshore oil and gas issues as Mexico begins to open its energy exploration to international business. The institute is also engaging with Mexican partners to conduct research on biodiversity in little-studied areas of the southern Gulf of Mexico.
HRI hosted one of the largest gatherings of ocean scientists from the U.S., Mexico and Cuba focused on international research collaboration at its fourth State of the Gulf of Mexico Summit.

A premier Gulf gathering hosted by HRI for more than 10 years, the State of the Gulf of Mexico Summit convened more than 380 international Gulf leaders and stakeholders from ocean sciences, policy, socio-economics and conservation backgrounds to develop a common vision for the long-term economic and ecological health of the Gulf of Mexico. The Summit, held March 26–28, was immediately followed by the Gulf of Mexico Alliance All-Hands Meeting and the Gulf of Mexico Workshop on International Research on March 29–30.

“No other Gulf meeting brings together such a diverse mix of academia, resource managers, business, industry and policymakers with a common goal — the health and sustainability of the Gulf of Mexico,” said Dr. Larry McKinney, HRI Executive Director.

This year’s Summit, the first since Cuba signed a Joint Statement on Cooperative Environment Protection with the United States aimed at collaborating on environmental protection initiatives, also featured a distinct international focus. A delegation of nine Cuban scientists led by Dr. Maritza García García, President of the Cuban Environmental Agency, Ministry of Science, Technology and Environment, attended the event as invited guests of HRI.

The Summit and International Workshop also included more than 40 of Mexico’s best researchers and policy makers, with special presentations from Mexican research leaders like Dr. José Piña, President of Universidad Juárez de Tabasco and the Consorcio de Instituciones de Investigación Marina del Golfo de México y del Caribe (CiiMAR-GoMC), Dr. Juan Carlos Herguera, Director of the Consorcio de Investigación del Golfo de Mexico and Alejandro Carabias, Head of Regulations and Legal Standards in Mexico’s newly created National Agency for Safety, Energy, and Environment (ASEA).
HRI Assistant Research Scientist Dr. Victoria Ramenzoni took on additional duties as International Coordinator just before the Summit, working to expand the institute’s cooperative research in Mexico and Cuba. Ramenzoni escorted and translated for the Cuban delegation during their time at the Summit, and she said that while international political policies are always in a state of flux and change, science is a constant that transcends physical borders and language barriers.

“The institute has reached a pivoting moment, when we need to be able to carry out projects across national and disciplinary boundaries,” Ramenzoni said. “Key to creating informed solutions is being able to see the Gulf as one, and that poses a daunting task: The ability to transmit our vision to different audiences, cultures, languages, and countries. Our international strategy ultimately seeks to get all of us — scientists and managers — on the same page so we can finally put the pieces together of this big fascinating puzzle that is the Gulf.”

This year’s Summit focused on three key issues: Integrating environmental health and human health for a better-functioning Gulf; how to best assess Gulf health to ensure a wise investment of restoration dollars; and looking toward the future beyond the $20 billion in Deepwater Horizon oil disaster-funded restoration projects that are currently moving into place. In a shifting political atmosphere that promises to offer both challenges and opportunities for international Gulf science, participants were looking for ways to work together and to support one another, McKinney said.

“I was very pleased that our international participants were so well received at the State of the Gulf Summit,” McKinney said. “It just proves that science diplomacy can bridge many gaps when there is a common purpose — the health and well-being of the Gulf of Mexico.”
The Gulf of Mexico Workshop on International Research (GOM-WIR), held March 29–30, brought together more than 170 researchers from the three Gulf nations for the first-ever workshop aimed at developing an international research agenda for the Gulf of Mexico. The workshop was held immediately following the State of the Gulf of Mexico Summit, allowing participants fresh off a conference targeting international Gulf collaboration to immediately begin working together.

The workshop was organized by HRI; the Gulf Research Program of the National Academies of Sciences, Engineering, and Medicine; the Bureau of Ocean Energy Management (BOEM); and the National Oceanic and Atmospheric Administration.

The objective of the workshop was to help fill critical information gaps in the Gulf through joint international environmental research, particularly in lesser-studied areas of the southern Gulf of Mexico. By bringing together scientists from the U.S., Mexico and Cuba from across a range of disciplines, participants were able to engage in three major thematic areas of interest: baseline studies; fates and effects studies; and environmental monitoring. Participation was by invitation only with 20–60 in each thematic area.

Additionally, Michael Celata, BOEM’s Gulf of Mexico Regional Director, and Alejandro Carabias, Head of the Regulations and Legal Standards Unit at Mexico’s Agency for Safety, Energy and Environment (ASEA), participated in a lunch panel in which they discussed environmental coordination on offshore oil and gas activities.

