

LOUISIANA SEA GRANT COLLEGE PROGRAM



Request for Proposals FY 2022-2023 Competitive Research Program

Funding Cycle: *Two-year funding period from February 1, 2022 to January 31, 2024. About \$750,000/yr available for research projects.*

Statements of Interest (Sol): Sol is required and due by 5 p.m. CST on Monday, March 8, 2021.

Full Proposals: Full Proposals will only be accepted if a Sol was submitted. Full Proposals due on Friday, June 4, 2021 by 5 p.m. CDT.

Sea Grant RFP Information Webinar: An informational webinar will be hosted on Wednesday, January 13, 2021, from 1:30-3:00 p.m. CST to discuss this funding opportunity. Please visit Louisiana Sea Grant's (LASG) funding webpage (www.laseagrant.org/research/rfp) for instructions on how to participate in the webinar. The webinar will also explain the use of the [eSeaGrant](#) proposal submission system. The webinar will be recorded, and a link to this recording will be posted on Louisiana Sea Grant's funding webpage.

Application Instructions: This solicitation contains specific instructions on the format and content that must be adhered to in each Sol (see Sections [VI](#) and [VII](#) below). Failure to follow the instructions outlined in the full text below is grounds for rejecting a Sol without review.

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SCHEDULE AND DELIVERABLES

Early-January 2021	— Request for Statements of Interest issued
January 13, 2021	— RFP Question and Answer Webinar
March 8, 2021	— Statements of Interest due
Mid-April 2021	— Statements of Interest reviewed; PIs notified
June 4, 2021	— Full Proposals due
Late-August 2021	— Final Proposal selection; PIs notified
Late-October 2021	— Omnibus research proposals submitted to NOAA
February 1, 2022	— Start date of research project funding cycle
January 31, 2024	— End date of research funding cycle

Louisiana Sea Grant FY 2022-2023 Competitive Research Request for Proposals

I. COMPETITIVE RESEARCH PROGRAM SUMMARY

A. **Synopsis of Program:** For this funding opportunity, [Louisiana Sea Grant](#) (LASG) seeks relevant and integrated research that provides natural science and socioeconomic information, design innovation, as well as policy guidance, for fisheries management, climate change adaptation, resilient communities and ecosystem restoration to enhance coastal systems and communities in Louisiana. Coastal Louisiana offers a laboratory of restoration, protection and adaptation projects that together with laboratory studies, field investigations, models, and/or socioeconomic tools and synthesis products, offer innovative opportunities for research projects. Such innovative research approaches should improve understanding of coastal ecosystem function and help predict the responses of ecosystems and communities to changing climate and/or planning activities. Statements of Interest (Sol) must include an outreach plan that demonstrates a connection with user groups, such as resource managers, communities, and/or informal and formal learners. Proposed projects should be for a 24-month maximum duration (but may be less than 24 months). PIs should focus on outcomes that can be achieved during this timeframe.

The environmental crises of Louisiana's deltaic plain — which includes the Mississippi River Delta and Chenier Plain — include some of the most challenging coastal issues in North America. This is occurring while our working coast contributes to the nation's economy with the largest fishery (commercial and recreational) in the contiguous U.S., the nation's largest supply of domestic energy and is one of the largest port complexes by tonnage in the world. Louisiana has some of the largest restoration, protection and community development projects in the nation that require a systems approach to providing relevant and comprehensive solutions.

In addition, the COVID-19 pandemic and an unprecedented hurricane season in 2020 have severely affected many aspects of life in Louisiana. Many resulting challenges are having far-reaching impacts on the communities that Louisiana Sea Grant serves, including, but not limited to, economic impacts to the seafood sector and tourism industries, and radical changes to the education system at all levels. LASG is committed to supporting our program's response to these challenges by investing in research, outreach and education efforts to support research related to capacity to recover, respond and improve resilience to these events and other disasters that may continue to challenge the stakeholders we serve. Therefore, LASG encourages the development of innovations within the context of the four focus areas described below that also result in increased capacity for coastal resilience for Louisiana's coastal ecosystems, communities and fishing industry.

This request for competitive research proposals by LASG seeks to promote interdisciplinary solutions using university research to address complex and often interrelated ecological, economic and social challenges that affect the state's adaptation strategies. The magnitude of the challenges in this dynamic and vulnerable natural and social landscape requires that limited resources available to LASG be distributed utilizing practical and well-defined approaches that are linked to community engagement through our outreach program.

This research competition challenges the university community to develop integrated research teams to explore and discover innovative best management practices for more resilient ecosystems, fisheries, communities and economies. Research projects within Louisiana's coastal region should focus on discovery that integrates knowledge across disciplines that can be applied to one or more of our four focus areas of [LASG's Strategic Plan](#): 1) [Healthy Coastal](#)

[Ecosystems](#); 2) [Sustainable Fisheries and Aquaculture](#), 3) [Resilient Communities and Economies](#); 4) [Environmental Literacy and Workforce Development](#). This RFP contains a listing of relevant research questions and information about the format and timetable for submitting proposals. Proposals must have clear relevancy to Louisiana Sea Grant's research priorities ([see Research Priorities in Section V](#)), support graduate student education, and include a clear outreach plan for disseminating results to targeted audiences. In addition, LASG encourages applicants to clearly identify how proposed research will have broader societal impacts in Louisiana including stakeholders from underrepresented or underserved communities (e.g., people and communities with unique cultural backgrounds, circumstances, needs, perspectives and ways of thinking).

