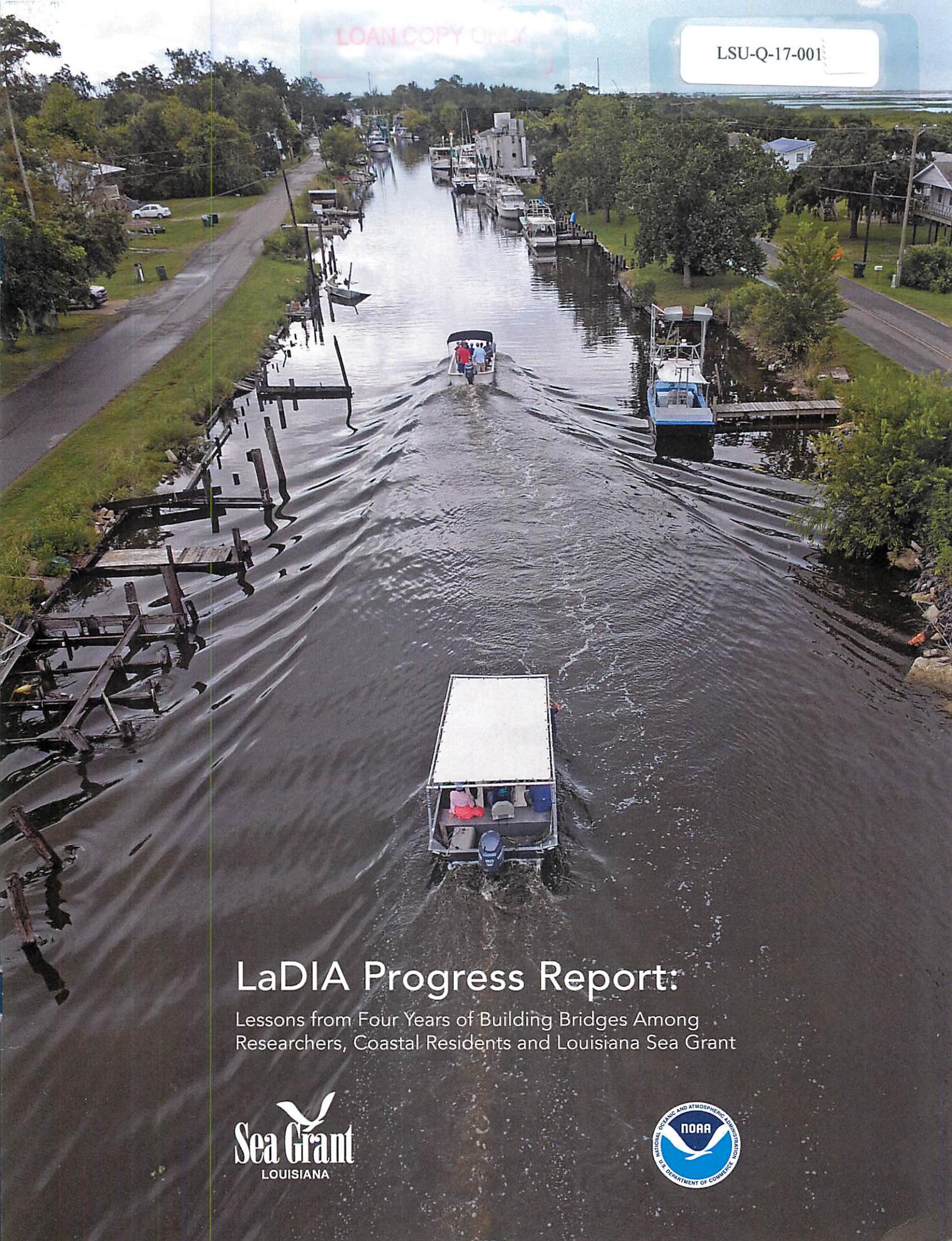


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LaDIA Progress Report:

Lessons from Four Years of Building Bridges Among
Researchers, Coastal Residents and Louisiana Sea Grant



Understanding “LaDIA?”

Louisiana Discovery, Integration and Application (LaDIA) aims to make coastal research more relevant and effective by engaging with communities. The program's title encompasses three critical steps:

- Discovery: Connect with local residents and decisions makers to identify research ideas that have both relevance and scientific merit.
- Integration: Perform interdisciplinary research on complex problems in coastal communities.
- Application: Put research results to work for coastal communities.