An important first exercise during the workshop was for participants to help identify research programs in the southern Gulf to develop a comprehensive Marine Ecosystem Science Inventory that will be completed later in 2018.
This summer HRI appointed two International Chairs for Coastal and Marine Studies in Mexico and Cuba. These newly created positions will advance the institute’s goal of fostering collaboration between the three nations bordering the Gulf of Mexico to better conserve and protect its environmental and economic health.

Dr. Silvia Patricia González Díaz, Professor and Director of the Center of Marine Research University of Havana, has been selected as the International Chair for Coastal and Marine Studies in Cuba. Dr. Fernando Nuno Dias Marques Simões, Associate Professor at the Universidad Nacional Autónoma de México, has been appointed the International Chair for Coastal and Marine Studies in Mexico.

“One of our goals at HRI is to build a network of international scientists focused on the Gulf of Mexico. Research is a two-way street and our colleagues in Mexico and Cuba have unique expertise and perspectives that we can benefit from,” said HRI Executive Director Dr. Larry McKinney. “Our goal is to build an infrastructure to support collaboration between researchers and students from the three nations to create the next generation of international Gulf of Mexico researchers.”

The new chairs were approved by Texas A&M-Corpus Christi President and CEO Dr. Kelly Quintanilla.

“The Gulf is an international sea surrounded by three nations with vastly different political views, and relations have waxed and waned between them,” McKinney said. “But over time the one constant has been scientific exchange. We want to sustain that science diplomacy for the good of the Gulf.”

These new chairs will act as diplomatic liaisons between HRI and their academic institutions and home country, helping to develop research and educational exchanges. They’ll teach classes at HRI,
participate in committees, support and mentor graduate students, and represent HRI at academic meetings, conferences, and workshops. They’ll also participate in collaborative international research with HRI. Simões is already a partner on HRI’s Biodiversity in the Southern Gulf of Mexico project, which is expanding knowledge of lesser-studied environments off the Mexican coast. González Díaz will be partnering with the Institute on a project helping Cuban communities to build sustainable tourism around recreational fishing.

“This will allow us to work locally and regionally in these nations,” said Dr. Victoria Ramenzoni, HRI’s International Coordinator and Assistant Research Scientist. “Working together makes us stronger and makes our partners stronger, and will help us to better integrate in the future so that our research opportunities are maximized.”

HRI traveled to Cuba in July 2017 to host workshops, cement partnerships, and begin what it hopes will be the first of many joint efforts with Cuban scientists.

The Cuba trip came at an interesting time in American-Cuban relations, just a few weeks after U.S. President Donald Trump announced he would tighten restrictions on U.S. travel and business in Cuba. This is a reversal of Obama-era policies that began normalizing relations between the two countries in 2014, and makes the future of how to proceed with necessary, long-awaited partnerships with Cuba somewhat less clear, said HRI Executive Director Dr. Larry McKinney.

“The Gulf is an international sea, and the issues affecting it aren’t just American or Mexican or Cuban — they’re international. If we’re going to ensure the future health of the Gulf, everyone who has an impact on it needs to be at that table,” McKinney said.

HRI has been working with Cuban partners since the early 2000s on expanding marine and coastal research that can promote the sustainable management of natural resources in the Gulf of Mexico. The long-planned workshops, a two-day coastal and ocean monitoring and conservation workshop, and the third in a series of Furgason Fellowship Student Workshops on International Management, were the culmination of years of planning and relationship building with HRI’s Cuban counterparts.

The institute first hosted the coastal and ocean monitoring and conservation workshop in Havana, Cuba, on July 8–9, aimed at advancing coastal and ocean monitoring through research and network development and integration activities. The goal was to bring scientists from Cuba, Mexico and the U.S. together to see if together the countries could improve their ability to forecast conditions in the Gulf of Mexico, McKinney said.

Gathering data on environmental change in Cuba has been identified by the scientific community as one of the biggest opportunities for U.S.-Cuban collaborative science, and can provide the key information to understanding a wide range of marine and coastal issues in the Gulf, like water quality and salinity, habitat change,
climate/temperature variability, sea level rise and ocean acidification. Better forecasts could also help the Gulf understand and mitigate for future disasters like hurricanes and oil spills, McKinney said.

Next, HRI hosted 18 graduate students from institutions in Mexico, Cuba and the United States from July 9–16 for the week-long Furgason Fellowship Student Workshop in International Management. Student participation was funded through the Furgason Fellowship Endowment.

“The program was designed to bring future leaders in marine science together to work on a professional project, and to begin to develop personal and professional relationships that will extend into their careers,” said HRI Endowed Chair for Marine Policy and Law Dr. Richard McLaughlin.

Students visited a model agro-tourism community called La Picadora and Caguanes National Park, where they went birding, caving, and met with the park rangers to discuss their plans and needs. The students had breakout sessions to discuss ideas for tourism development that could also help to protect the park’s natural resources, providing input for Cuban National Park officials as they move forward, and real world working experience for the international students.