The National Sea Grant College Program champions [diversity, equity and inclusion \(DEI\)](#) by recruiting, retaining and preparing a diverse workforce, and proactively engaging and serving the diverse populations of coastal communities. Louisiana Sea Grant is committed to building inclusive research, extension, communication and education programs that serve people with unique backgrounds, circumstances, needs, perspectives and ways of thinking. We encourage applicants of all ages, races, ethnicities, national origins, gender identities, sexual orientations, disabilities, cultures, religions, citizenship types, marital statuses, education levels, job classifications, veteran status types, income and socioeconomic status types to apply for this competitive research opportunity.

B. Proposal Types: Louisiana Sea Grant is continuing its program to support integrated research teams (IR&E Projects), while also maintaining a limited investment in traditional research projects during this funding cycle (CORE Projects). There are specific sections with instructions on how to prepare an Sol for each of these types of awards. Please note the specific requirements for each award; while the body of the text is similar, there are distinct differences in approaches and developing budget specifications.

a. ***Integrated Research and Engagement Project(s) (IR&E)***: This is a competition to fund interdisciplinary research teams that build integrated approaches across social, engineering, design and environmental disciplines that address a systems approach to complex issues affecting coastal Louisiana.

- i. Contingent on the availability of funds, and quality of proposals, LASG anticipates funding up to four projects at about \$210,000 per award per year;
- ii. Teams should consider three to four researchers representing interdisciplinary approaches to problem solving;
- iii. Research teams are encouraged to support two to four LASG Graduate Research Scholars from different departments to reflect interdisciplinary approaches in their research budgets per year of funding (see note below that describes Graduate Research Scholars Program);
- iv. The research proposal must contain a clearly defined outreach program.
- v. See [Section VI](#) below for specific instructions on preparing an IR&E Sol.

b. ***CORE Research Projects***: These are traditional research projects on issues currently affecting coastal Louisiana's ecosystems, fisheries and seafood production, community resilience and environmental literacy. CORE research proposals are projects that focus on one or more of the following four priority areas: (1) Healthy Coastal Ecosystems; (2) Resilient Communities and Economies; (3) Sustainable Fisheries and Aquaculture; and (4) Environmental Literacy & Workforce Development.

- i. Contingent on the availability of funds, and number of IR&E projects funded, LASG anticipates funding selected projects at about \$70,000 per award per year.
- ii. One to two researchers representing traditional approaches to problem solving;

- iii. Research teams are encouraged to support one LASG Graduate Research Scholar in their research budget per year of funding (see [Graduate Research Scholars Program](#) description below);
- iv. The research proposal must contain a clearly defined outreach program.
- v. See [Section VII](#) below for specific instructions on preparing a CORE Sol.

C. **Eligibility Information:** All Louisiana public institutions of higher education and those independent institutions of higher education which are members of the Louisiana Association of Independent Colleges and Universities are eligible to compete under the Louisiana Sea Grant Competitive Research Program. Other institutions are encouraged to collaborate with university researchers by supporting internship opportunities for students who may be supported by LASG funds. Such persons and institutions may be listed as Co-PI of LASG research projects.

- Single investigators and multiple investigator research teams from different institutions are encouraged to apply. LASG encourages broad participation from the natural and social sciences, engineering, design and policy research communities within Louisiana.
- Applicants with poor prior performance in completing progress and final reports on previous LASG-funded projects may be deemed ineligible even if their current submission receives favorable reviews.
- Only PIs who submit a Statement of Interest (Sol) will be eligible to submit a Full Proposal, but all investigators who submit a timely and complete Sol are eligible to submit a Full Proposal regardless of the recommendation made following the Sol review.

II. SUBMISSION REQUIREMENTS

PIs must follow the specific instructions regarding the Sol format as outlined in these requirements. Specific information for each respective type of proposal is provided below for [IR&E](#) or [CORE](#) Projects (Sections VI and VII). Those proposals that do not follow these instructions will be rejected.

A. **eSeaGrant:** LASG uses the proposal management system, accessible through the following link - www.laseagrantdb.org for all proposal submissions. Emailed, faxed and mailed proposals will not be accepted. Forms to complete for each required Sol component listed in the specific instructions below are available in eSeaGrant unless otherwise noted.

- LASG requires that all applicants requesting funding use an online project management system called eSeaGrant. This system requires an applicant to register before submitting an Sol.
- After submitting an Sol through eSeaGrant you will receive a confirmation email. If you do not receive a confirmation email, please contact Katie Lea (klea@lsu.edu). Changes can be made to the Sol until the closing date and time. Changes can be made to the Sol until the closing date and time but you **must** re-submit an electronic version of the updated Sol via the eSeaGrant system.
- **The deadline for Sol submission is March 8, 2021 at 5:00 p.m. CST. Statements of Interest not submitted to eSeaGrant by the deadline will not be accepted.** Researchers are reminded to conform to the submission policies of their host institutions, particularly with regards to obtaining institutional endorsements and requirements. We will not be able to extend the deadline for anyone for any reason. Application instructions and schedule for full proposals will be provided later.

