



Louisiana Sea Grant Site Review Pending

Public comments are sought for the Louisiana Sea Grant (LSG) federal site review. Comments must be submitted by Jan. 20, 2025.

Louisiana Sea Grant will be reviewed Feb. 4-6 by a team convened by the National Sea Grant College Program. The review will be conducted in the Energy, Coast and Environment Building located on the Baton Rouge campus of Louisiana State University and will consider all aspects of LSG's program including management and organization, performance, engagement and collaborative activities, including those with various offices of the National Oceanic and Atmospheric Administration.

This notice invites you to participate in the review by emailing your comments about LSG to oar.sg-feedback@noaa.gov. Kindly send your comments at your earliest convenience - the comment period will end on Jan. 20, 2025. Please put 'Louisiana Sea Grant Site Review' in the email subject line.

Thank you for assisting us by letting the review team hear from you.



SciComm Summit Held at University of New Orleans

Louisiana Sea Grant (LSG) hosted its third SciComm Summit in November at the University of New Orleans (UNO). The free, two-day science communication event – organized by graduate students, for graduate students – was designed to enhance research communication skills.

Sessions focused on effective mentorship, grant writing, fellowship applications, communicating through social media, community engagement and co-production, science and art, pitching a story to the media, approaching policy makers, discussing controversial topics, working with interpretative centers, improvisation, data visualization and science storytelling.

Seventy-three graduate students – almost split evenly between doctoral and master’s students – from Louisiana State University, Tulane University, Southeastern University, UNO, Nicholls State University, the University of Louisiana at Lafayette, Chamberlain University, Southern University, McNeese State University and LaTech participated. Disciplines represented ranged from engineering, chemistry and environmental sciences to public health, urban forestry and psychology. Thirty-six speakers from 25 organizations engaged and shared their insights with the students.

The Louisiana SciComm Summit is the culmination of a years-long groundswell movement. What began as a handful of Louisiana graduate students grew into a state-wide conference. While science communication is often a subject mentioned at academic conferences, it is seldom a focal point. Given the multitude of digital platforms and a greater interest in outreach from funding agencies, students are eager to learn more about how to engage the public in their research.

“The catalyst for these workshops since 2020 was a need expressed by many graduate students,” said Vanessa van Heerden, LSG engagement specialist. “While graduate students learn to communicate to other scientists, they often don’t receive training on how to communicate with the public or other audiences. Many have expressed a desire to get better at this, and we wanted to help them in this pursuit.

“SciComm Summit helps develop and practice strategies for communicating their research in a clear, concise manner. The topics and speakers were all identified by the graduate student planning committee. The planning committee was really the engine behind this effort, we just helped get them going,” van Heerden added.



SCI COMM
SUMMIT

Reid Joins Louisiana Sea Grant Legal



Dottie Reid has joined Louisiana Sea Grant (LSG) as the resilience engagement coordinator.

Originally from Oxford, Miss., Reid earned her Bachelor of Arts degree in math and later her Master of Education degree at the University of Mississippi. As the resilience engagement coordinator, Reid will coordinate education and outreach efforts as they pertain to issues connected to community and coastal resilience in Louisiana.

Reid is eager to work with local communities and hopes to become a resource for them. “I am excited to work with an incredible group of experts to further resilience in coastal Louisiana,” Reid said.

Oyster Hatchery Farm Specialist Begins



Alyssa Becnel is the newest Louisiana Sea Grant oyster hatchery farm specialist on Grand Isle. Born in Thibodaux, her family moved to Nacogdoches, Texas, when she was young.

Becnel graduated from the University of North Texas in December of 2023 with a Bachelor of Science degree in biology with a minor in chemistry. After completing a research project on the distribution of Chironomidae, small non-biting flies, in Ecuador, she is excited to switch to bivalves.

“Most of my background knowledge is with freshwater insects, so I’m looking forward to discovering the similarities and differences between those and bivalves.” Becnel said. “I’m also looking forward to turn my passion for science into a career.”

