



Special Projects Competition Mitigating Runoff and Pollution Impacts on Freshwater Systems

SPECIAL PROJECTS "I" ANNOUNCEMENT

Competition:

Mitigating Runoff and Pollution Impacts on Freshwater Systems

Closing Dates and Deadlines:

May 6, 2021 at 11:59 PM Eastern Time

Eligible Sea Grant Programs:

This competition is open to all Sea Grant programs. All projects must take place within the United States or territories or their respective waterways.

Award Time Frame:

The proposed start date should be no earlier than September 1, 2021, with projects to be completed no later than three years after the start date.

Funding Availability:

The National Sea Grant Office (NSGO) anticipates that up to **\$850,000** of federal funds will be available to a Sea Grant Program or a partnership of Sea Grant Programs in order to scope an overarching framework for the Sea Grant Network and execute a competitive research program that addresses mitigating runoff and pollution impacts on freshwater systems, such as through innovative techniques and use of low-impact development and green infrastructure practices. The NSGO anticipates making one award to the lead Sea Grant Program. Applications require the standard 50% non-federal match for Sea Grant projects.

Project Description (program priorities):

Urbanization, agricultural practices, and other land use changes have led to an increase in pressure on our freshwater resources by altering the way precipitation flows across land surfaces. As it moves through the watershed, runoff accumulates natural and human-derived pollutants that eventually get deposited into rivers, wetlands, coastal waters, lakes, and groundwater. The resulting water quality issues negatively impact drinking water, fish and wildlife populations, native vegetation, recreation areas, and general ecosystem function. Some examples of runoff pollutants include, but are not limited to: nutrients and pesticides from agricultural lands, lawns and gardens; debris and sediment from timber harvesting or construction; toxic chemicals like oil and gas from motor vehicles, and contaminants of emerging concern (for latter see [Special Projects "H" announcement](#)). Measurements of nutrients like phosphorus and nitrogen, which are essential to the environment in the appropriate quantities, can be excellent indicators of freshwater health. Unfortunately, more than half (58%) of the rivers and streams

in the U.S. have excess phosphorus and 43% have inappropriate levels of nitrogen, which can result in the growth of toxins harmful to humans and to aquatic life.¹

Opportunities for water resources protection lie in the continued exploration of innovative techniques to reduce or treat runoff and improve water quality, while also providing additional social, environmental, and economic benefits. Low-impact development (LID) refers to land development (or re-development) practices that mimic natural hydrologic and ecological functions to enhance the built environment's ability to filter and slow runoff. LID manages runoff at small or large scales by targeting locations at, or as close to, the source as possible.² Green infrastructure (GI) uses existing natural landscapes such as wetlands and forests as well as nature-derived or engineered features like vegetated rooftops, rain gardens, pervious-surfaces, native landscaping, and broader habitat restoration to reduce runoff and pollutants.³ GI and LID measures (also known by or related to several other phrases such as nature-based solutions, natural infrastructure, etc.)⁴ can occur at site-specific or landscape-scale levels to preserve or restore ecosystem functions that improve water and air quality.

To date, Sea Grant has addressed runoff and pollution impacts on aquatic systems through directed research on the source and fate of pollutants in coastal and Great Lakes environments, the effects of pollutants on various ecosystems, and methods to mitigate pollutants and/or remove them from the environment. Sea Grant has also provided their expertise to municipalities and others to assist with the development of ordinances that incorporate green practices to enhance water resources. Additional efforts have included physical and social science research, partnerships, extension, and education efforts. Furthermore, improving water quality is a priority in the [10-Year NOAA Sea Grant Water Resources Vision](#) and is a key component of two Sea Grant focus areas: Healthy Coastal Ecosystems and Resilient Communities and Economies.

In recognition of Sea Grant's valuable capabilities in freshwater, Great Lakes, and coastal environments, Congress has directed Sea Grant (Pub. L. 116-260) to support a research initiative to address this issue (see details below). This direction provides a unique and timely opportunity for Sea Grant to develop an overarching framework for its work to understand how innovative techniques, including LID and GI practices, can reduce runoff and pollution to improve the health of aquatic systems. The framework should aim to prioritize research foci, delineate Sea Grant's role within the state, regional, and/or nation-wide landscapes, consider integrated strategies across Sea Grant's core functional areas, and identify specific partnerships to establish and strengthen collaboration on this topic.