B. **Important Notification to Principal Investigators:**

- Funding of all proposals is contingent upon Louisiana Sea Grant's allocation from NOAA in the FY2022 and FY2023 federal budgets (each of the two-year research projects are funded by separate annual federal funding cycles). Modification in the number of, and funding for, individual proposals may be made based upon the final omnibus budget awarded to Louisiana Sea Grant from NOAA.
- PIs must provide a strong rationale for how their proposed research will be applied to solving complex issues of coastal Louisiana by affecting an informed public, design applications to ecosystems and communities, strategic adaptations, natural resource and community development policy and/or management decisions, and how that information will be communicated to end users (including community and/or agency engagement).
- Louisiana Sea Grant encourages Principal Investigators (PIs) to read this document carefully and direct questions concerning the RFP process or eSeaGrant requirements to the [Louisiana Sea Grant Office contacts](#) early in the Statement of Interest development process.
- **Cost Sharing Requirements:** 50 percent non-federal cost match is required for each proposal (\$1 non-federal match for every \$2 of Sea Grant funding). In addition, the cumulative match for each year of the grant must be at least 50% of the cumulative federal request for that year. Principal Investigators are not required to document the source of the project match until submitting a full proposal.
- **Indirect Cost (F&A):** Proposals from LSU use the off-campus rate of 26 percent MTDC. Proposals from other institutions should use their respective F&A rates.

C. **Louisiana Sea Grant Graduate Research Scholars:** LASG continues to place a strong emphasis in graduate student education as part of our competitive research program. Proposals submitted to LASG's competitive research program must include funding for graduate student support. A request for Graduate Research Scholar (GRS) funding is required as part of a final proposal. Statements of Interest should indicate the number of students supported; in the **full proposal**, Principal Investigators will be asked to clearly define the responsibilities of the GRS student to the research project proposed and define the academic program the student will be participating. Additionally, the GRS student must participate in professional development opportunities through [LASG's LaDIA program](#), which focuses on science communication, science-to-management processes, innovative outreach/engagement and other Sea Grant activities and mission priorities. LASG encourages applicants to recruit and engage with students from underrepresented racial and ethnic groups, individuals with disabilities and individuals from economically or educationally disadvantaged backgrounds that have inhibited their ability to pursue a career in STEM. Outreach partners should be engaged early in the proposal development process and identified in the Statement of Interest.

III. EVALUATION PROCESS

Louisiana Sea Grant will conduct an extensive review of Statement of Interest applications to determine those submissions best qualified to compete for inclusion in the FY2022-2023 Louisiana Sea Grant College Omnibus research projects to NOAA.

Statements of Interest that receive favorable reviews will be encouraged to submit a Full Proposal. All investigators who submit a timely and complete Sol may submit a Full Proposal, however, Sols that are not encouraged to submit a Full Proposal are less likely to be successful at the Full Proposal stage.

There is approximately \$750,000 annually available for this research competition, which will fund a combination of IR&E and/or CORE research proposals. **Higher priority will be given to IR&E research proposals that have merit (relevance and approach) as they are deemed more effective to meet the interdisciplinary needs of solutions to the state's coastal issues.**

Reviewers will be asked to evaluate and rank each Sol (as not recommended, recommended, or highly recommended) using the following criteria:

- 1) Relevance and/or importance and applicability of proposed project to Louisiana Sea Grant's strategic research foci for this RFP (**relevance will be 50 percent of the criteria evaluated at the Sol stage**)
- 2) Technical/scientific merit
- 3) Outreach and education plan
- 4) Overall qualifications of applicant
- 5) Project costs

LASG Program decisions used to encourage a Sol for Full Proposal status is as follows:

- External Review Panel evaluations
- Louisiana Sea Grant's Marine Extension Agents and Specialists evaluations (only those determined free from any conflict of interest will be involved in the review)
- For Integrated Research and Engagement (IR&E) submissions, the strength of the interdisciplinary approach.
- Programmatic objectives, needs, and priorities of the Program

All Statements of Interest received by the submission deadline will be evaluated individually in accordance with the above evaluation criteria by LASG's Extension staff and an external review panel. Both federal and non-federal experts may be used in this process. The external review panel will be comprised of individuals having expertise in different areas so that the panel, as a whole, covers a range of scientific and resource management expertise related to this opportunity.

The NOAA Program Officer assigned to LASG will neither vote nor score applications as part of the independent peer panel. Once proposals are scored by the external review panel, LASG will determine which Sols will be encouraged to submit a full proposal. After the Sol review process is completed, LASG will contact all PIs who have submitted Sols to provide them their review results.

IV. RESEARCH COMPETITION WEBINAR

One webinar will be held to discuss this LASG research funding opportunity on January 13, 2021, from 1:30-3:00 p.m. CST. Please visit the LASG funding webpage (www.laseagrant.org/research/rfp) for instructions on how to participate in the webinar. The webinar will be recorded and posted on the LASG funding webpage afterwards.

V. LOUISIANA STRATEGIC RESEARCH PRIORITIES

Louisiana Sea Grant is soliciting research proposals in IR&E and CORE approaches that integrate across the following four focus areas:

- A. [Healthy Coastal Ecosystems](#)
- B. [Sustainable Fisheries and Aquaculture](#)
- C. [Resilient Communities and Economies](#)
- D. [Environmental Literacy and Workforce Development](#)

A. Focus Area: HEALTHY COASTAL ECOSYSTEMS

The maintenance and restoration of healthy coastal ecosystems is fundamental to economies and quality of life along Louisiana's coast. Urban development, overfishing, sea level rise, subsidence and other factors have resulted in wetland loss, water quality degradation and hypoxia, a decline of fisheries, proliferation of invasive species, reduced storm and surge protection, and a host of other challenges to sustainable working coast. Louisiana's invaluable coastal ecosystems have suffered severely from the combined effects of human activities and nature's whims.

