U.S. EPA GREAT LAKES NATIONAL PROGRAM OFFICE

Integrated *Cladophora* studies and modeling in support of GLWQA Annex 4 phosphorus target setting
2017 Request for Applications

Federal Agency Name: Environmental Protection Agency
Funding Opportunity Title: Integrated *Cladophora* research and modeling in support of GLWQA Annex 4 phosphorus target setting
Announcement Type: Request for Applications
Funding Opportunity Number: EPA-R5-GL2017-CLA
Catalog of Federal Domestic Assistance (CFDA) Number: 66.469

INTRODUCTION AND OVERVIEW

This Request for Applications (RFA) solicits applications from eligible entities for a cooperative agreement to be awarded pursuant to the Great Lakes Restoration Initiative Action Plan II (http://glri.us/actionplan/pdfs/glri-action-plan-2.pdf). Applications are requested for a project to 1) provide *in situ* observational data for use in 2) the development of enhanced *Cladophora* growth models to enable phosphorus targets to be developed for the eastern basin of Lake Erie as well as for Lakes Michigan, Huron and Ontario. A consortium of investigators will establish sentinel monitoring sites in Lakes Michigan, Huron, Erie and Ontario for one or more growing seasons. *In situ* observational data collected at these sites will be used in enhanced Cladophora model development. This RFA is one of several funding opportunities available through federal agencies under the Great Lakes Restoration Initiative ("GLRI" or "Initiative) for FY2017.

Funding/Awards: Up to $600,000 may be awarded for one cooperative agreement. The awarding of this cooperative agreement is contingent upon funding availability, the quality of applications received and other applicable considerations. However, EPA expressly reserves the right to make no awards under this RFA.

Authorization for GLRI funding is contained in Section 118(c) of the Federal Water Pollution Control Act. Nonfederal governmental entities, including state agencies, interstate agencies, federally-recognized Indian tribes and tribal organizations, and local governments as defined in 2 C.F.R. 200 and or 2 C.F.R. 1500; institutions of higher learning (i.e., colleges and universities); and nonprofit organizations are eligible to apply for funding under this RFA. Individuals, foreign organizations and governments, nonprofit organizations exempt from taxation under Section 501(c)(4) of the Internal Revenue Code that engage in lobbying, and "for-profit" organizations are not eligible.

Important Dates:

- September 5, 2017 - Applications **must** be submitted via Grants.gov by 11:59 pm Eastern Time/10:59 pm Central Time. See Section IV for further submission information.
- September 2017 – EPA expects to notify finalist.
- November 2017 – EPA expects to make award.

Other Application Information: For your convenience, an RFA web page has been created at http://www.epa.gov/great-lakes-funding/2017-rfa-great-lakes-cladophora where you will find information relating to the RFA process as well as a link to frequently asked questions (FAQs). We encourage all applicants to sign up for our mailing list and register with us at http://www.epa.gov/great-lakes-funding/great-lakes-news-email-list. Further submittal information is described in Section IV.

U.S. EPA Great Lakes Restoration Initiative
Request for Applications: EPA-R5-GL2017-CLA

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U.S. EPA Great Lakes Restoration Initiative
Request for Applications: EPA-R5-GL2017-CLA

I. APPLICATION INFORMATION

Background, Authority, and Funded Activities:

The President, Congress, and the U.S. Environmental Protection Agency (EPA), in conjunction with other federal departments and agencies, have made restoring the Great Lakes a national priority. The Great Lakes Restoration Initiative ("GLRI" or "Initiative") builds on the prior efforts of federal, state, and local agencies; Indian tribes; businesses; public interest groups; interested citizens; and others to develop a collaborative and comprehensive approach to restoring the Great Lakes. Information about the Initiative can be found at https://www.glri.us/.

This RFA is expected to result in the award of a cooperative agreement to help implement the GLRI. Cooperative agreements are assistance agreements in which EPA expects to have substantial involvement in completing the project. Authorization for GLRI funding and actions to implement the U.S. responsibilities under the Great Lakes Water Quality Agreement is contained in Section 118(c) of the Federal Water Pollution Control Act. EPA has authority to award grants and cooperative agreements for planning, research, monitoring, outreach and implementation projects in furtherance of the GLRI and the GLWQA. The principal goal of GLWQA is the restoration and maintenance of the chemical, physical, and biological integrity of the Great Lakes ecosystem.) Funded activities **must** advance protection and restoration of the Great Lakes ecosystem in support of: (i) the GLRI Action Plan II (see http://glri.us/actionplan/pdfs/glri-action-plan-2.pdf) and (ii) EPA's Strategic Plan.[1] For projects with international aspects, the above statutes are supplemented, as appropriate, by the National Environmental Policy Act, Section 102(2)(F).