Read

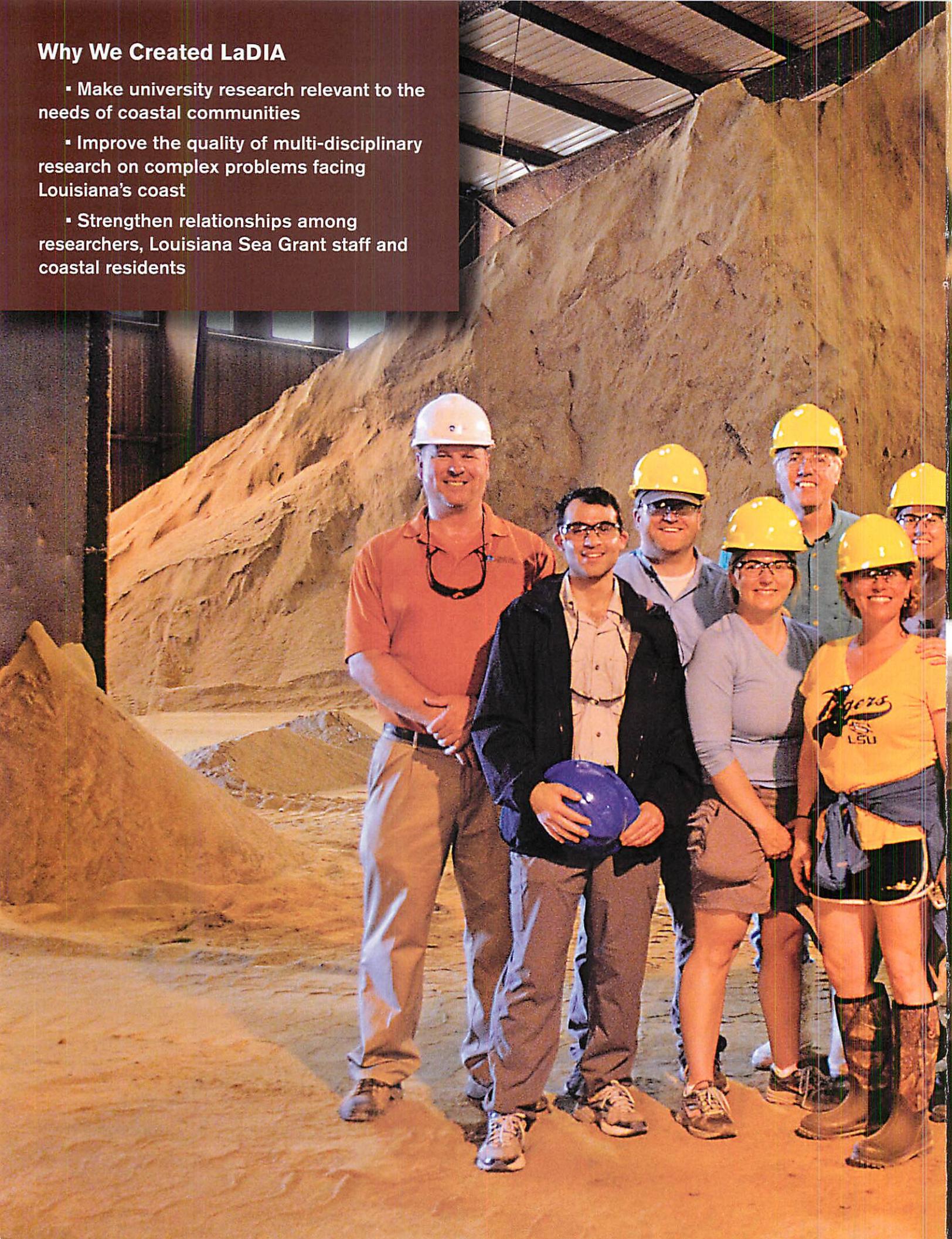
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On the cover, LaDIA Faculty Fellows depart on two boats to tour marshes in Louisiana's central coast. Inside cover, an up-close view of LaDIA Faculty Fellows on their central coast marsh tour.



Why We Created LaDIA

- Make university research relevant to the needs of coastal communities
- Improve the quality of multi-disciplinary research on complex problems facing Louisiana's coast
- Strengthen relationships among researchers, Louisiana Sea Grant staff and coastal residents





2016 Faculty Fellows tour the Omega Protein processing plant. Fellows stand before a mound of animal meal derived from Gulf menhaden.