To help inform projects that may enhance the state's coastal ecosystems, LASG will promote innovative research and outreach that increases our understanding of ecosystem function and implementation of appropriate designs for restoring lost function. LASG emphasizes three topics under the Healthy Coastal Ecosystem focus area: water quality, coastal restoration and coastal ecosystem services in the context of anticipated climate change impacts. Research goals, outcomes and objectives in this area relate to protecting, restoring and conserving natural resources and developing mechanisms to help natural resource managers make optimal decisions. **LASG encourages Healthy Coastal Ecosystems research with emphasis on the following areas:**

- Develop and share scientific understanding, decision-support tools, technologies and approaches to protect, restore and improve water quality in Louisiana's wetlands, rivers and estuaries.
- Advancing and developing practices, technologies and systems designed to sustain the habitat, diversity and the abundance of coastal ecosystems in Louisiana that are being affected by changes from relative sea-level rise and restoration activities.
- Investigate adaptation strategies to enhance resilient ecosystems in the context of changing conditions to include the effects of increased river flow on food webs in receiving basins, climate fluctuations and restoration activities on animal migrations in estuaries utilizing coastal habitats, etc.
- Develop and share improved predictions of coastal processes (e.g. interior ponding, subsidence, sand shoreline dynamics and shore edge erosion of the marsh platform) under normal and storm conditions, factoring in projected sea-level rise scenarios and other climate change-related effects on these processes over time.

Outcomes may include but are not limited to: greater scientific understanding and technological designs to inform and improve restoration and management of Louisiana's water resources; improved coordination of Louisiana coastal and river watershed research to fill information gaps needed for decision-making; development of a framework to help guide coastal protection and restoration efforts that support sustainable estuaries given anticipated climate and land use changes; development of natural and/or bioengineered reef and shoreline protection techniques that enhance coastal restoration and protection project efforts; and improved capability of predictive models that establish the relative contribution of factors, including physical climatic processes, which drive coastal change; and adaptation strategies of site selection for restoration activities.

B. Focus Area: SUSTAINABLE FISHERIES AND AQUACULTURE

Louisiana has one of the largest commercial and recreational fisheries in the United States, occurring in a coastal landscape that is experiencing one of the highest rates of wetland habitat

loss. Simultaneously seafood consumption nationwide has been on the rise, but global markets and workforce issues present risks to an important part of our economy and culture. LASG, through its research, extension and education activities, and work with industry partners, has helped to stabilize and improve many sectors of the state's fisheries seafood producing industries. **LASG encourages research in Sustainable Fisheries and Aquaculture with emphasis on the following areas:**

- Identify ways to maximize quality, sustainability, value, safety and use of Louisiana seafood, including harvesting, aquaculture opportunities, processing, marketing strategies and development of underutilized fisheries, as well as local micro-processing capabilities.
- Develop and promote understanding of: the effects of increased river flow on food webs in receiving basins; new fishery adaptation strategies and aquaculture opportunities that could arise from coastal restoration (e.g., river diversions); and climate change impacts (e.g., ocean acidification).
- NOAA has increased research funding available for aquaculture to increase seafood production. LASG is particularly interested in aquaculture projects that meet the objectives as outlined in the national initiative that can be found at https://seagrant.noaa.gov/Portals/0/Documents/Handouts/AquacultureVisionNOAA_March2016.pdf

Outcomes may include but are not limited to: the Louisiana seafood industry employs technologies and reinforces marketing strategies to ensure safe and sustainable seafood and products; consumers have access to and purchase safe and sustainable seafood products; increased understanding and technological solutions aid aquaculture management and production; innovative solutions that increase understanding of climate impacts on fisheries and aquaculture are available and accessible to resource managers and fishing and aquaculture supply chain management; resource managers and fishing and aquaculture communities have access to science and tools to increase their capability to adapt to future resource management needs.

C. Focus Area: RESILIENT COMMUNITIES AND ECONOMIES

Louisiana Sea Grant's resilient communities and economies efforts focus on four topic areas: climate change adaptation, community sustainability, pollution prevention and water resources. The anticipated outcomes will result in increased availability of tools and information, and local and state implementation of related best management practices. Climate change is among the top environmental challenges facing coastal Louisiana and impacts both aquatic and terrestrial ecosystems. It also poses threats to human lives, environments and economies. LASG will continue to help communities and individuals plan for and adapt to projected climate changes, considering the vulnerability and extent of uncertainty in many of the projections. **LASG encourages Resilient Communities and Economies research with emphasis on the following areas:**

- Research innovative designs that aid comprehensive planning and adaptive management strategies to enhance community resilience and improve outreach that increases understanding of how these strategies are communicated between local community residents and policy makers; identify best practices and improved methods for facilitating the reciprocal exchange of knowledge among residents, community leaders, researchers and policy makers.
- Research adaptation capacities and mitigation strategies that promote community resilience to climate-related coastal hazards and restoration activities with a focus on incorporating traditional ecological knowledge (TEK) to enhance community resiliency

and adaptive capacity with approaches that take into consideration impacts on diverse, underserved and underrepresented populations.