Rana Joins Hatchery Team



Gyanu Rana has joined Louisiana Sea Grant as a research associate at the Michael C. Voisin Oyster Hatchery. Born and raised in Tilottama-14, a municipality in the southwest of Nepal, she completed her Bachelor of Agriculture Science from Tribhuvan University in Paklihawa, Nepal. In December of 2023, Rana earned her master’s degree in aquaculture and aquatic sciences at Kentucky State

University (KSU).

Working as a graduate research assistant at KSU, she gained hands-on experience with Pacific white shrimp, olive flounder and other finfish production, brackish water aquaponics and aquaculture water quality.

“Working as a research associate with the oyster hatchery is a great opportunity to apply my experiences and knowledge to contribute to the growth of the hatchery,” Rana said. “I am excited to learn more about oysters and obtain new skills in the process.”

Hebert Takes New Hatchery Role



Hope Hebert is the newest research associate at the Michael C. Voisin Oyster Hatchery in Grand Isle. Originally from New Orleans, she graduated from Nicholls State University with a bachelor’s degree in marine biology and thought working at the Louisiana Sea Grant-operated hatchery would be an excellent opportunity. Hebert originally started as a student worker and has now moved into a full-time position.

“I am thrilled to be a part of the growth and improvement that the hatchery has been going through,” Hebert said. “I look forward to participating in research projects and contributing my all to make this the best place it can be.”

Education Coordinator Joins LSG



Cheyenne Autin has joined Louisiana Sea Grant as the newest education and outreach coordinator. Autin grew up in Houma and went to school at Louisiana State University. She earned her Bachelor of Science degree in environmental management systems with a concentration in policy analysis. She has hands-on experience working with the Louisiana Department of Wildlife and Fisheries as well as LSU Campus Sustainability. Autin is excited to bring her diverse skill set and fresh perspective while working with the younger generation to promote land stewardship and eco-conscious thinking.

“I’m thrilled to join Louisiana Sea Grant and work alongside individuals who are as passionate about the environment as I am,” she said.

Outhwaite Joins Louisiana Sea Grant Team



Alyssa Outhwaite has joined Louisiana Sea Grant (LSG) as a post doctorate researcher. Born and raised in Georgia, she completed her Bachelor of Science degree in ecology at Augusta University. From there she studied shell formation in oysters at the University of Dayton, Ohio, for her Masters degree in biology. Then, in 2023, while working on her doctorate in marine biology at Texas A&M University, Outhwaite participated in an internship with the National

Oceanic and Atmospheric Administration (NOAA) to work with LSG and the Pointe-au-Chien Indian Tribe (PACIT) on oyster aquaculture. When she graduated in May 2024, she knew she wanted to come back.

“After partnering with Sea Grant to work on the Pointe-au-Chien Tribe aquaculture project, getting to work with both groups again is a dream come true,” Outhwaite said.

Outhwaite will be working with Matt Bethel, LSG’s associate executive director for Research, and PACIT on the Living Shoreline Suitability Model Project. This project aims at creating a master plan for a network of living shorelines to protect and preserve land significant to the tribe.

LaSSO Undergraduate Research Project Funded

A Louisiana Sea Grant/Louisiana Space Grant (LSG/LaSPACE) collaboration began funding an undergraduate research project this fall. The joint program, called Louisiana Space and Sea Grant Opportunity (LaSSO), is modeled after similar, long-established undergraduate research programs at both LSG and LaSPACE.

LSG will fund a project titled: *Quantifying the Role of the Brown Ocean Effect on Landfalling Tropical Systems and Associated Severe Weather Risks along the Louisiana Coast*. The principal investigator is Robert Rohli, professor in the Department of Oceanography and Coastal Sciences at Louisiana State University. Jonathan Russell, an undergraduate student in the College of Coast and Environment, is the student researcher.

The project focuses on quantifying the “brown ocean effect” (BOE) that looks at latent heat release from soil in the Louisiana coastal wetlands. The BOE is hypothesized to support and enhance tropical system intensity. The researchers will use computational modeling techniques to identify possible connections between BOE and severe tropical systems. Utilizing this data can help to predict future impacts from storms and promote infrastructural improvements in coastal Louisiana to promote resiliency.