Crucial Connections

Louisiana is facing high rates of coastal land loss, even as the risk of storms and flooding has increased. At the same time, our nation depends on the many resources and industries found in south Louisiana: fisheries, ports and oil and gas, to name just a few. It is now a make or break time for our coast. Either we adapt to rates of rising seas and sinking land, or we lose beloved landscapes, cherished communities and vital industries.

At Louisiana Sea Grant, we believe that our state universities can and should be providing solution oriented knowledge to address the coastal crisis. However, university researchers can't do this work alone. They need partners who can transform research findings into results for local communities. Louisiana Sea Grant's Marine Extension Program (MEP) can foster these partnerships.

Our MEP includes agents and specialists who have a long history of building connections throughout south Louisiana. One goal of the LaDIA Program is to link researchers with these MEP agents. Doing so widens the circle of possible connections, as researchers meet and talk with people outside the ivory tower. We have seen these conversations lead to new opportunities for researchers and residents alike to identify, conduct and apply targeted inquiries.

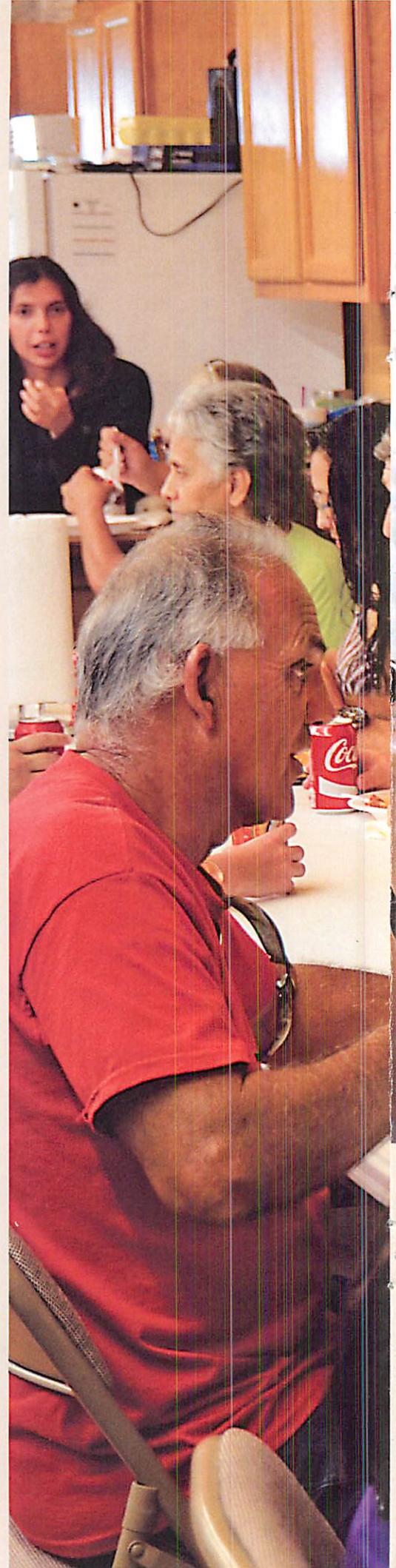
Another goal for the LaDIA Program is to extend the MEP's research network beyond traditional Land Grant extension centers. When MEP agents get to know diverse researchers from local universities, those agents increase their own opportunities for bringing good science and solutions to coastal residents. MEP agents also gain outreach partners who can help share information about our fast changing coast.

In 2014, we began the LaDIA Program to meet these goals. We focused on two primary ways to reconnect research to coastal communities:

- The Coastal Connections Competition encourages students to try new ways of communicating research.
- LaDIA Faculty Fellowships bring together tenure track professors with Sea Grant MEP agents, state managers, politicians, parish planners and local residents. The resulting conversations create new pathways for problem solving and outreach.

After four years of active experimentation, what has the LaDIA Program accomplished?

- We are beginning to inspire a new generation of scholars to think differently about research communication.
 - The Coastal Connections Competition offers undergraduate and graduate students at multiple universities the experience of sharing their research messages with non-technical audiences. Participation is growing each year, spurring universities to explore related events, such as the Three Minute Thesis (3MT™) and Academic Minute competitions. We view this as a positive trend; we want research communication to become integral to life at the university and are heartened that our program is helping jumpstart institutional change.
 - The LaDIA Faculty Fellowship Program includes comprehensive communication training for tenure track professors at Louisiana universities. Our fellows routinely tell us that this training has changed how they approach teaching students, talking to diverse audiences and even designing research programs.