This RFA solicits applications from eligible entities for a cooperative agreement to be awarded pursuant to the statutory authorities referenced above and the GLRI Action Plan II. Up to $600,000 may be awarded under this RFA for one project contingent on the quality of applications received, funding availability and other applicable considerations. All eligible projects will be evaluated as described in Section V.

Minority Serving Institutions (MSIs):

EPA recognizes that it is important to engage all available minds to address the environmental challenges the nation faces. At the same time, EPA seeks to expand the environmental

[1] See EPA's Strategic Plan for Fiscal Years 2014-2018; Goal 2*: Protecting Americas Waters;* Objective 2: *Protect and Restore Watersheds and Aquatic Ecosystems (Protect, restore, and sustain the quality of rivers, lakes, streams, streams, and wetlands on a watershed basis, and sustainably manage and protect coastal and ocean resources and ecosystems*). The Plan is available at: www.epa.gov/planandbudget/strategicplan.
www.epa.gov/planandbudget/strategicplan.

conversation by including members of communities which may have not previously participated in such dialogues to participate in EPA programs. For this reason, EPA strongly encourages all eligible applicants identified in Section III, including minority serving institutions, to apply under this opportunity.

For purposes of this solicitation, the following are considered MSIs:

1. Historically Black Colleges and Universities, as defined by the Higher Education Act (20 U.S.C. § 1061). A list of these schools can be found at White House Initiative on Historically Black Colleges and Universities;

2. Tribal Colleges and Universities, as defined by the Higher Education Act (20 U.S.C. § 1059(c)). A list of these schools can be found at American Indian Tribally Controlled Colleges and Universities;

3. Hispanic-Serving Institutions (HSIs), as defined by the Higher Education Act (20 U.S.C. § 1101a(a)(5). There is no list of HSIs. HSIs are institutions of higher education that, at the time of application submittal, have an enrollment of undergraduate full-time equivalent students that is at least 25% Hispanic students at the end of the award year immediately preceding the date of application for this grant; and

4. Asian American and Native American Pacific Islander-Serving Institutions; (AANAPISIs), as defined by the Higher Education Act (20 U.S.C. § 1059g(a)(2)). There is no list of AANAPISIs. AANAPISIs are institutions of higher education that, at the time of application submittal, have an enrollment of undergraduate students that is not less than 10% students who are Asian American or Native American Pacific Islander.

Subawardees and/or Contractors:

If you name subawardees/subgrantees and/or contractor(s), including individual consultants, in your application as partners to assist you with the proposed project, pay careful attention to the information in Section III regarding "Coalitions" and to the “Contracts and Subawards” provisions at http://www.epa.gov/grants/epa-solicitation-clauses (incorporated by reference in Section IV.J).

RFA Terms:

For purposes of this RFA:

1. The term “**output**” means an environmental activity, effort, and/or associated work product related to an environmental goal and objective that will be produced or provided over a period of time or by a specified date. Outputs may be quantitative or qualitative, but **must** be measurable over the term of the cooperative agreement funding period.

2. The term "**outcome**" means the result, effect or consequence that will be achieved by carrying out an environmental activity, effort, and/or associated work product that is related to an environmental or programmatic goal or objective. Outcomes may be environmental, behavioral, health-related, or programmatic in nature, **must** be quantitative, and may not necessarily be achievable within a cooperative agreement funding period.

Funding Opportunity for Integrated *Cladophora* research and modeling in support of GLWQA Annex 4 phosphorus target setting

General Background: *Cladophora* is a large, globally-distributed filamentous green alga genus with a broad range of ecological characteristics. The species that dominates in the Great Lakes, *Cladophora glomerata*, has a unique ecology and behaves differently from other members of the genus, even in Canadian inland lakes. A principal reason for establishment of the Great Lakes Water Quality Agreement (GLWQA) in 1972 was to address nuisance algae. Nutrient control largely mitigated *Cladophora* problems. However, *Cladophora's* areal extent and biomass have increased through the last decade along with: 1) the reappearance of other signs of eutrophication in Lakes Erie and; 2) changing near shore conditions in Lakes Michigan, Ontario and Huron concurrent with the establishment and spread of dreissenid mussels through the Great Lakes. *Cladophora* as a cause of beach fouling is a concern to stakeholders, beach managers and GLWQA Lake Partnerships of Lakes Michigan, Huron, Erie and Ontario.