The selected project will comprise two components: (1) activities to scope an overarching framework and implementation strategy to address how innovative techniques, including GI and LID practices, can mitigate runoff by the Sea Grant Network at national and regional scales (up to \$350,000 available); and (2) a competitive research program (at least \$500,000 should be requested) to conduct research studies that advance innovative techniques and the use of LID and GI with partners such as local, state, regional,

¹ U.S. Environmental Protection Agency. 2020. National Rivers and Streams Assessment 2013–2014: A Collaborative Survey. EPA 841-R-19-001. Washington, DC.
<https://www.epa.gov/national-aquatic-resource-surveys/nrsa>

² <https://www.epa.gov/nps/urban-runoff-low-impact-development>

³ U.S. Environmental Protection Agency. 2013. Case Studies Analyzing the Economic Benefits of Low Impact Development and Green Infrastructure Programs. EPA 841-R-13-004. Washington, DC.
https://www.epa.gov/sites/production/files/2015-10/documents/lid-gi-programs_report_8-6-13_combined.pdf

⁴ Additional related NOAA references: <https://coast.noaa.gov/digitalcoast/topics/green-infrastructure.html>;
<https://www.fisheries.noaa.gov/topic/habitat-conservation>; etc.

and tribal governments, as well as non-governmental organizations. The overall proposal may be up to three years in length, however, projects selected as part of the competitive research program can only be up to two years in length and cannot extend past the end date of the overall proposal. The scoping activity will be expected to disseminate findings (see description below) that will guide potential future investment and immediately help steer the Sea Grant Network in this subject area, although continued scoping and implementation may be considered over the entire proposal's duration. With the intention to optimize impact with available funding, the entire research program should focus on a single regional area, but should be nationally applicable.

Component 1

To refine the scope of Sea Grant's role and identify implementation strategies, the selected project will be expected to:

- (1) Proceed immediately with scoping activities, and within six months develop recommendations which describe an overarching framework that considers the needs and expectations listed in this announcement to inform the associated competitive research program.
- (2) Review and synthesize Sea Grant's efforts to date and utilize existing state of knowledge reports and strategic documents.
- (3) Engage with relevant NOAA programs.
- (4) Engage with relevant communities in the Sea Grant Network and leverage complementary activities (e.g. Water Resources Visioning team).
- (5) Facilitate dialogue, listening sessions, and/or information-sharing with local, state, regional, tribal, and federal stakeholders that are focused on improving water quality.
- (6) Develop the recommendations that evolve into a formal strategic document that can be disseminated to the Sea Grant Network and other funders and partners to inform competitive research announcements and additional actions.

Component 2

To carry out a successful competitive research program that is regional in nature, the selected project(s) will be expected to:

- (1) Meet the expectations outlined in Congressional appropriations language to: *"...partner with local, regional, and State governments, as well as with non-governmental organizations, to research innovative techniques and use of low-impact development and green infrastructure practices to mitigate runoff from developed lands that contribute to nutrient-driven cyanobacteria blooms, and otherwise pollute freshwater aquatic systems, especially large lakes."*
- (2) Leverage scoping efforts conducted at the beginning of this project to identify projects that address clear research gaps and/or undertake "proof of concept" strategies.
- (3) Consider a balance of research projects, which may include social science approaches, that could deliver immediate and long-term benefits.
- (4) Deploy engagement strategies to reach end users, beyond those who actively participate in the proposed work, to increase the potential for effective technology transfer.

Any proposed future competed research in response to this funding opportunity must adhere to the National Sea Grant College Program [National Competition Policy](#) to ensure compliance with federal review processes as well as a robust and efficient review process.

Future competed research funding will result in a specific award condition on the grant that requires selected projects undergo environmental compliance review before funding can be spent on those projects. The recipient program will need to submit an award action request to satisfy that specific

award condition which will need to be approved by NOAA's Grants Management Division before funding can be expended.

Application Requirements:

Consult the NOFO [NOAA-OAR-SG-2020-2006435](#), available at [Grants.gov](#), for eligible applicants, required elements of the application, how to submit, general programmatic priorities and selection factors, and other necessary information. Submit your application to **SPECIAL PROJECTS "I"** under this opportunity in grants.gov.

Discrepancies between this special project announcement and the NOFO may exist. Specific application details and instructions outlined in this special project announcement take precedence over guidelines in the NOFO.

Applications must include the following elements. Failure to adhere to these provisions may result in a delay in award processing or rejection of the application, based on the extent of the noncompliance.