“We wanted to give them the perspective that you don’t always get in graduate school, to help them navigate the challenges of learning to work with people from different backgrounds, different kinds of stakeholders and sometimes even people who speak different languages,” said HRI International Coordinator and Assistant Research Scientist Dr. Victoria Ramenzoni.
HRI Doctoral Student Coral Lozada, who is studying under HRI Endowed Chair for Socio-Economics Dr. David Yoskowitz, was one of the students selected to participate. “The workshop was everything I hoped for and more. We had students from all different academic and international backgrounds — anthropologists, economists and biologists — getting together to discuss our academic work and learn about the management practices in each other’s countries,” Lozada said. Lozada still corresponds with the students she met in the workshop, in particular with a Cuban student who is currently in Mexico working on her dissertation research. They’ve been discussing the process of developing a dissertation project, something Lozada is currently in the process of doing. She said connecting with someone from another country about the graduate studies process was an enriching experience. “It made me feel like no matter where you’re from or what you’re studying, we’re all on the same rollercoaster,” she said. HRI was also invited to participate as an official sponsor at the XI International Biodiversity Convention “Cubambiente” held in Havana in July 2017. Several HRI research staff gave presentations, including McKinney, Yoskowitz, HRI Endowed Chair for Geospatial Sciences Dr. James Gibeaut, Ramenzoni, and Associate Research Scientist Dr. Mark Besonen. A founding member of the Trinational Initiative, HRI has hosted Cuban and Mexican delegations during workshops and international meetings, facilitating scientific and academic exchanges as well as research.
More than 400 Coastal Bend residents came out to celebrate Shark Week with its science stars when HRI hosted its first-ever live screening of the 2017 Discovery Channel Shark Week special “The Lost Cage” at Brewster Street Ice House in Corpus Christi.

“It was gratifying to see so many people attend,” said HRI Executive Director Dr. Larry McKinney, adding that the venue drew concert-level crowds. “Part of our mission at the Harte Research Institute is to connect our research with real-world concerns. To have science generate this level of interest in our community is very exciting for us.”

Shark Week is known for its spectacle, but researchers from HRI’s Center for Sportfish Science and Conservation were on-hand to demonstrate the real science that goes on behind the scenes. HRI Endowed Chair for Fisheries and Ocean Health and Sportfish Center Director Dr. Greg Stunz and HRI Doctoral Student Kesley Gibson, who are featured in “The Lost Cage,” and other sportfish researchers answered questions from the crowd about their fieldwork and what it was like to film the episode.

The HRI research group brought tags, buoys, fishing gear and other shark accessories to give hands-on demonstrations of how sharks are caught and tagged live in the field. They also demonstrated how HRI partners with shark conservation nonprofit OCEARCH to track tagged sharks in real-time using online mapping tools.

This was HRI’s fourth appearance on Shark Week. “The Lost Cage” features HRI researchers deploying a special form of free-floating artificial reef known as a “Fish Aggregating Device,” or FAD, into the waters off the Flower Garden Banks National Marine Sanctuary. They returned months later to tag sharks with special acoustic tags and observe how the animals interact with the artificial reef while living aboard...
a specially-built floating platform hundreds of miles offshore in the Gulf of Mexico. Any time the tagged sharks came near, their acoustic tags would “ping” onto nearby underwater receivers, sending a signal to researchers. Staying aboard the platform, which was designed with an attached shark cage, allowed researchers to quickly dive into the water and observe sharks’ behavior. The quick reaction time and close contact allowed for a unique observation experience, but also made the sharks especially curious about filming.

The Sportfish Center is home to the largest shark-tagging program in the western Gulf of Mexico and has tagged more than 4,100 sharks with the help of volunteer fishermen. HRI researchers use the latest in wildlife tracking technology, including satellite tags that allow for the real-time tracking of sharks. With online mapping tools provided by the nonprofit OCEARCH, everyone can follow the movement of these sharks online at OCEARCH.org or by downloading the Shark Tracker app for iOS or Android.
Coastal Bend residents gathered to celebrate films that showcase the Gulf of Mexico's unique environment, people and places on Oct. 14 during the first Harte of the Gulf Film Competition screening.

The screening, held in the Lonestar Ballroom of the University Center at Texas A&M University-Corpus Christi, attracted more than 120 festivalgoers who watched 13 new short films from across the Gulf of Mexico region.

“This event is a great way to help people get to know what we do at the Harte Research Institute and explain scientific information in a way that’s fun and easy to understand,” said Harte of the Gulf Film Competition organizer Michelle Culver, an HRI graduate student. “Our goal was to engage the Gulf of Mexico community, and I think we did that.”