- Research relationships between ecosystem services, quality of life, and community resilience within coastal habitats, particularly pertaining to habitat changes and shifts due to projected climate change and/or restoration project impacts.
- Investigate existing water policy and explore more beneficial alternatives that include issues of ownership in changing environments and conditions, and planning and implementation related to public safety and risk.
- Develop and share best management practices (BMPs) and measures to protect and manage water resources.

Outcomes may include but are not limited to: resources are available to coastal residents to be able to prepare, respond and adapt to changing environmental conditions and coastal hazards; coastal residents and leadership employ adaptive management strategies and apply tools to engage diverse members of the community to improve resilience and community sustainability; resources are available to help coastal residents and leadership better understand ecosystem services and associated values of coastal habitats in areas experiencing ongoing or predicted habitat shifts and coastal restoration activities; information is available that clarifies the linkages and feedbacks between the natural and human components to evaluate long-term coastal resilience; improved outreach and decision-support tools will help guide planning processes related to the state's water resources; sound science, data, tools and services are available to coastal residents to better design adaptation strategies, develop informed decisions and anticipate changes in water quality and quantity; and communities have access to science, tools, and technologies to protect and sustain water resources and make informed decisions.

D. Focus Area: ENVIRONMENTAL LITERACY AND WORKFORCE DEVELOPMENT

The myriad challenges facing coastal Louisiana require an environmentally literate population to make informed decisions. Similarly, to effectively address these challenges a well-trained workforce with a fundamental understanding of the ecological, economic, aesthetic, cultural and ethical values of Louisiana resources is required. Classroom and community engagement programs should be developed for all learners, consider K-gray audiences and include underserved and underrepresented populations. Materials developed for K-12 classrooms should address state and federal education standards and seek to encompass Louisiana-based phenomena. **LASG encourages Environmental Literacy and Workforce Development research with emphasis on the following areas:**

- Research methodologies to engage the public in community adaptive management planning processes given changing conditions by providing best available information.
- Research in instruction methods to increase effective environmental literacy for Louisiana's K-12 teachers and students through education and outreach programs.
- Research in communication and engagement methodologies to increase opportunities for Louisiana's undergraduate and graduate students, as well as university faculty, to gain knowledge and experience in the science and management of Louisiana's watershed, coastal and marine resources.
- Research methodologies in preparing a responsive and diverse workforce to advance and benefit from sectors that support the needs of Louisiana's coastal communities and ecosystems (e.g. industry, research, government, etc.), and to adapt and thrive in changing conditions.

Outcomes may include but are not limited to: community science initiatives improving knowledge of Louisiana's coastal ecosystems, knowledge and tools for K-12 teacher to instruct

students about Louisiana-specific phenomena, contributions to adaptive management for increased flood risk planning, professional development opportunities that increase literacy and preparedness for working on science and policy issues, fostering a sense of stewarding for coastal resources and developing materials and pathways so that existing and future workforces can adapt and thrive to changing conditions.

VI. IR&E PROJECT: Instructions for Preparing a Statement of Interest

A. IR&E Project Description: Louisiana Sea Grant will support three to four Integrated Research and Engagement (IR&E) projects that lead to creative problem-solving approaches using interdisciplinary techniques that inform planning, policy and natural resource management in addressing complex issues in coastal Louisiana. Academic, as well as local, state and federal management agency partners, have helped identify several research topics that focus on particularly challenging coastal resource management and policy issues (described in Section II above). As noted by several sponsored research programs, research teams that involve interdisciplinary capabilities are preferred to address the full spectrum of natural, social, engineering, policy and design issues associated with complex coastal issues. The Louisiana Sea Grant program has historically embraced a systems approach to promote more integrated research solutions. Many solutions are pieced together from Core research projects that address single aspects of a need identified in our strategic plan.

We are emphasizing more integrated research and engagement projects that formulate research teams that initiate interdisciplinary approaches during the proposal process that can be evaluated by an external review panel for merit in both relevance and scientific approach. These integrated research projects can better inform end users on how solutions can be engaged to provide impact to solving problems. LASG encourages interdisciplinary teams that not only formulate innovative approaches to faculty research practices, but also include graduate students from different disciplines to learn how to perform research in a team environment.

For example, there is interest in community collaborative research that brings together local knowledge and observation with academic rigor of university researchers. That combination, along with strong field research, should result in recommendations that provide adaptation strategies to resource managers, industry leaders, government officials and other groups. Potential IR&E projects might address community adaptation to climate change, supply chain management of fisheries (from the marsh to market applications), fisheries ecology and stock assessments, water resources engineering and policy, economic resilience and insurability, regional planning alternatives, and tradeoffs involving coastal restoration and protection design options (these are suggested as examples). LASG is particularly interested in integrated aquaculture projects that would contribute to promoting adaptation strategies for our fishing industry facing future environmental changes and supply chain management issues. In addition, we describe in our overview an emphasis on using disturbances from COVID-19 and 2020 hurricane season to develop integrated research projects that address critical community resilience issues exposed by these events.