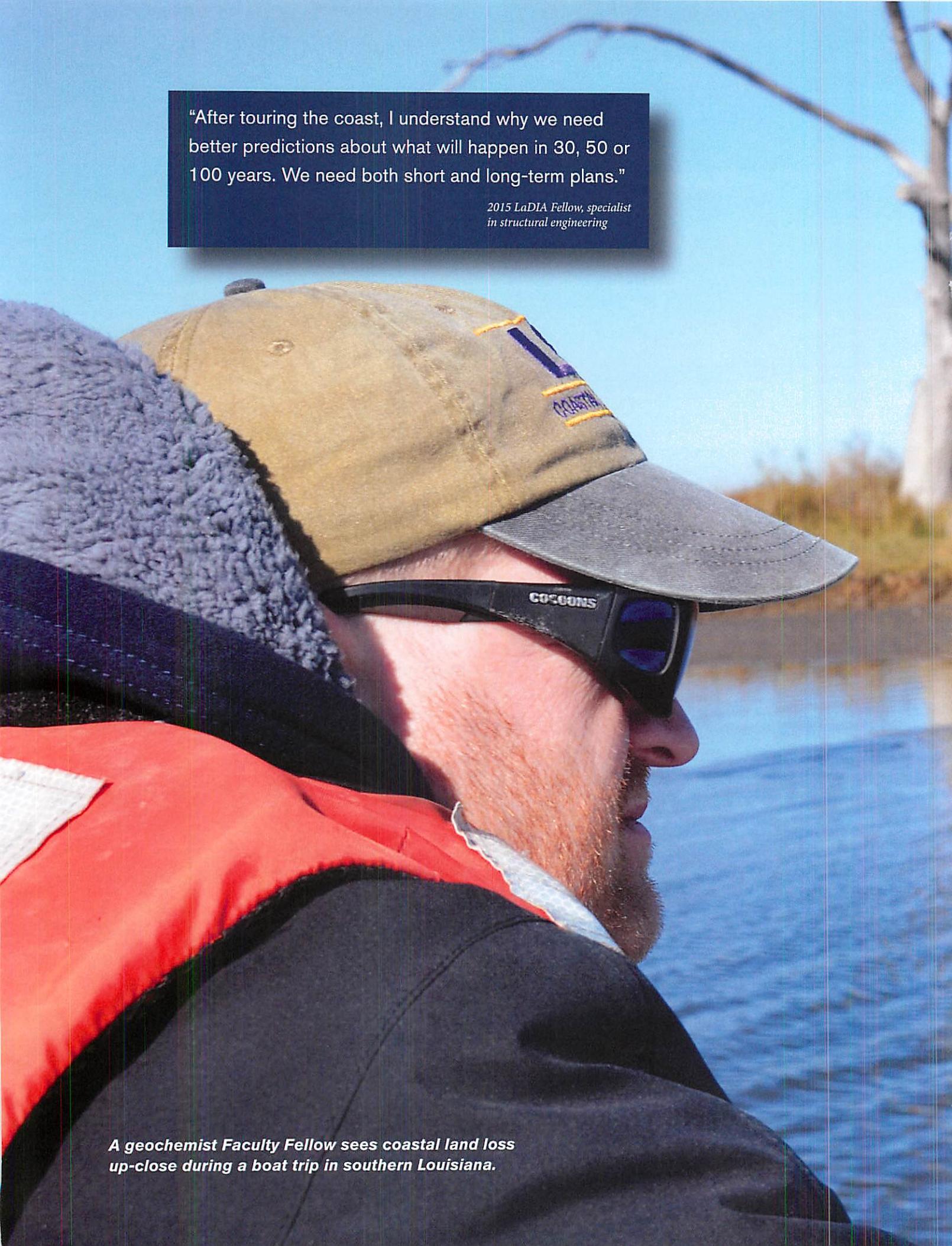




"LaDIA reminds us how important connections with regular people are to us and our science."

*2016 LaDIA Fellow,
specialist in marine
biology*

LaDIA Faculty Fellows meet and have lunch with members of the Pointe-aux-Chien Indian tribe. Such meetings with community members inform fellows about local perspectives on issues faced by those living along Louisiana's coast.