Each LaSSO project receives \$4,500 in funding. LaSSO is directed at science and engineering students who are working on projects in research areas deemed a priority by both the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA). The intent of LaSSO is to supplement and enhance the undergraduate academic curriculum by providing science/engineering students with a hands-on, mentored research experience relevant to space, earth, coastal and/or marine sciences.



Jonathan Russell

Eight LSU Grad Students Selected as 2024 Van Lopik Scholars

Eight Louisiana State University (LSU) graduate students are 2024 recipients of the Dr. Jack and Annagreta Hojhdal Van Lopik Superior Graduate Student Research Scholarship.

Jack Van Lopik, the first and longest serving executive director of the Louisiana Sea Grant College Program at LSU, and his wife Annagreta Hojhdal Van Lopik, established the scholarship to assist graduate students pursuing advanced degrees in disciplines related to the mission and focus areas of the Louisiana Sea Grant College Program. The intent is to support the Sea Grant mission of furthering the wise and sustainable use of ocean and coastal resources by increasing the number of researchers and the body of knowledge in related fields including but not limited to biology, ecology, geology, fisheries, environmental science, coastal resiliency and design, natural resources economics, environmental education and disaster preparedness and extension.

Applicants must be full-time graduate students at LSU in good academic standing. Scholarship recipients are awarded \$10,000 for one year to cover stipend, conference travel, field travel, field experiences and other expenses.

Howard Dunleavy

Dunleavy is a master's student in the Department of Oceanography and Coastal Sciences. He earned his Bachelor of Science at Virginia Tech.

His project is titled *Long-term Trends in Gulf Fisheries Populations in Response to a Changing Climate*. The fisheries industry in Louisiana brings in nearly \$2 billion annually. His research aims to answer the questions of how Gulf of Mexico fisheries might respond to climate changes and rising aquatic temperatures by analyzing long-term, fishery-independent data collected by the Louisiana Department of Wildlife and Fisheries (LDWF). He envisions his findings will help organizations like LDWF and the Coastal Protection and Restoration Authority (CPRA) improve upon their best management practices for sustainable use of coastal natural resource.

Ebenezer Etsiwah

Etsiwah is pursuing a Master of Science degree in civil engineering in the Department of Civil and Environmental Engineering. He earned his Bachelor of Science degree in chemical engineering from Kwame Nkrumah University of Science and Technology in Kumasi, Ghana.

His research project is titled *A Novel Disinfection Technology for Onsite Wastewater Treatment using UV-LEDs*. Soil conditions of Louisiana, particularly Tangipahoa Parish, make the suitability of onsite wastewater treatment systems – such as septic systems – a challenge. Sewage runoff through ditches and aerated treatment units during intense rainfall has a cumulative impact on nearby water bodies. Recent advances in the use of germicidal ultraviolet light-emitting diodes (LEDs) with wastewater treatment look to be a promising solution. As part of the project, a solar-powered disinfection reactor using LEDs and low doses of chlorine will be developed and tested for its effectiveness with erated treatment units in the parish.

Daniel W. Harris

Harris is a master's student in the Department of Agricultural Economics. He earned his Bachelor of Science degree in agricultural economics at Louisiana State University.

His project is titled *Fishing for Solutions: Compensation for Bycatch Reduction in the Gulf of Mexico Shrimp Fishery*. Bycatch reduction devices (BRDs) are used to reduce unwanted finfish captured in shrimp trawls. Payments for ecosystem services (PES) is compensation to shrimp boats for using BRDs. As part of this project, surveys are collected from commercial shrimpers to determine their willingness to accept compensation to voluntarily place a new BRD in in their nets, with the goal of reducing bycatch. The results of this research may provide evidence to the National Oceanic and Atmospheric Administration (NOAA) that

some commercial shrimpers are willing to voluntarily pull a new BRD for a payment level determined by NOAA.

Madelyn Y. Hathcock

Hathcock is pursuing a Master of Science degree in civil engineering in the Department of Civil and Environmental Engineering. She earned her Bachelor of Science degree in environmental engineering from LSU.