The film “2045: The Gulf Restored” by the Ocean Conservancy took the competition’s first place prize. A hopeful story about a fictional sea turtle born on a beach in Alabama during the 2010 oil spill, the film follows the turtle returning to a restored beach to lay its eggs in 2045, after oil spill fines were used to heal the environment. The film was directed by Brian Jenkins and produced by Kurt Coste.
In April of 2017, HRI students began an outreach program in collaboration with the Oso Bay Wetlands Preserve leading a series of workshops aimed at older children interested in the marine science. Called “Wetlands Workshops,” the events brought HRI students to the Oso Preserve once each month to educate the public about environmental topics and the work being done at HRI.

Each of HRI’s six research groups presented a topic, including shark science, ecosystem services, water policy and coastal mapping. The presentations were free to attend, open to the public and sponsored by HRI, though they were generally aimed at children between 7–18.

The events included a short presentation, a hands-on activity, and a question and answer session where prizes are given out. The effort was part of a larger goal by HRI and its graduate student population to expand the institute’s outreach and bring our research and message of Gulf conservation to a greater community.

The film “Legacy” by Jace Tunnell won second place. The storyline followed renowned Port Aransas conservationist Tony Amos as he conducted one of his beach surveys on San Jose Island, an exhaustive data gathering effort he undertook for nearly 40 years until his death of pancreatic cancer in August.

The third place winner was “Galveston Beach Nourishment,” directed by Brianne Banasik, Emily Drastata, Virginia Greb and Sarah Taylor and produced by Dr. Bill Merrell. The film depicted Galveston’s efforts to restore the beaches that attract visitors and protect its sea wall.

All of the winners received a cash prize, and Tunnell, who attended the festival to accept his award, donated his winnings to the fund to rebuild the Amos Rehabilitation Keep (ARK), the animal sanctuary Tony Amos spent his life building. The ARK was badly damaged during Hurricane Harvey.

“I think the films are really inspiring, and I hope they inspire other people,” Tunnell said. “Folks outside the science community aren’t necessarily going to pick up a technical report and read it, so this is a great way to pass on our message of conservation and promote stewardship of our environment.”

Attendees browsed interactive booths and activities presented by the Texas State Aquarium, the Mission Aransas National Estuarine Research Reserve, the Texas Parks and Wildlife Department’s Coastal Fisheries Division, the Coastal Bend Bays and Estuaries Program, the Corpus Christi Museum of Science and History, Texas Children in Nature, the American Fisheries Society and the Society for Advancement of Chicanos and Native Americans in Science.

The Harte of the Gulf Film Competition began as an effort by graduate students at HRI to pass on knowledge about ocean and coastal issues in a fun, inspiring way. Sponsored by a grant from the institute, the film competition was organized by graduate students Culver and Claire Rydman, master’s students in HRI’s Coastal and Marine Geospatial Sciences Lab and Diana Del Angel, a doctoral student in HRI’s Socio-Economics Group.
HRI received one of the largest fisheries research grants ever awarded to lead a monumental undertaking: Estimating the number of highly-sought after red snapper in the U.S. waters of the Gulf of Mexico, one of the most controversial fisheries in the world.

The institute will lead a “dream team” of fishery scientists from the Gulf and beyond for a two-year independent red snapper study, bringing together 21 scientists from 12 institutions of higher learning, a state agency and a federal agency, said HRI Endowed Chair for Fisheries and Ocean Health and Sportfish Center Director Dr. Greg Stunz, who is leading the project. HRI was awarded $9.5 million in federal funds for the project through a competitive research grant process. With matching funds from the universities, the project will total $12 million.

Red snapper is one of the most highly-targeted and controversial sportfish in the northern Gulf. Sought after by both recreational and commercial fishermen, the species has been considered overfished since the 1980s, and anglers have seen a dramatic reduction in both the fishing season and bag limits in recent decades. While the stock has been officially classified as overfished, the population is exploding. Fishermen are seeing and catching more red snapper than they have since the 1800s. The discrepancy between on-the-water observations and current assessments have led to mistrust in the data and heated conflicts in the fishery.

In response to the concerns of fishermen and Gulf stakeholders, lawmakers directed the National Sea Grant College Program and NOAA Fisheries to fund an independent red snapper assessment. Mississippi-Alabama Sea Grant was chosen to administer the competitive research grant process and manage this independent abundance estimate.

Through state-of-the-art ROV, acoustic and camera-based surveys, traditional sampling, tagging, and other fieldwork the independent team will determine the abun-
dance and distribution of red snapper on artificial, natural and unknown bottom habitat across the northern Gulf of Mexico. The project will also engage recreational and commercial fishermen in a citizen science initiative, including them in the data collection process through tagging, cooperatively carrying on the research from their own vessels, and other innovative partnerships.

Estimating the abundance of red snapper over a large, diverse sea like the Gulf of Mexico is extraordinarily complex, and that is why leading fisheries scientists from research facilities across the five Gulf states were gathered to help conduct the study. Each is the top expert in their respective regions, recognize the magnitude of the problem, and are willing to take on this challenging endeavor, Stunz said.