"After touring the coast, I understand why we need better predictions about what will happen in 30, 50 or 100 years. We need both short and long-term plans."

*2015 LaDIA Fellow, specialist
in structural engineering*

A geochemist Faculty Fellow sees coastal land loss up-close during a boat trip in southern Louisiana.



- We also set out to improve the relevance of research proposals Louisiana Sea Grant receives from tenure track faculty. Many of these faculty are new to Louisiana and are not familiar with coastal problems of the Mississippi River Delta. The LaDIA Faculty Fellowships help researchers understand the adaptive problems the state faces. Researchers can then apply this knowledge to research design and proposals for funding.
 - We have seen improvement in the number and quality of interdisciplinary proposals submitted for Omnibus funding.
 - We have seen an uptick in faculty who reach out to our MEP agents. These researchers are seeking information about local conditions, looking to receive outreach advice or need advice about connecting with local partners.
- The majority of tenure track faculty members aren't personally connected to coastal leaders and residents, and this makes it difficult to design substantive outreach plans. To address this problem, the LaDIA Faculty Fellowship Program sets up trainings and field trips that involve in-depth interactions with community members. We're seeing early evidence that these initial conversations foster relationships and eventual partnerships with local stakeholders. These partnerships truly deepen research inquiries and impacts.
 - Follow up visits with past fellows also reveal a wealth of interdisciplinary partnerships and improved outreach plans, including land loss modeling displays at LSU football games, public science talks and more finely honed research goals.
 - Many of the outreach plans in Louisiana Sea Grant Omnibus proposals are significantly improved over those received in former years.

"Before this retreat I didn't know how well informed local residents could be. Now I know to be prepared for hard questions."

2015 LaDIA Fellow, specialist in molecular biology

"Everything was shocking. The shrimp industry was shocking. [As a result of my fellowship], I have a much better appreciation for what's happening here on the coast."

2016 LaDIA Fellow, specialist in civil and environmental engineering

LaDIA Fellows explore the coast, in person and in detail. Skills are taught in the context of different coastal regions and their unique challenges. Retreats are scheduled to coincide with teaching holidays, which allow fellows to get out of their offices and explore the coast up close.



LaDIA Faculty Fellows inspect a map of coastal Louisiana.



Methods

The LaDIA Program is centered on two initiatives: Coastal Connections and LaDIA Faculty Fellowships.

Coastal Connections

A series of university competitions focusing on communication skills, these events challenge students to summarize their research in "three minutes, two slides and one message." Undergraduate and graduate researchers from any academic discipline may take part, as long as their work relates to the coast.

We supply online training materials to help participants distill their messages. We also work closely with hosting institutions to publicize and conduct the competitions. In a few cases, interest has been so high that we have had to conduct an advance run-off competition to cull participants to a manageable number.

Participating students have explained how blue carbon is stored in coastal salt marshes, described which composite materials are being tested for underwater reef construction and told us how social media can impact community resilience — to name just a few of the fascinating presentations we've heard. A set of judges from private and university backgrounds pick three winners. Louisiana Sea Grant awards these winners \$500 toward attendance at a professional meeting for which presentation abstracts have been accepted. We have held two to three competitions each year since 2015, with more locations being vetted for the future.

LaDIA Faculty Fellowships

Many faculty members want to build partnerships both inside and outside the confines of the university. The LaDIA Faculty Fellowships support these researchers, helping them share their work with diverse audiences and encouraging them to listen closely to what community residents have to say. Our concept has been tested in a 2014 pilot program and annual fellowship cycles in 2015 and 2016. We are now conducting our third fellowship cycle using the guidelines below.

- Choose tenure track Louisiana university faculty whose research examines different aspects of Louisiana's coast — from sociology to engineering to biology. Fourteen fellows, representing seven different universities, have been chosen for the 2017-2018 cycle.
- Conduct three, multi-day retreats at sites throughout Louisiana's coast. Each retreat explores local coastal challenges and trains fellows to pursue coalition building and effective science communication. Local leaders and Sea Grant marine extension agents assist the fellows, sharing perspectives and tools.
- Build a network of faculty who achieve new levels of effectiveness for their work. Louisiana Sea Grant and its partners invite fellows to partner with communities that share their interests. This spurs more thorough examination of local issues and refined research objectives.