Successful IR&E proposals will incorporate multiple disciplinary approaches to address the complex dynamics of coastal issues. When developing IR&E proposals, investigators are encouraged to look for synergies with other research and outreach activities that may provide data, infrastructure support, and/or community engagement. **Outreach partners should be engaged early in the proposal development process and identified in the Statement of Interest.**

IR&E projects are considered research teams made up of several Principal Investigators from different disciplines and thus diverse research organizations (within and/or among universities). As such, it is very important to build collaborative proposal process that clearly identify a Lead Principal Investigator along with Co-Principal Investigators, research units (within and/or among universities) and budgets to support effort from each Principal Investigator. The Sol Project Cover Page is designed to identify Principal Investigators and research units that will make up the **research team** and describe funding request for each Principal Investigator as well as total funding for the research team. Each IR&E project needs to identify a Principal Investigator as the research team lead. Here are a couple of guidelines that are specific to IR&E applications for Sol.

1. Teams should consider three to four researchers representing interdisciplinary approaches to problem solving;
2. The Lead Principal Investigator will submit the IR&E Sol content in Items #1-5 (see section VII B below) that make up the BODY of the proposed research team project to eSeaGrant. The Lead PI will then be able to link additional Co-PIs to the research team by using the 'delegate' function of eSeaGrant (instructions are given below). Items #1-5 in the Body of the Sol describe the efforts of a research team for an IR&E project. Item #6 is the Budget Form.
3. The Lead PI will submit a Budget Form (Item #6) only for the portion of the total budget that describes the Lead PI effort. By linking other Co-PIs to the Sol, each Co-PI will only have to submit a Budget Form (Item #6) that describes funding for their specific effort as part of the research team.
4. The Lead PI will prepare and submit the Project Cover Page form (item #1 below) that will identify each Co-PI of the IR&E research team and budget requests for federal funds, cost share funds and total funds each project year for the Lead PI and each Co-PI. The summary funding tables on the Project Cover Page also identify the total research team budget requests for each year of the project. The Co-PIs linked to an IR&E project do not have to submit the Project Cover Page (item #1 below); they only have to submit a budget for their portion of the IR&E project using Budget Form (item #6).
5. Research teams are encouraged to support two to four LASG Graduate Research Scholars in their budget per year of funding; and graduate students should also reflect interdisciplinary capacity of the IR&E project.
6. The research proposal must contain a clearly defined outreach program. Researchers must work closely with local stakeholders and/or decision-makers to conduct a comprehensive analysis of relevant natural and social scientific information that impacts planning, policy and natural resource management. The purpose of a focus on IR&E proposals is to ultimately develop information, tools and partnerships that will help decision-makers better address the complexity of focus issues in LASG Strategic Plan.
7. Linking Co-PI in eSeaGrant (delegation function): In order to submit a Sol, you must use Louisiana Sea Grant's electronic database system (eSeaGrant – www.laseagrantdb.org). To begin, the Lead PI of an IR&E Sol must register in eSeaGrant using the second tab on the page. Once registered, the Lead PI can start the Sol. The Lead PI will use the following steps to link other Co-PIs to the project, which gives them access to the Sol.
 - A. Make sure all other Co-PIs are registered individually on eSeaGrant.
 - B. The Lead PI opens the "Start Here" tab.
 - C. Click the down arrow on the left-hand top side under "Actions" and add each Co-PI as a delegate.
 - D. The Lead PI fills in items #1-5 for the Sol, and then fills in the Budget Form (item #6) that describes funding for the Lead PI effort.

- E. The Lead PI needs to make sure they fill in the funding table at bottom of Project Cover Page (item #1) that describes the federal funding, cost share funding and total funding requests for each year for the Lead PI and all the Co-PIs. It is the responsibility of the Lead PI to provide this information – it is not captured from the individual budget forms or generated by eSeaGrant.
- F. The Co-PIs only have to submit a Budget Form that describes funding for their individual efforts to the IR&E project (item #6).
- G. Once all Co-PIs have been delegated access, each Co-PI can upload their own budget specific to their research unit of the proposal. This should be the only section with multiple submissions when submitting an IR&E Sol.

B. Statement of Interest Outline (items #1-5 are submitted as Sol only by the Lead PI; Co-PIs linked to the IR&E only have to submit budget form (item #6) specific to their project effort)

1. Sol Project Cover Page
2. Body of the Sol should be limited to two pages single-spaced, Each Sol narrative must include the following sections in this sequence in a combined PDF document that is uploaded in eSeaGrant:
 - Problem Statement
 - Objectives
 - Methods
 - Rationale and Anticipated Benefits
 - Outreach plan
 - Personnel Description
3. References
4. Two-page curriculum vitae of the PI and each Co-PI
5. A list of recommended peer reviewers (at least 4)
6. The Sol preliminary budget estimate (specific to effort of Lead PI in the Sol submitted; Co-PI linked to IR&E research team only have to submit this budget form that describes their specific effort on the project). The total federal, cost shared, and total project budget requests each year from each PI's budget form should match the corresponding individual PI funding request on the Sol Project Cover Page.

C. Body of Sol Formatting

Use at least 11-point type size. Left justified only, and one carriage return between paragraphs. All margins should be one inch. The body of the Statement of Interest should be typed continuously (that is, do not start a new page for each new section). Figures and tables are **not** included in the two-page single-spaced limit required for the narrative body of the Statement of Interest and should be uploaded separately in eSeaGrant (but referenced in the narrative body of the Sol).