THE SNAPPER ASSESSMENT TEAM

Greg Stunz, Harte Research Institute for Gulf of Mexico Studies, Texas A&M University-Corpus Christi
Will Patterson, University of Florida
Sean P. Powers, University of South Alabama, Dauphin Island Sea Lab
James Cowan, Louisiana State University
Jay R. Rooker, Texas A&M University at Galveston
Robert Ahrens, University of Florida, Fisheries and Aquatic Sciences
Kevin Boswell, Florida International University
Matthew Campbell, NOAA Fisheries (non-compensated collaborator)
Matthew Catalano, Auburn University
Marcus Drymon, Mississippi State University
Brett Falterman, Louisiana Department of Wildlife and Fisheries
John Hoenig, College of William and Mary, Virginia Institute of Marine Science
Matthew Lauretta, NOAA Fisheries (non-compensated collaborator)
Robert Leaf, University of Southern Mississippi
Vincent Lecours, University of Florida
Steven Murawski, University of South Florida
David Portnoy, Texas A&M University-Corpus Christi
Eric Saillant, University of Southern Mississippi
Lynne S. Stokes, Southern Methodist University
John Walter, NOAA Fisheries (non-compensated collaborator)
David Wells, Texas A&M University at Galveston

POLICY IMPACTS

HRI’s Marine Policy and Law Group has created a comprehensive new guide to the legal and policy landscape awaiting Texas communities who want to prepare themselves for the impacts of sea level rise.

The white paper, “Living with Sea Level Rise on the Upper Texas Coast: Public Policy Concerns and Comparisons to Florida,” summarizes extensive research conducted by HRI Endowed Chair of Marine Policy and Law Dr. Richard McLaughlin, HRI Coastal Geoscientist Rachel Edwards, Florida Sea Grant Coastal Planning Specialist Thomas Ruppert and law students from the University of Houston Law Center. The project
Researchers with the Center for Sportfish Science and Conservation (CSSC) tagged a mega Mako during one of their spring expeditions off the coast of Texas. Weighing in at more than an estimated 1,000 pounds and over 11 feet, the female shark is one of the largest that’s been satellite tagged by the Sportfish Center’s shark program. Named for Peggy Hughes, a friend of the Center for Sportfish Science and Conservation, avid outdoorswoman and strong supporter of marine and wildlife conservation from San Antonio, Texas, “Peggy” has been recorded swimming for hundreds of miles in an area off the coast of Houston and Louisiana.

Peggy was tagged during a research expedition 120 miles offshore aboard the Scat Cat, with the help of Jupiter, Florida fisherman William Fay. Amazingly, Peggy was caught on 200-pound test monofilament line that she could have easily bitten through, and she was tagged after an hour-long fight on rod and reel.

is a part of HRI’s comprehensive, interdisciplinary sea level rise assessment, “Living with Sea Level Rise in Texas.”

McLaughlin and his research team conducted a survey of the opportunities and challenges available to Texas communities facing sea level rise-related issues based on current laws, policies, tools and funding mechanisms. Researchers also conducted an overview of the established law and policy framework in Texas; examined existing projects and options for confronting sea level rise, including living shorelines; and looked at strategies that have already been undertaken in Florida, where communities have taken a progressive stance in planning and adapting for changes along the coast.

Texas is a unique legal and policy environment for confronting coastal planning issues related to sea level rise, McLaughlin said. Though it is a very property rights-oriented state, granting a lot of power to individuals to protect their private property rights, Texas also has some of the most progressive environmental protection policies in the nation for its 367-miles of Gulf-facing beaches that could easily adapt to sea level rise planning.

The Texas Open Beach Act guarantees free, public access to all Texas Gulf of Mexico beaches, declaring all Gulf of Mexico-facing beach below the high tide line to be state property. The Dune Protection Act requires counties with public beaches bordering on the Gulf of Mexico to establish a dune protection line. Application of these laws provides communities with the legal authority to respond to coastal changes created by sea level rise. But both of those rules only cover beaches on the Gulf of Mexico, and Texas’ bayfront communities, where a majority of coastal residents live, there are no such protections and have conducted limited planning for the impacts of sea level rise.

The complete paper will be available on the “Living with Sea Level Rise in Texas” website expected to launch in 2018, with easy links to direct stakeholders to specific case studies and content of interest. The project’s mission is to make information about planning for sea level rise in Texas easy and accessible to the public.

PEGGY HUGHES TAGGING

Researchers with the Center for Sportfish Science and Conservation (CSSC) tagged a mega Mako during one of their spring expeditions off the coast of Texas. Weighing in at more than an estimated 1,000 pounds and over 11 feet, the female shark is one of the largest that’s been satellite tagged by the Sportfish Center’s shark program.