2017-2018 LADIA FELLOWSHIP RETREATS

Retreat #1 Aug. 3-5, 2017	LUMCON	Geographic Focus: Central Coast Skill Focus: Defining a Message
Retreat #2 Jan. 7-9, 2018	Chenier Plain	Geographic Focus: Western Coast Skill Focus: Listen and Learn
Retreat #3 May 24-25, 2018	Grand Isle	Geographic Focus: Eastern Coast Skill Focus: On Camera Interviews

Results

Diverse Participants (Faculty Fellowships and CCC)

LaDIA was created, in part, to bring researchers from many different disciplines together to share ideas and problem solve. Our sponsorship of the Coastal Connections Competition series encourages this interdisciplinary approach. We have reached out to multiple universities and invited participants from varied disciplines to take part. The results have been encouraging.

Lesson Learned: Participation is limited to 12 students at each school, and in most cases the number of entrants exceeds what we can accommodate. In these cases, the sponsoring university holds a preliminary run-off for as many as 25 students. Whether or not the students are selected to take part in the final competition, the process introduces them to the challenges and rewards of sharing their science in a public forum.

Challenge: The growing demand for spots in the competition has alerted us to the need to hold more frequent or larger events. At the moment, we are turning away students who are eager to participate. Fortunately, interest among sponsoring institutions is growing, as Louisiana universities see the power of bringing scholars together to share ideas about how to save the coast.

For LaDIA Faculty Fellows, our multidisciplinary approach creates opportunities to build partnerships across institutions and disciplines. Fellows have come from nine universities in south Louisiana. Each 10-15 fellow cohort is composed of members from departments as diverse as anthropology, engineering and microbiology. Over half of our fellows hail from other countries, including Egypt, Italy, Bangladesh and China.

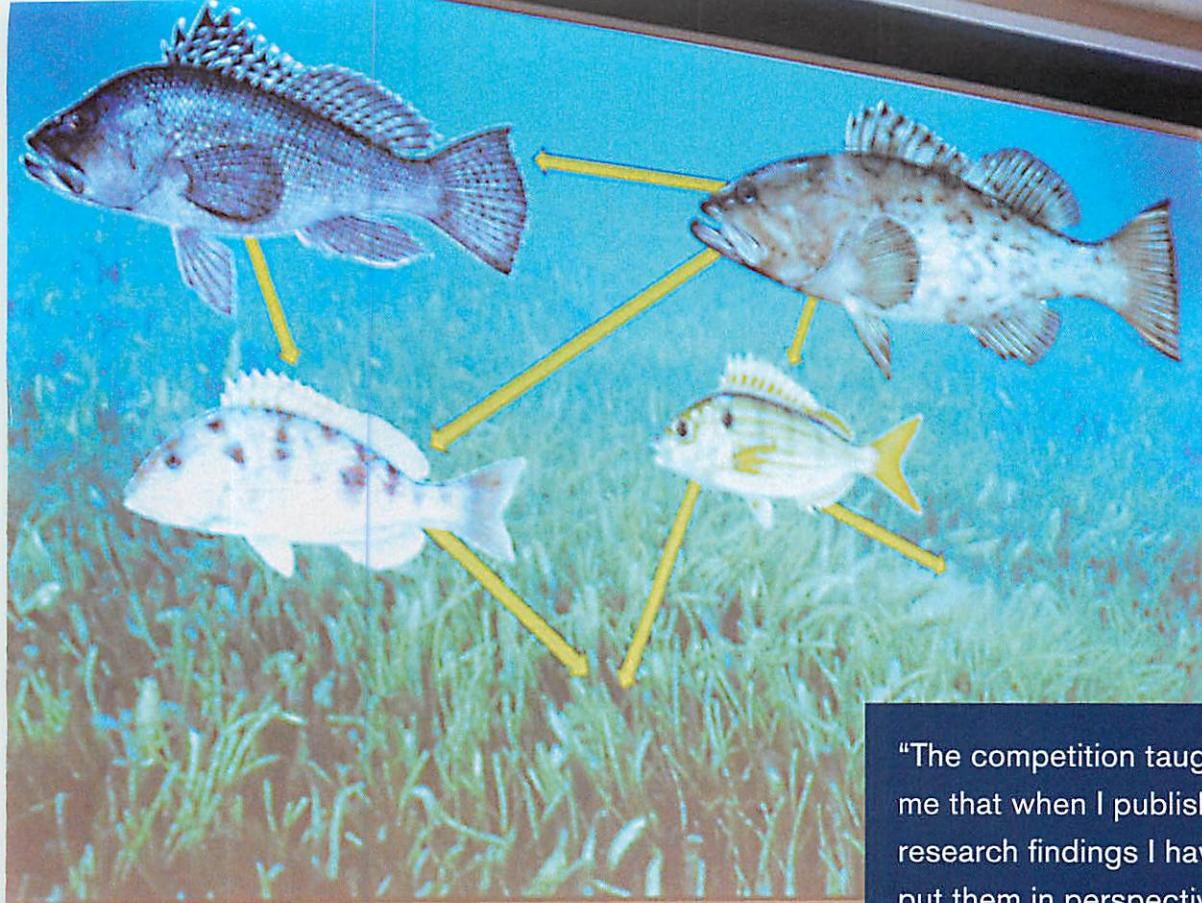
Lesson Learned: When fellows with these varied backgrounds are able to spend time together, they discover unlikely opportunities. For example, at a retreat in 2016, a fellow from Louisiana State University who studied oyster genetics joined with another fellow from Southern University who studied human health impacts from the DeepWater Horizon oil spill. This duo would have been unlikely to meet outside the fellowship program, but they have since pursued grant funding that neither could have undertaken alone.