D. Evaluation of Sol Components

Statements of Interest should present a succinct but sufficiently detailed synopsis of the project in order to evaluate its **relevance** to the Louisiana Sea Grant Strategic Research Priorities, its technical feasibility, its outreach and potential impact on problem solving and the PIs' qualifications.

E. Descriptions of each Sol Component

1. **Sol Project Cover Page:** The Project Cover Page has specific information required to properly identify the type of proposal (IR&E or Core), Co-PIs that make up the research team, Co-PI budgets and total IR&E project costs.
2. **Body of the Statement of Interest**
The body of the Sol is limited to **two pages of single-spaced text**. Write your Statement of Interest using the headings in the sequence listed below following the formatting instructions above.

Problem Statement

Indicate the specific problem addressed by the proposed effort and provide sufficient background information to allow a preliminary assessment of the relationship of the problem to the research questions posed in this RFP (this will be used to help define relevance of the IR&E project to LASG strategic plan).

Objectives

State the objectives of the research effort as they would appear in a full proposal. Research hypotheses should be clearly stated.

Methods

Describe the proposed methods so that reviewers are able to make a preliminary determination of the appropriateness of the proposed approach, including statistical analyses, engineering principles, and design approaches, for achieving the stated objectives.

Rationale and Anticipated Benefits

Briefly explain the anticipated results and potential implications of those results in relation to Sea Grant program objectives (again, this helps to define relevance of the project to LASG).

Outreach Plan

There are several options available in achieving effective outreach components to your proposal, and Louisiana Sea Grant strongly encourages you to have some contact with an outreach partner prior to the submission of your Statement of Interest, which may include engaging Louisiana Sea Grant's Extension Agents & Specialists, but not limited to extension partnering (LASG Agents & Specialists included in any part of a proposed project will not be included in the review process for that proposal). Other outreach partners might include state and federal outreach committees, education specialists, NGOs, local authorities, etc. These outreach partners possess both important technical expertise on a wide range of subject matter and knowledge of local geographic, social and governmental circumstances; and they can prove invaluable to the successful planning and development of your project. Alternatively, when used to their fullest capabilities, partnerships with private businesses, non-governmental organizations or state agencies can also contribute greatly to the impact and outreach potential of your project. **Outreach partners should be engaged early in the proposal development process and identified in the Statement of Interest. LASG is particularly interested in receiving proposals for this opportunity that include broader societal impacts to Louisiana coastal communities including stakeholders from underrepresented or underserved communities. Some questions to consider related to inclusion of broader societal impacts through outreach: Does the proposed work appear to lead to real solutions to real problems? Is the proposed work likely to make a**

positive difference to society and stakeholders? Does the proposed work seem likely to influence resource/coastal/ocean management by businesses and agencies? Does the proposed work appear to be applicable beyond a specific local community? Can it raise public awareness/education about the problem/solutions addressed? Does it align with Sea Grant thematic areas and research objectives?

Personnel Description

List names of PI and Co-PIs, senior technical staff and students; briefly outline their roles in the project.

Sea Grant has particular mission dedicated to workforce development through funding student participation on competitive research projects. Sols that do not demonstrate student contributions to proposed project will be given low priority.

3. REFERENCES

List references cited in the narrative body of the Sol via the appropriate form in eSeaGrant.

4. CURRICULUM VITAE

Provide a **two-page** (maximum) curriculum vitae (CV) for each PI and Co-PI. An NSF type CV is recommended that includes the following sections: education, professional experience, five recent publications relevant to proposed research, and synergistic (professional) activities. The CVs will be uploaded via the appropriate tab in eSeaGrant.

5. LIST OF (4) RECOMMENDED PEER REVIEWERS

6. STATEMENT OF INTEREST BUDGET FORM

Fill out the budget form provided in eSeaGrant. For IR&E proposals, the Lead PI and each Co-PI linked to an IR&E project should submit a budget form that describes their component of the total research team project. The Project Cover Page will have the federal funding requests for each Co-PI and a total budget request for the research team. Note that project team support is anticipated to be about \$210,000/year for IR&E proposals.

**For all funded IR&E projects, LSU will issue a separate subaward to each participating institution. LSU will recover F&A at 26% on the first \$25K of each subaward. The anticipated available funding of \$210,000/year will be reduced accordingly.*

VII. Core PROJECT: Instructions for Preparing a Statement of Interest

A. Core Project Description: Core research projects investigate single issues and seek to further knowledge in areas that affect Louisiana’s coastal and nearshore ecosystems, fisheries and human communities. LASG anticipates national strategic initiatives in aquaculture that could particularly be significant to an emphasis by Louisiana on finding adaptation strategies to our fishing industry facing future environmental changes (updates on these opportunities will be announced during the call for Sol). University-based researchers are encouraged to submit research projects that fulfill critical research needs for coastal Louisiana — and that fit within LASG’s strategic research priority areas. LASG also encourages faculty from Louisiana universities to leverage active research programs conducted by federal and state agencies.

Appropriate activities for Core Research projects include, but are not limited to, field and laboratory studies, computer modeling, archival research, surveys, data analysis and synthesis.

Here are a couple of guidelines that are specific to Core applications for Sol.