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Scientists from Rice University and HRI have discovered that Earth’s sea level did not rise steadily but rather in sharp, punctuated bursts when the planet’s glaciers melted during the period of global warming at the close of the last ice age. The researchers found fossil evidence in drowned reefs offshore Texas that showed sea level rose in several bursts ranging in length from a few decades to one century. The findings were published in Nature Communications.

Peggy is an especially interesting addition to CSSC’s tagging program due to both her size and her sex. Scientists speculate the Mako sharks may overwinter in our region of the Gulf as shark habitat, and will be tagging additional Makos to look at how their migratory patterns relate to artificial reef placement and how they may be using the structures as habitat.

Researchers have already made exciting finds with a previously tagged Mako shark, “Harvey Weil,” who made a sudden, directed migration to the Caribbean in the late spring and early summer and then returned to the location he’d been tagged the previous fall, Stunz said.

Because scientists did not previously have specific evidence of punctuated decade-scale sea-level rise, they had little choice but to present the risks of sea-level rise in a linear, per-year format, Droxler said. For example, the International Panel on Climate Change, the authoritative scientific source about the impacts of human-induced climate change, “had to simply take the projected rise for a century, divide by 100 and say, ‘We expect sea level to rise this much per year,’” he said.

“Our results offer evidence that sea level may not rise in an orderly, linear fashion,” said Rice coastal geologist and study co-author Jeff Nittrouer.

Given that more than half a billion people live within a few meters of modern sea level, he said punctuated sea-level rise poses a particular risk to those communities that are not prepared for future inundation.
Recycling can be dirty work, and no one knows that better than HRI’s Chief Operating Officer Gail Sutton. As the organizing backbone behind the “Sink Your Shucks” Oyster Recycling Program, sponsored by HRI and the College of Science and Engineering at Texas A&M University-Corpus Christi, Sutton is the person that keeps the cycle in recycle moving. She directs the pickup of donated oyster shell from local restaurants and wholesale seafood sellers; helps to organize the popular volunteer events that get the shell in the water to create new reefs; and writes grants to fund and expand the program with constantly evolving outreach ideas.

And if all else fails, Sutton will do it herself. Dr. Jennifer Pollack, TAMUCC associate professor for marine biology and scientific partner on the project, said that over the holidays, when oyster sales increase but most university employees are on break, Sutton has marched her family down to pick up the shells herself.

“She’s one of those people — when she knows something needs to happen, it’s going to happen. No matter what,” said Brad Lomax, owner and president of WaterStreet Restaurants and a founding partner in the Oyster Recycling Program.

The Oyster Recycling Program began in 2009 when restaurant owner Lomax was looking for a better solution for the piles of oyster shells he was paying to throw away. He teamed up with TAMUCC Mariculture Professor Dr. Joe Fox and eventually brought in Sutton, Pollack, and HRI Ecosystems and Modeling Chair Dr. Paul Montagna on board. They developed the “Sink Your Shucks” program, Texas’s first oyster recycling program to take shell from restaurants and get it back in the bay to form the bedrock for new oyster growth.

Sutton, who came to HRI after spending 19 years in the banking industry, decided to finish her master’s degree in Fisheries and Mariculture science and made it her thesis...
project to help build the program and to determine the value of recycling oyster shells. But in doing so she quickly realized she’d have to redefine her understanding of value.

“In the banking industry, I was always taught that profits are dollars. Here at HRI had to shift that mindset,” Sutton said. “Profits can be the people that are impacted by a project, and they can be in the environmental benefits.”

The economic viability of restoration projects is something that’s often overlooked, Pollack said.

“She has a great understanding of finance,” Pollack said. “She was able to determine that we weren’t just spinning our wheels with this project. When you look at the environmental value, taking these oyster shells and recycling them was the best use of this material.”

Oyster reefs have experienced greater losses than any other marine habitat, despite their value as fisheries habitat, their impact on improving water quality, and their role in reducing erosion and storm surge. It’s estimated that 90 percent of oyster reef habitats have been lost, compared to historic abundance, due in large part to commercial fishing. With the help of volunteers, “Sink Your Shucks” has restored about 14 acres of oyster reef in the Copano and Aransas Bay, and participants have in turn seen how that recycling directly impacts the environment. Sink Your Shucks has also gotten local students involved to learn more about habitat restoration, taking them out to reefs and bringing oysters into their classrooms. Last year, the program celebrated its millionth pound of oyster shell rescued from the landfill to be repurposed as productive estuary habitat.

Sutton already has her hands full. As HRI’s COO, she keeps the institute running smoothly and on budget day-to-day, keeping tabs on the more than 100 staff and students who occupy the building and HRI’s $19.9 million annual budget.

“Most everyone at HRI wears multiple hats and Gail is no exception,” said HRI Executive Director Dr. Larry McKinney. “In fact, she may have the largest collection of hats at HRI. I do not think most people — even our staff — fully appreciates that, but the institute is the better for it.”