Challenge: With fellows coming from multiple institutions, countries and research disciplines, there are few built in mechanisms for bringing the group together outside of the three established LaDIA retreats. We continue to explore ways to keep the connections going throughout the year and after each fellowship year has concluded. Ideas we are considering include a web platform for supporting communication and a bi-annual LaDIA Fellows reunion to take place at the Louisiana State of the Coast Conference.

"The underlying importance of this competition ... is being able to 'imprint' an audience, especially a non-specific audience, with the aspects of science that we believe are important."

*2017 Coastal Connections
winner, specialist in marine
and environmental biology*





"The competition taught me that when I publish my research findings I have to put them in perspective, meaning explain their importance in big picture, real world terms."

2015 Coastal Connections participant, specialist in environmental chemistry



A graduate student at the University of Louisiana at Lafayette gives his Coastal Connections Competition presentation.

Diverse Experiences (LaDIA Faculty Fellows)

How do we engage LaDIA Faculty Fellows who have such different backgrounds and research priorities? We keep training sessions and field trips varied so that we can spur learning for different styles and interests.

Lesson Learned: We balance our time in the field with classroom training in communication skills. Finding the right balance of indoor and outdoor time has taken a few years; we have found that splitting each day between classroom training and learning in the field works best. This means that we might spend the morning doing mock meeting scenarios or recorded interviews with the fellows. Then in the afternoon, we head outdoors to spend time engaging with local experts on problems facing their communities.

Lesson Learned: Variety is key in planning outdoor field trips.

- Some field trips focus on coastal residents facing wetland loss, some on coastal infrastructure and some on ecology. This allows us to offer broad access to new ideas and connections.
- Our retreats take us from one side of the coast to the other to deliver an insider's tour of the coast. Spending three days along the western Chenier Plain, for example, provides a chance for fellows to get a feel for issues that are seldom acknowledged in Baton Rouge or New Orleans.
- Our field trips vary with each locale we visit, but our goal is to connect the fellows with coastal residents. Meeting local leaders and business people — whether they are commercial seafood harvesters, parish presidents or grocery store owners — allows fellows to see the real issues in play and gain inspiration for designing their research.

Lesson Learned: Controversy is key. The fellows meet people with challenging and sometimes contradictory views. But, as we tell the fellows, this is the environment in which their research is most likely to have meaning. We therefore encourage fellows to use their communication skills to listen, learn and when the time is right, share their own views. We believe these kinds of interactions are what build strong university-community partnerships, and fellows agree. Several have reported that the retreats spur them to reprioritize outreach in the work they do and think differently about which aspects of their research they want to emphasize.

Lesson Learned: Training people with different levels of communications expertise requires us to meet fellows where they are and give them multiple chances to demonstrate their evolving skills.