1. One Sol with items #1-6 (as stated in Section VIII B below) should be submitted to describe a Core project. There may be more than one Co-PI on the project, but only one Sol submitted to eSeaGrant and one budget.
2. There is a Project Cover Page form (item #1 below) that will describe the Co-PIs of the Core project.
3. A Core project proposal should consider one to two researchers representing focus on a coastal issue;
4. A Core project is encouraged to support one LASG Graduate Research Scholar in their budget per year of funding;
5. The research proposal must contain a clearly defined outreach program. Researchers must work closely with local stakeholders and/or decision-makers to conduct a comprehensive analysis of relevant natural and social scientific information that impacts planning, policy and natural resource management.

B. Statement of Interest Outline

1. Sol Project Cover Page
2. Body of the Sol should be limited to two pages single-spaced. Each Sol narrative must include the following sections in this sequence in a combined PDF document that is uploaded in eSeaGrant:
 - Problem Statement
 - Objectives
 - Methods
 - Rationale and Anticipated Benefits
 - Outreach Plan
 - Personnel Description
3. References
4. Two-page curriculum vitae of the PI and each co-PI
5. A list of recommended peer reviewers (at least four)
6. The Sol preliminary budget estimate

C. Body of Sol Formatting

Use at least 11-point type size. Left justified only, and one carriage return between paragraphs. All margins should be one inch. The body of the Statement of Interest should be typed continuously (that is, do not start a new page for each new section). Figures and tables are **not** included in the two-page single-spaced limit required for the narrative body of the Statement of Interest and should be uploaded separately in eSeaGrant (but referenced in the narrative body of the Sol).

D. Evaluation of Sol Components

Statements of Interest should present a succinct but sufficiently detailed synopsis of the project in order to evaluate its **relevance** to the Louisiana Sea Grant Strategic Research Priorities, its technical feasibility, and the PIs' qualifications.

E. Descriptions of each Sol Component

1. **Sol Project Cover Page:** The Project Cover Page has specific information required to properly identify the type of proposal (IR&E or Core), the research team and research unit budgets.
2. **Body of the Statement of Interest**
The body of the Sol is limited to **two pages of single-spaced text**. Write your Statement of Interest using the headings in the sequence listed previously in this document and following the formatting instructions above.

Problem Statement

Indicate the specific problem addressed by the proposed effort and provide sufficient background information to allow a preliminary assessment of the relationship of the problem to the research questions posed in this RFP (this will be used to help define relevance of the project to LASG strategic plan).

Objectives

State the objectives of the research effort as they would appear in a full proposal. Research hypotheses should be clearly stated.

Methods

Describe the proposed methods so that reviewers are able to make a preliminary determination of the appropriateness of the proposed approach, including statistical analyses, engineering principles and design approaches, for achieving the stated objectives.

Rationale and Anticipated Benefits

Briefly explain the anticipated results and potential implications of those results in relation to Sea Grant program objectives (again, this helps to define relevance of the project to LASG).

Outreach Plan

There are several options available in achieving effective outreach components to your proposal, and Louisiana Sea Grant strongly encourages you to have some contact with an outreach partner prior to the submission of your Statement of Interest, which may include engaging Louisiana Sea Grant's Extension Agents & Specialists, but not limited to extension partnering. Other outreach partners might include state and federal outreach committees, education specialists, NGOs, local authorities, etc. These outreach partners possess both important technical expertise on a wide range of subject matter and knowledge of local geographic, social and governmental circumstances; and they can prove invaluable to the successful planning and development of your project. Alternatively, when used to their fullest capabilities, partnerships with private businesses, non-governmental organizations or state agencies can also contribute greatly to the impact and outreach potential of your project. **Outreach partners should be engaged early in the proposal development process and identified in the Statement of Interest.**

LASG is particularly interested in receiving proposals for this opportunity that include broader societal impacts to Louisiana coastal communities including stakeholders from underrepresented or underserved communities. Some questions to consider related to inclusion of broader societal impacts through outreach: Does the proposed work appear to lead to real solutions to real

problems? Is the proposed work likely to make a positive difference to society and stakeholders? Does the proposed work seem likely to influence resource/coastal/ocean management by businesses and agencies? Does the proposed work appear to be applicable beyond a specific local community? Can it raise public awareness/education about the problem/solutions addressed? Does it align with Sea Grant thematic areas and research objectives?

Personnel Description

List names of PI and Co-PIs, senior technical staff, and students (if appropriate) and briefly outline their roles in the project.

Sea Grant has particular mission dedicated to workforce development through funding student participation on competitive research projects. Sols that do not demonstrate student contributions to proposed project will be given low priority.

3. REFERENCES

List references cited in the narrative body of the Sol via the appropriate form in eSeaGrant.

4. CURRICULUM VITAE

Provide a **two-page** (maximum) curriculum vitae (CV) for each PI and Co-PI. An NSF type CV is recommended that includes the following sections: education, professional experience, five recent publications relevant to proposed research, and synergistic (professional) activities. The CVs will be uploaded via the appropriate tab in eSeaGrant.

5. LIST OF (4) RECOMMENDED PEER REVIEWERS

6. STATEMENT OF INTEREST BUDGET FORM

Fill out the budget form provided in eSeaGrant. There should be one budget for a CORE research project. The Project Cover Page will have a total budget request for the research project. Note that research project support is about \$70,000/year for CORE proposals.

**For all funded CORE projects, LSU will issue a subaward to the lead institution. LSU will recover F&A at 26% on the first \$25K of the subaward. The anticipated available funding of \$70,000/year will be reduced accordingly.*