Through Annex 4 of the 2012 GLWQA, the U.S. and Canada renewed their commitment to manage nutrient concentrations and loadings as a means of reducing excessive algal growth in the Great Lakes. New GLWQA phosphorus targets were established for Lake Erie in 2016. The new targets (https://binational.net/2016/02/22/finalptargets-ciblesfinalesdep/) require phosphorus reductions on the order of 40% to the western and central basins to address cyanobacteria blooms and hypoxia. However, no recommendations have yet been made with regard to nearshore *Cladophora* growth. It is not clear if further reductions in phosphorus loading will be necessary to sufficiently control *Cladophora* growth in Lake Erie's Eastern basin, or what impact the anticipated reductions in Lake Erie would have on *Cladophora* growth in Lake Ontario – which is the next Lake to be addressed through Annex 4.

While control of phosphorus input remains the only viable management tool for controlling *Cladophora* growth, it is not the only potential growth limiting factor. The extent to which it limits growth depends on several site specific factors. Development of *Cladophora* management strategies must account for other driving factors such as light penetration, substrate, mussels and local water movement. Therefore, in order to establish scientifically defensible phosphorus targets to minimize *Cladophora* in Lake Erie and elsewhere in the Great Lakes, there is a need for a concerted monitoring and modeling effort to measure and model *Cladophora* responses to current ecological and nutrient loading conditions at multiple locations where nuisance conditions exist. This information is of critical importance to improve capabilities of water quality managers to predict *Cladophora* growth in response to nearshore phosphorus loadings. This project would support efforts of a consortium of investigator(s) to establish sentinel monitoring sites in Lakes Michigan, Huron, Erie and Ontario. The project funded by this award

will intensively monitor *Cladophora* growth at the selected sites for at least one entire field season (i.e., April – October 2018). The results of the sentinel sites would then be used to enhance *Cladophora* growth models with sufficient resolution to diagnose whole lake and local/nearshore relationships to enable phosphorus targets to be developed for the eastern basin of Lake Erie as well as phosphorus targets for Lakes Ontario, Michigan, and Huron.

Goals and Objectives: EPA expects to provide up to $600,000 for one cooperative agreement to support: 1) establishment of sentinel monitoring sites in Lakes Michigan, Huron, Erie and Ontario by a consortium to measure *Cladophora* growth, biomass and water quality parameters influencing growth at varying nearshore depth intervals for one or more growing seasons and 2) application of enhanced *Cladophora* growth models to enable total and soluble reactive phosphorus targets to be developed for the eastern basin of Lake Erie as well as for Lakes Ontario, Michigan, and Huron.

Applicants should plan to provide an interim report with initial project findings by March 2019 for use in the 2019 GLWQA Progress Report of the Parties and the Great Lakes Public Forum. The final report should include recommendations for future application of this work, specifically ways to utilize the sentinel sites to enhance ongoing monitoring and assessment programs in the Great Lakes, such as the Coordinated Science and Monitoring Initiative (CSMI) or State of the Great Lakes (SOGL) reporting, to meet GLRI and GLWQA objectives.

Applicants are expected to conduct activities in support of the two objectives above as described in Section IV.D.1.

Outputs of the award (and any additional ones identified by the applicant) should include one or more of the following and must link to the GLRI Action Plan II goal of nuisance algal blooms eliminated and the GLRI Action Plan II commitment to issue Great Lakes Water Quality Agreement Triennial State of the Lakes reports:

- Establishment of sentinel monitoring sites in Lakes Michigan, Huron, Erie and Ontario to collect comparable *in situ* environmental measurements of forcing conditions driving *Cladophora* growth over the course of one or more growing seasons to provide calibration and validation data sets, and model input variables;
- Development of enhanced *Cladophora* growth models with sufficient spatial resolution to guide nutrient management in the Great Lakes and their nearshore zones;
- An assessment of the contributing nutrient sources (by type and location) to *Cladophora* growth in the Great Lakes nearshore area in the vicinity of sentinel sites;
- Sample collection, data management, data interpretation, statistical analysis, and report writing;
- Dissemination of results via peer-reviewed journal articles and other media;
- Development of applicable nearshore indicator reports consistent with previous State of the Lakes Ecosystem Conference formats;

- A quantitative prediction of the response of nearshore *Cladophora* to phosphorus (TP and SRP) load reductions to determine whether acceptable *Cladophora* growth is achievable.