- During each of our three retreats, we focus on teaching a specific research communication skill: meeting with policy makers, listening to coastal residents, speaking to journalists on camera. When divided in this way, each fellow is able to pinpoint the specific area that he or she wishes to improve. We also help fellows customize the trainings for their own unique mix of skills.
- When fellows are a bit uncomfortable, they tend to learn more. Our communication trainings thus give fellows multiple chances to try speaking, listening and writing in real time. The training is highly interactive; we insist that fellows demonstrate their evolving skills in front of their peers and Sea Grant staff. Being on the hot seat while they role play a conversation with a local leader, for example, has helped show fellows where they have made progress and where they still need to make progress.



"As scientists we are trained to speak in a language not many understand. It's in our blood. We need ways to break out of this box."

LaDIA participant speaking about the challenge of communicating science.



As part of their communications training, LaDIA Faculty Fellows experience an on-camera interview, and later review the recording to assess their strengths and weaknesses.

We balance our time in the field with classroom training in communication skills. Splitting each day between learning in the field and classroom training works best.

Challenge: The wide scope of our fellowship activities during each three-day retreat means that fellows gravitate to offerings that have the greatest connection with their work. While being exposed to activities outside their interests can spur new connections, it also requires that everyone be open to what they can learn from activities that have less relevance to their immediate research.

Challenge: Covering a wide range of subjects and field trip sites doesn't allow us to do any one activity at length. So far, the tradeoff has been in line with the needs and expectations of our fellows. Our hope is that by introducing fellows to these new people and situations, we are laying the groundwork for future in-depth involvement.



"The Sea Grant team and extension agents have all been incredible. Thanks for giving us the opportunity to engage with so many different faces of the community."

*2016 LaDIA Fellow,
specialist in geology*

LaDIA Faculty Fellows are given several opportunities during the three workshops to refine the messages they want to convey about their research. The focus is on communicating clearly with non-academics.



Experiments with Evaluation (CCC and Faculty Fellows)

Documenting the success of partnership building and improved communication skills can be difficult, as these benefits do not always lend themselves to tidy quantitative measures.

In evaluating the effectiveness of the Coastal Connections Competition series, we use the following metrics:

- increase in the number of schools eager to host a competition
- increase in number of participants, including undergraduates
- increase in the diversity of disciplines represented among participants

Lesson Learned: With interest in the competitions rising, we need ways to connect more deeply with younger scientists. We are exploring how to host coastal retreats for graduate and undergraduate students. These retreats would share similar goals and format with the LaDIA Faculty Fellows retreats and may be conducted in tandem with the retreats or in alternating years.

Measures for evaluating LaDIA Faculty Fellowships include:

- interim assessments
- end of year focus group discussions and written evaluations
- in person visits to former fellows a year after their fellowships end. This allows us to gain more information about how their experiences as fellows have shaped their teaching and research.
- learning how many fellows are pursuing science communication opportunities beyond conferences
- tracking numbers of new collaborations formed, grant funding obtained and improved teaching reviews
- tracking Louisiana Sea Grant research proposals received to assess greater attention paid to coastal residents' concerns

Lesson Learned: Have participants self evaluate their skills before participating in LaDIA faculty training or Coastal Connection Competition, then repeat the questions again when activities are complete. These before and after evaluations allow us to gain a picture of how each person sees his or herself. For LaDIA Faculty Fellows, these evaluations help us track how the fellows' assessments change over time.

In the same vein, we ask LaDIA Faculty Fellows to establish a manageable outreach goal, whether that is speaking with a journalist, making a public presentation or considering new ways to include outreach in their research. We ask the fellows to track their progress toward these goals throughout the fellowship year.

Lesson Learned: In using the self-assessments, we've found a seemingly counterintuitive result — if participants have an exaggerated sense of their communication skills at the outset, it can be useful for their self-assessments to move toward the recognition that they still have much to learn. Far from being discouraging, increases in self-awareness seem to motivate the participants to try harder to improve their skills.

Challenge: We are still learning how to best capture the results of LaDIA's research communication training and outreach efforts. The quantitative benchmarks listed above are useful for describing certain outcomes. However, these measures don't capture the effects of having more vibrant professional networks, nor do they account for epiphanies — both subtle and dramatic — that can improve a student or professor's overall approach to teaching or research. Our evidence of progress in these areas remains anecdotal but powerful.





Following a 2017 airboat tour, Faculty Fellows learn about challenges facing communities along the Chenier Plain from Rockefeller Wildlife Refuge Program Manager Phillip "Scooter" Trosclair.



www.laseagrant.org