Her project is titled *Hydroxylamine Driven Nitrous Oxide Formation in Wastewater Chlorination*. This research focuses on the discovery of the seemingly unknown reaction between hydroxylamine (NH₂OH) and chlorine used in wastewater treatment. Within the chlorine contact basins of wastewater treatment plants, chlorine is added to the NH₂OH-containing wastewater, which results in the production of nitrous oxide (N₂O) – a potent greenhouse gas – being emitted into the atmosphere. This project is to quantify the overlooked NH₂OH-sourced N₂O gas formation potential in several wastewater sources. This research aims to also establish a method for the quantification of NH₂OH at low detection ranges, as well as standard NH₂OH sample collection, and storage protocols.

Emily F. Hura



Hura is a master's student in the Department of Renewable Natural Resources. She earned her Bachelor of Science degree at Coastal Carolina University in Conway, SC.

Her research project is titled *Sex-specific Differences in Habitat use for Spotted Seatrout in a Dynamic Northern Gulf of Mexico Estuary*. An important species along the northern Gulf of Mexico, spotted seatrout is only harvested recreationally in Louisiana. However, population distributions indicate sexually specific migration patterns based on salinity and water temperature. This in turn can lead to skewed sex-specific harvest rates by anglers, as well as create incorrect estimates of male-female ratios that fishery managers need to assess the size and health of fishery stocks. To help maintain the sustainability of the fishery, Hura plans to develop harvesting best practices outreach materials for anglers to increase sustainability in the spotted seatrout fishery.

Lee A. Potter



Potter is a doctoral student in the Department of Oceanography and Coastal Sciences. He earned his Bachelor of Science in environmental science from Washington College in Chestertown, Maryland. His Master of Science degree in Renewable Natural Resources was completed at LSU.

His project, titled *Climate-Driven Perspective of Phosphorus Dynamics in Coastal Watersheds: Implications for Harmful Algal Blooms*, focuses on phosphorus as an essential nutrient in coastal ecosystems and water quality. When excess phosphorus loads are released in waterways like the Lake Pontchartrain Estuary (LPE), harmful algal blooms (HABs) can arise and impact economies and communities that utilize the estuary. This project aims to determine the magnitude and distribution of phosphorus in the LPE.

This research should enable watershed managers to understand the cause of HABs better and work to predict when they might occur.



Mischa Schultz

Schultz is a doctoral student in the Department of Oceanography and Coastal Sciences. She earned her Master of Science degree in natural resources from the University of Missouri, and a Bachelor of Science degree in natural resources from the University of Georgia.

Schultz's project is titled *Age, Growth and Reproductive Biology of the Greater Amberjack in the Gulf of Mexico*. Declines in several reef fish species in the Gulf of Mexico have led to regulatory actions such as decreased bag limits and seasonal closures. Greater amberjack is a reef fish important

to both commercial and recreational fisheries, yet, like many other reef fish, greater amberjack has been classified as overfished and undergoing overfishing. Despite the recreational importance of the species, there is a lack of scientific studies on greater amberjack in the Gulf of Mexico. With the aim of better understanding greater amberjack reproductive biology, Schultz's research will focus on obtaining information on reproductive biology of the species, as well as age and growth, which are necessary for unbiased estimates of stock productivity.

Daniel A. Sinopoli

Sinopoli is a doctoral student in the Department of Biological Sciences. He earned his Master of Science degree in fish and wildlife biology management from the State University of New York, College of Environmental Science and Forestry, and his Bachelor of Science degree in aquatics and fisheries science from the same institution.

His research project is titled *Re-examining Species Richness in a Living Fossil Lineage (Lepisosteidae)*. In the late 19th century, taxonomists often described similar or identical animals nearly simultaneously, without

instantaneous access to the work of their peers, resulting in redundant descriptions. Ultimately, many of these species' names were invalidated or "sunk," synonymized under a single name. Between 1858 and 1870, five gar species were described that would ultimately become the single spotted gar we know today. The downside to lumping species prior to genetic analyses is that it can invalidate a potentially valid species name by listing it as a synonym. This project uses molecular and geometric morphometric techniques to re-examine the five synonyms of spotted gar described across its distribution to determine if any synonyms are valid species and should be split from true spotted gar.