Applicants should also demonstrate how their proposed project will achieve one or more of the following outcomes (and any additional ones identified by the applicant):

- Improved understanding of factors (including phosphorus) influencing *Cladophora* growth to develop phosphorus reduction targets;
- Improved knowledge base necessary to set realistic and science-based phosphorus (TP and SRP) reduction targets for *Cladophora* growth;
- Improved understanding of the conditions that lead to *Cladophora* sloughing and better prediction abilit**y** for timing and causes of sloughing**;**
- Improved stakeholder decision-making in development and implementation of strategies to mitigate or control/eliminate *Cladophora* blooms;
- Increased understanding of biological health of the Great Lakes and the relationship to fisheries and/or beach management;
- Enhancement of indicators, based on nearshore biological, chemical or physical parameters, of the health of the Great Lakes; or
- Increased understanding of the role of dreissenid mussels in mediating nutrient availability, water clarity or substrate availability for *Cladophora* growth;
- Development of Great Lakes scientists through the education of graduate and undergraduate students in Great Lakes ecosystem science.

II. AWARD INFORMATION

Amounts and Number of Projects: Up to $600,000 in EPA funding is expected to be awarded under this RFA for one project. Project funding under this RFA will be based on the quality of applications received, the availability of funding, and other applicable considerations. **Please note that applications seeking more than $600,000 will be rejected. In addition, an application for a multi-phase project will be treated as a request for the full amount for all phases. If that combined amount exceeds $600,000, the application will be rejected.**

EPA reserves the right to reject all applications and make no awards pursuant to this RFA.

Anticipated Project Start and End Dates: Applications should specify a start and end dates such that the project duration is approximately 24 months.

Additional Awards: EPA reserves the right to make additional awards under this announcement, consistent with Agency policy and guidance, if additional funding becomes available after the original selection is made. Any additional selections for awards will be made no later than 6 months after the original selection decisions.

Award Funding: Awards may be fully or incrementally funded, as appropriate, based on funding availability, satisfactory performance, and other applicable considerations.

Funding Type: A successful applicant will be awarded a cooperative agreement[2] A cooperative agreement is an assistance agreement that is used when there is substantial federal involvement with the recipient during the performance of an activity or project. EPA awards cooperative agreements for those projects in which it expects to have substantial interaction with the recipient throughout the performance of the project. A cooperative agreement is an assistance agreement that is used when there is substantial federal involvement with the recipient during the performance of an activity or project. EPA awards cooperative agreements for those projects in which it expects to have substantial interaction with the recipient throughout the performance of the project. EPA will negotiate the precise terms and conditions of "substantial involvement" as part of the award process. Federal involvement may include close monitoring of the recipient's performance; collaboration during the performance of the scope of work; review of proposed procurements in accordance with; 2 CFR 200.317 and 2 CFR 200.318 and 2 CFR 1500.9 reviewing qualifications of key personnel; and/or review and comment on the content of printed or electronic publications prepared. EPA does not have the authority to select employees or contractors employed by the recipient. The final decision on the content of reports rests with the recipient.

Future Funding: Selection or award of funding under this RFA is not a guarantee of future funding.

Partial Funding: In appropriate circumstances, EPA reserves the right to partially fund an application by funding discrete portions or phases of the proposed project. If EPA decides to partially fund an application, it will do so in a manner that does not prejudice the applicant or affect the basis upon which the application, or portion thereof, was evaluated and selected for award, and, therefore maintains the integrity of the competition and selection process.

III. ELIGIBILITY INFORMATION

Applicant Eligibility (CFDA 66.469):
Entities eligible to apply for grants include non-federal governmental entities, nonprofit organizations, and institutions. This includes state agencies; any agency or instrumentality of local government; interstate agencies; federally-recognized tribes and tribal organizations; colleges and universities; nonprofit organizations; and other public or nonprofit private agencies, institutions, and organizations. Nonprofit organization, as defined by 2 CFR Part 200, means any corporation, trust, association, cooperative or other organization that: (1) is operated primarily for scientific, educational, service, charitable or similar purposes in the public interest; (2) is not organized primarily for profit; and (3) uses its net proceeds to maintain, improve and/or expand its operations. Note that 2 CFR Part 200 specifically excludes the following types of organizations from the definition of nonprofit organization because they are separately defined in

[2] While the award being offered pursuant to this RFA will be a cooperative agreement, throughout the remainder of the RFA the terms "grant" and "cooperative agreement" are synonymous.