1. Project Narrative. *The Project Narrative must include the following documents:*

- a. Project Description. The total number of pages in the project description should not exceed fifteen (15). Excess pages will not be included in the review. The works cited, CVs, letters of support, and current and pending support sections do not contribute to the page limit.
 - i. Cover page (1 page maximum)
 - Project title and names, titles, affiliations, and contact information (email and phone) of co-PIs.
 - Budget overview - Total cost and annual breakdown of requested funding by partner.
 - ii. Project Abstract (1 page maximum)
 - iii. Project background (suggested 2 pages)
 - Explain the specific problem(s) this project seeks to address and justify its importance.
 - iv. Project objectives (suggested 1 page)
 - Provide a list of clearly defined objectives. For each objective, provide a concise statement explaining how it is aligned with the goals and priorities of this funding opportunity.
 - v. Project details (suggested 4 pages)
 - Provide an explanation of the methods you will use to address your project objectives. Explicitly explain how this project leverages the expertise of both researchers and stakeholders.
 - vi. Anticipated outcomes and deliverables (suggested 1 page)
 - What are the expected outcomes and deliverables related to the creation of data products, tools, technologies, and management practices?
 - vii. Outreach and technology transfer plan (suggested 1 pages)
 - Provide a strategy that details how end users, beyond those who actively participate in the proposed work, will learn about the project's outcomes.
 - viii. Project timeline (suggested 1 page)

- Please provide a timeline for accomplishing the proposed work, which covers the entire duration of the project. Include approximate dates for key milestones related to the proposed work, including the accomplishment of anticipated outcomes and release of deliverables.
 - Applicants submitting proposals that involve the use of human test subjects should state so clearly in their application. These proposed research activities require approval of the applicant’s Institutional Review Board (IRB) before such research can proceed. Applicants are responsible for obtaining IRB approval from their institution and providing that documentation to NOAA once the approval is obtained and prior to any NOAA-funded human subject testing. Proposals intending to use human test subjects should specify clearly in the timeline approximately when IRB approval will be obtained and when the testing is expected to occur.
- ix. Diversity statement (suggested 1 page)
- NSGO recognizes it has a particular and unique opportunity to support NOAA’s commitment to diversity and inclusion by taking an intentional step that encourages applicants to consider diversity and inclusion as part of their scientific projects. This action has the potential to make an impact on not only the diversity and inclusion in science at NOAA, but also beyond the agency. In this section, describe how the proposed activity broadens the participation of underrepresented groups (e.g., race/ethnicity, gender identities, sexual orientation, disability, geography, socio-economic, etc.) and how they benefit from its outcomes. Applicants are encouraged to review the resources and best practices compiled by NSGO related to diversity, equity, and inclusion: <https://seagrant.noaa.gov/insideseagrant/Implementation/Networking/DiversityInclusion>
- x. Works cited (does not count towards page limit)
- All in-text citations should be listed here.
- xi. Curriculum vitae (CV) for each co-PI (does not count towards page limit)
- Each person’s CV should not be longer than 2 pages. Excess pages will not be included in the review.
- xii. Letters of support (does not count towards page limit)
- All letters of support should be included here. Required in the instance that a Sea Grant program is applying on behalf of a partnership of multiple Sea Grant programs; otherwise, recommended but optional.
- xiii. Current and pending support (does not count towards page limit)
- Describe any current or pending sources of support if applicable.
- b. Abbreviated Environmental Compliance Questionnaire (OMB Control No. 0648-0538)
- i. For these proposals and any future competed research, applicants must ensure that the questionnaire is completed in full and includes detailed information regarding project location, methodology, and permits. Copies of all permits required for project activities should be included with application materials. If a permit is pending or planned, please provide this information.
 - ii. The questionnaire can be found here: <https://seagrant.noaa.gov/insideseagrant/Implementation>.
 - iii. Guidance on how to complete the questionnaire, including how to describe

work that will not involve any environmental impact, can be found here: <https://seagrant.noaa.gov/Portals/1/Forms/NEPA%20Questionnaire%20-%20Guidance.pdf>

c. Data Management Plan

- i. For these proposals and any future competed research, applications must include a Data Management Plan that is compliant with NOAA's [Public Access to Research Results](#) Plan. The Data Management Plan should not exceed 2 pages. The Data Management Plan should include descriptions of the types of metadata and data expected to be created during the course of the project, plans for disseminating the metadata and data to the broader community, and plans for long-term archiving of the metadata and data.
- ii. If proposed activities will not generate any environmental data, such as the scoping activities and research competition, please include the following statement at the end of your proposal: "Because this project will not generate environmental data, a Data Management Plan is not required."

2. Budget Narrative. *The Budget Narrative must include the following budget documents (Sea Grant 90-4 Forms and Budget Justification) in the following order and format. Additional budget narrative guidance can be found [here](#).*

a. Sea Grant 90-4 Form (OMB Control No. 0648-0362)

Sea Grant 90-4 Forms are required to provide budget breakdowns and budget justifications by year and object class for the proposal. A completed Sea Grant 90-4 Form should be completed for each project year, as well as a total budget for the entire project duration (i.e., Year 1, Year 2, Year 3, and Years 1-3). Guidance on filling out these forms is located in the [Sea Grant General Application Guide](#).

b. Budget Justifications

For each year of the project, a Budget Justification is required. Each Budget Justification should explain the budget items in sufficient detail to enable review of the appropriateness of the funding requested. Each Budget Justification should be attached as a PDF to each Sea Grant 90-4 Form, as appropriate. Guidance on completing the Budget Justification is located in the [Sea Grant General Application Guide](#).