The Oyster Recycling Program remains her passion project, combining her background in business and finance with an interest in marine biology.

“It’s my outlet,” Sutton said. “Oysters are one of the best things to recycle in the world, and the solution happens right before your eyes, which is something you don’t often get to see in science. It’s a perfect loop. We can take that oyster from a customer’s plate back to the bay, rebuilding for the next generation.”
GREG STUNZ APPOINTED TO FISHERY COUNCIL

HRI Endowed Chair for Fisheries and Ocean Health and Director of the Center for Sportfish Science Dr. Greg Stunz was re-appointed for his second term on the Gulf of Mexico Fishery Management Council. The Secretary of Commerce announced the appointment of three members to the Council in 2017, and Stunz’s appointment was renewed in August.

Stunz currently serves as the Chair of the Council’s Data Collection Committee. Stunz has studied marine fisheries for 20 years and authored over 40 scientific papers addressing fishery issues in the Gulf of Mexico. He is also a member of the Gulf Estuarine Research Society, the Coastal Conservation Association, the Coastal Resources Advisory Committee for Texas Parks and Wildlife, and American Fisheries Society.

BRITTY N BLOMBERG HONORED

HRI alum Dr. Brittany Blomberg was one of nine emerging scientists to be awarded a 2017 Science Policy Fellowship by the National Academies of Science, Engineering and Medicine’s Gulf Research Program. The award is part of an effort to encourage scientists to hone their skills, while securing the growth and protection of Gulf Coast communities and ecosystems.

Blomberg is a doctoral graduate of the Coastal and Marine System Science Program at Texas A&M University-Corpus Christi. She was awarded the fellowship and will receive a $55,000 stipend to continue her research and impact policy through her assigned position with the Texas General Land Office (TGLO) in Austin, Texas.

Recognized as Texas A&M-Corpus Christi’s 2015 Outstanding Doctoral Graduate Blomberg’s research has been awarded and utilized in countless conferences across the nation from New Orleans to Myrtle Beach. Blomberg gives her sincerest thanks to Dr. Jennifer Pollack, Associate Professor of Marine Biology and Dr. Paul Montagna, HRI Endowed Chair for Ecosystems Studies and Modeling.

“Through the interdisciplinary nature of the Coastal and Marine System Science Program, I am now prepared to step beyond traditional research and apply my knowledge across disciplines and different science policy sectors,” said Blomberg.

The Science Policy Fellowship is a competitive award that is aimed at supporting the development of future generations of scientists. Fellows gain first-hand policy making experience as they spend a year on the staff of federal or state environmental, natural resource, oil and gas, or public health agencies in the Gulf of Mexico region. Through this field-based learning experience, fellows learn what it takes to make scientific information not just useful – but useable.

“This will be my first experience outside of academia and I’m eager to put my skills and expertise to practice in a policy-making setting,” said Blomberg. “I want to gain insight into how I can make my research more usable to policymakers and this fellowship will provide me the opportunity to learn about science policy dynamics through an immersive, hands-on experience.”

As part of the fellowship, Blomberg plans to attend orientation in Washington, D.C. in September 2017 and the Gulf of Mexico Oil Spill and Ecosystem Science Conference in New Orleans in February 2018.

“Not only will this opportunity help inform my research to meet the needs of policy makers but it will also be invaluable for mentoring students that will be the next generation of scientists, resource managers and policy makers,” said Blomberg.

Blomberg has been working as a Postdoctoral Researcher at the Dauphin Island Sea Lab since finishing her degree at the Island University. She began her position with the TGLO in September 2017.
Former Harte Fellow Harriet Nash was appointed Deputy Director of the NOAA Coral Reef Conservation Program in August 2017.

Nash completed her doctorate in coastal and marine system sciences in 2013 working under HRI Endowed Chair for Marine Policy and Law Dr. Richard McLaughlin. She studied domestic, foreign and international policies and laws that applied to development and implementation of an International Gulf of Mexico Marine Protected Area Network.

As Deputy Director of the NOAA Coral Reef Conservation Program, she manages daily operations, including strategic planning, policy development, contract development and management, contractor oversight, budget development and execution, hurricane response coordination and programmatic environmental compliance. The program’s $26 million annual budget supports capacity-building efforts and science to inform management of coral reef ecosystems with emphasis on sustainable fishing practices, resilience-based management in the face of climate change, reduction of land-based sources of pollution and coral reef restoration.

Before she joined the Coral Program, Nash worked in a regulatory capacity in the Office of Protected Resources within NOAA’s National Marine Fisheries Service protecting federally threatened and endangered species.

Prior to her work at NOAA, Harriet worked as a marine biologist for ten years at the U.S. Nuclear Regulatory Commission where she analyzed environmental effects of siting, constructing, and operating commercial nuclear power plants and developed mitigation to minimize effects where practicable.