Extension Agents Honored by USCG

Louisiana Sea Grant/LSU AgCenter extension agents Mark Shirley and Thu Bui were recently presented with the Meritorious Public Service Award by the United States Coast Guard (USCG).

This public service award is given to recognize "unusual courage in advancing the Coast Guard's mission, substantial contribution to the Coast Guard that produced tangible results and specific individual accomplishments that provide unique benefits to the public". It is the second highest award the Coast Guard bestows.

Bui was instrumental in multiple collaborative initiatives, teaming up with Coast Guard Commercial Fishing Vessel Examiners to increase the number of voluntary safety checkups for commercial fishing vessels. Bui also assisted in bridging communication gaps by acting as a Vietnamese translator, aiding both the fishermen and the USCG during exams and investigations. She has been instrumental in helping fishermen complete documentation, translating federal requirements and in general boosting collaboration between commercial fleets and the USCG.

Shirley has also been an extensive asset to furthering the USCG's safety mission. Since 1990, Shirley has supported multiple initiatives with the Coast Guard Marine Safety Unit. His efforts have effectively created a closer working relationship between agencies with positive impacts to commercial vessels in the Gulf of Mexico. Highpoints include the creation of educational programming for USCG Marine Inspectors on requirements of Emergency Position Indicating Radio Beacons (EPIRBs), signaling flares and fire extinguishers on commercial vessels to reduce errors should an emergency arise.

Shirley also contributed to spanning communication gaps between Vietnamese fisherman and the USCG Examiners by recruiting translators to assist both parties on the docks. Through his dedication, quality control of USCG documentation was meaningfully improved, reducing workload and expediting delivery of necessary permits.

"Their actions are most heartily commended and are in keeping with the highest traditions of public service," USCG Capt. Jason Franz said.



Mark Shirley, Harry March-USCG safety examiner and Thu Bui.

Off-bottom Oyster Culture Research Proposal Funded

Louisiana Sea Grant (LSG) is the recipient of a \$159,000 grant from NOAA's National Sea Grant Office (NSGO) to support and improve aquaculture. Twenty-four such grants that focus on aquaculture research, extension, education and communication activities, totaling \$4.7 million, were recently announced.

The LSG grant is titled *Developing a Quality Management Package for Recordkeeping and Seed Conditioning in an Oyster Nursery*. Elizabeth Robinson, director of LSG's oyster lab on Grand Isle, is principal investigator (PI). Sarah Bodenstein, a postdoctoral researcher at the lab, is Co-PI.

Their project is designed to aid the off-bottom oyster farming industry in the Gulf of Mexico region. Off-bottom farmers rely on hatcheries to produce oyster seed and larvae. A lack of hatcheries – there are 13 across the Gulf, with five being university or state-run – can be detrimental to oyster farmers as the availability of hatchery-produced seed becomes a limiting factor. One potential solution is for farmers to build



Oyster seed.

their own nurseries and have multiple life stages of oysters in-house at any given time to reduce reliance on outside operations.

Due to the variety of nursery systems, creating a standardized nursery-development package is difficult. One solution, though, is to create nursery-development tools that rely on the principles of harmonization. To establish harmonization across nurseries, integration of quality management (QM) is key – ensuring an end-product of consistent quality and reproducibility across multiple nursery facilities.

Robinson and Bodenstein intend to develop QM techniques for oyster nurseries by creating a package that includes open-hardware recordkeeping devices designed to measure and count oyster seed in upweller systems. And, researchers will conduct studies to improve seed conditioning practices in nurseries, and create seed conditioning guidelines to reduce oyster mortality on farms. This package should enable off-bottom oyster farmers to grow their own seed efficiently in nurseries and increase oyster survival on their farms.



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Shrimply wishing you and yours a happy holiday