3. Overall Application. *In addition to the forms required above, standard Federal Forms and Assurances are required for the overall application and can be found with the application package on [Grants.gov](#) or on the Sea Grant website (links found below). These include:*

a. SF-424 Form ([Grants.gov](#), OMB Control No. 4040-0004)

This form, titled "Application for Federal Assistance," must identify the entire funding period, as well as the federal funding amount being requested by the applicant and the non-federal matching fund amount. The form must be completed with the institution's accurate EIN and DUNS and Point of Contact, and signed by the institution's authorized representative or designee.

b. SF-424A Form ([Grants.gov](#), OMB Control No. 4040-0006)

This form, titled "Budget Information - Non-Construction Programs," should describe the entire funding period in federal and non-federal dollars, for the entire application. Fill out Section B of this SF-424A form to show the overall budget breakdown by object class by year. Each federal and match year should

have its own column. If there is insufficient space, an additional SF-424A Form, Extra Section B should be used (see below).

- c. Additional SF-424A Form, Extra Section B

(<https://seagrant.noaa.gov/insideseagrant/Implementation>, OMB Control No. 4060-0006)

The SF-424A Form described above only includes space to report the applicant's yearly federal and non-federal dollars over two years. If the application covers more than two years of federal and non-federal dollars, then please complete the Additional SF-424A, Extra Section B to report the yearly non-federal matching fund budget of the grant. Guidance on filling out the form is located in the Sea Grant [How to Use Form "424A Extra Section B" Document](#). This form is an outlier and will be added to the "Budget Narrative Attachment" section on Grants.gov, as described in Section IV. C. 2 of the NOFO.

- d. SF-424B Assurances ([Grants.gov](https://www.grants.gov), OMB Control No. 4040-0007)

The form, titled "Assurances – Non-Construction Programs," should be completed and signed by the institution's authorized representative or designee.

- e. CD-511 ([Grants.gov](https://www.grants.gov), US Department of Commerce)

The form, titled "Certification Regarding Lobbying," should be completed and signed by the institution's authorized representative or designee. In some instances, the SF-LLL Disclosure of Lobbying Activities form may also be required. See the instructions on the CD-511 for further information.

- f. SF-LLL ([Grants.gov](https://www.grants.gov), OMB Control No. 0348-0046) if applicable

The form, titled "Disclosure of Lobbying Activities," should be completed and signed by the institution's authorized representative or designee, if appropriate.

Application Evaluation Criteria:

The following criteria will be used to evaluate proposals. Note that the weights of each criteria are different from the Evaluation Criteria laid out in the Special Projects NOFO announcement. Proposals submitted to this competition will be evaluated by at least three independent written reviews based on:

1. Importance/relevance and applicability of proposed projects to the program goals (30%). This criterion ascertains whether the proposed work is relevant to the goals set out in this announcement.
2. Technical/scientific merit (25%). This criterion assesses whether the proposal is technically sound, employs appropriate methods, and outlines clear objectives. Applications will be evaluated based on the following:
 - a. Whether the proposal clearly identifies goals and objectives, and whether the timeline for the project is reasonable and in line with the award period guidelines;
 - b. Whether the project will deliver tangible, specific results that are attainable and measurable within the proposed time frame.
 - c. Whether the proposed methods and approaches to be used in the project are valid to achieve project goals.
3. Overall qualifications of applicants (15%). This criterion ascertains whether the applicant possesses the necessary education, experience, training, facilities, and administrative resources to accomplish the project.

4. Project costs (5%). This criterion evaluates the budget to determine if it is realistic and commensurate with the project needs and time frame.
5. Outreach and Education (25%). This criterion reviews whether the project provides a focused and effective education and outreach strategy regarding NOAA's mission to protect the Nation's natural resources, Sea Grant's strategic focus areas, and the goals of the individual competition announcement to target audiences, including underserved and underrepresented audiences.

Other Information:

Reporting:

This will be a stand-alone (i.e., non-omnibus) award for which annual progress reporting will be required.

Agency Contacts:

Questions about this competition or the Special Projects Notice of Funding Opportunity (NOFO) may be sent to oar.hq.sg.competitions@noaa.gov. Please specify that your question is related to the Runoff and Pollution Mitigation Competition in the subject line.

Fillable versions of required Sea Grant forms can be found here:

<https://seagrant.noaa.gov/insideseagrant/Implementation>

Guidance for completing these forms is located in the Sea Grant General Application Guidance

Document: <https://seagrant.noaa.gov/Portals/1/Guidance/SeaGrantGeneralApplicationGuide.pdf>