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**2017 HRI GRADUATES**

**SPRING**

Melanie Gingras, M.S. in Coastal and Marine Systems Science
Travis Washburn, Ph.D. in Coastal and Marine Systems Science
Hannah Ehrmann, M.S., Environmental Science
Cheyanne Olson, M.S., Environmental Science

**SUMMER**

Quinn McColly, MS Environmental Science
Alex Tompkins, MS Marine Biology

**FALL**

Claire Rydman, M.S. in Environmental Science
Elena Koblinski Keen, Ph.D. in Coastal and Marine System Science

**2017 STUDENT AWARDS**

Travis Washburn, James D. Watkins Award for Excellence in Research – Consortium for Ocean Leadership and Gulf Research Program
HRI has experienced tremendous annual growth as it continues building on its mission to provide science-driven solutions for Gulf of Mexico problems. The institute devotes tens of millions of dollars — the majority of its budget — to advancing the long-term sustainable use and conservation of the Gulf. Those resources are also devoted to providing a rigorous, interdisciplinary training environment, enabling our students to become the next generation of researchers devoted to a sustainable Gulf of Mexico.

**OUR REVENUE SOURCES**

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<th>Federal</th>
<th>State</th>
<th>Private</th>
<th>Other</th>
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<td>17%</td>
<td>45%</td>
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<td>$1.87M</td>
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Science by the Numbers
HOW WE PUT IT TO WORK

$24.4M PROPOSAL SUBMISSIONS

$12.59M SUBMISSIONS AWARDED

$20M OPERATING BUDGET

$757K FELLOWSHIPS PAID

78 STAFF MEMBERS

43 STUDENTS FUNDED

FUNDING BREAKDOWN

RESEARCH 90%

ENGAGEMENT 7%

ADMINISTRATION 3%

GROWTH IN OPERATING BUDGET

$8 MILLION

$10 MILLION

$11 MILLION

$11.6 MILLION

$13 MILLION

$20 MILLION

2012 2013 2014 2015 2016 2017

proposal submissions

awarded

fellows paid

students funded

research engagement administration
Nine HRI students were supported with $60,000 Crutchfield Fellowships in 2017, part of HRI’s ongoing effort to work towards 100 percent funding for all students.

In May 2012, the Crutchfield Fellowships were established by John H. Crutchfield in honor of his late father, John W. Crutchfield. Crutchfield was an oilman and six-decade resident of Corpus Christi who threw himself into civil service, eventually chairing the Upper-Level College Citizens Committee that advocated transforming the University of Corpus Christi into a four-year, state-sponsored institution, what we now know as Texas A&M University-Corpus Christi.

The purpose of the endowment is to fund educational expenses for HRI masters and doctoral students. These expenses include, but are not limited to, tuition, books, travel to meetings and workshops, and necessary research supplies or equipment. Since inception, this endowment has provided $233,000 in funding for students.

Some examples of the student work our Crutchfield Fellowships are sponsoring:

Michelle Culver, a master’s student in the Coastal and Marine Geospatial Sciences Lab, is studying the geomorphology of beaches where endangered Kemp’s ridley turtles nest to better understand their preferred habitat for conservation and management.

Quinn McColly, a doctoral student in the Socio-Economics Group, is evaluating buyers’ interest in an ecosystem services exchange, trying to find ways to quantify the returns we get from environmental investment with benefits that go beyond just money.

Kesley Gibson, a doctoral student in the Fisheries and Ocean Health Lab is studying the role that artificial reefs play in the Gulf ecosystem as habitat for reef dependent species like Red Snapper, King Mackerel, and highly migratory species like sharks.
HRI appointed its first-ever Dr. John “Wes” Tunnel Jr. Fellow, HRI Coastal and Marine System Science doctoral student Coral Lozada. The fellowship is named for the professor emeritus and HRI Endowed Chair for Biodiversity and Conversation Science, who devoted much of his career to studying the environment and coral reef systems in Mexico. The fellowship was funded by the Harte Charitable Foundation.

The fellowship sponsors a Mexican or American graduate student at HRI with a commitment to research in Mexico. With the aid of her fellowship, Lozada spent the summer working in Santa Crisanto, a fishing village in the Yucatan, and taking a course in qualitative field investigation methodology with Dr. Maria Teresa Castillo at the Centro de Investigacion y de Estudios Avanzados del Instituto Politecnico Nacional (CINVESTAV). It was there, after working in the community, that she chose her research topic, risk perception and socio-economic pressures in the hookah diving fisheries along the Yucatan coast. Hookah-diving, or compressor diving, is the preferred method for lobster and sea cucumber fishery, and a recent boom in sea cucumber fishing across Mexico has led to an increase in deaths due to decompression and carbon monoxide poisoning.