the regulation: (i) institutions of higher education; and (ii) state, local and federally-recognized Indian tribal governments. While not considered to be a nonprofit organization(s) as defined by 2 CFR Part 200, Institutions of Higher Education and state, local and federally-recognized Indian tribal governments are, nevertheless, eligible to submit applications under this RFA. Hospitals operated by state, tribal, or local governments or that meet the definition of nonprofit at 2 CFR 200.70 are also eligible to apply. For-profit colleges, universities, trade schools, and hospitals are ineligible. Nonprofit organizations described in Section 501(c)(4) of the Internal Revenue Code that engage in lobbying activities as defined in Section 3 of the Lobbying Disclosure Act of 1995 are not eligible applicants. The following applicants are not eligible: foreign governmental entities, nonprofit organizations and institutions; "for profit" organizations; and individuals. Applicants must meet all eligibility criteria at the time of their submission.

Eligible Minority Serving Institutions, as described in Section I, are strongly encouraged to apply for funding under this competition.

Coalitions: Groups of two or more eligible applicants may choose to form a coalition and submit a single application under this RFA; however, one entity **must** be responsible for the grant. Coalitions **must** identify which eligible organization will be the recipient of the grant and which eligible organization(s) will be subawardees of the recipient. Subawards and subgrants **must** be consistent with the definitions of those term**s** in 2 C.F.R. 200.92. The recipient that administers the grant will be accountable to EPA for proper expenditure of the funds and reporting, and will be the point of contact for the coalition. As provided in 2 C.F.R. 200.331(d), subrecipients or subgrantees are accountable to the recipient or grantee for proper use of EPA funding.

Coalitions may not include for-profit organizations that will provide services or products to the successful applicant. For-profit organizations are not eligible for subawards. For-profit organizations are eligible to receive contracts. Any contracts for services or products funded with EPA financial assistance **must** be awarded under the competitive procurement procedures of 2 C.F.R. 200.319, as applicable. The regulations also contain limitations on consultant compensation. (Please see 2 C.F.R. § 1500.9, formerly at 40 C.F.R. § 30.27(b) or 31.36(j), as applicable.) For additional information, please review the following Federal Register: http://edocket.access.gpo.gov/2004/pdf/04-7867.pdf.

Eligible Activities: Unless specifically excluded under this RFA, assistance is available to eligible applicants for planning, research, monitoring, outreach, and implementation of the GLRI and GLWQA. Proposed projects **must** also either: (i) protect, enhance, and/or restore the Great Lakes, including projects impacting connecting waterways such as Lake St. Clair and the St. Lawrence River (at or upstream from the point at which the St. Lawrence River becomes the international boundary between Canada and the United States); or (ii) protect Great Lakes ecosystem health, including human health. Information about the GLRI can be found at http://www.epa.gov/great-lakes-funding/great-lakes-restoration-initiative-glri. Applications for other activities will be rejected**.**

Ineligible Activities: Sampling and analysis of nearshore habitats for the purpose of listing/delisting criteria and generation of Area of Concern (AOC) Beneficial Use Impairment

data; any actions not related to measurement of *Cladophora* growth, biomass and water quality parameters or development of enhanced *Cladophora* growth models.

If an application is submitted that includes any ineligible tasks or activities, including, but not limited to, those listed above, that portion of the application will be ineligible for funding and may, depending on the extent to which it affects the application, render the entire application ineligible for funding.

Match or Cost-Share: There is no cost-sharing or matching requirement as a condition of eligibility under this RFA. However, see Section IV.D.3 and Section V for additional information regarding applicants who propose voluntary matches and additional funds/resources to support the project.

Although cost-sharing/matching is not required as a condition of eligibility under this competition, pursuant to Section V of this RFA, EPA will consider voluntary cost-sharing/matching and other leveraging as a part of the criterion for collaboration.

Leveraging generally refers to situations where an applicant proposes to provide its own additional funds/ resources or those from third party sources to support or complement the project they are awarded under the competition which are above and beyond the EPA grant funds awarded. Any leveraged funds/resources, and their source, **must** be identified in the proposal (See Section IV of the RFA). A letter of support should also be included in the application package to document any proposed leveraging. Leveraged funds and resources may take various forms as noted below.

Voluntary cost share is a form of leveraging. Voluntary cost sharing refers to situations where an applicant voluntarily proposes to legally commit to provide costs or contributions to support the project when a cost share is not required. Applicants who propose to use a voluntary cost share **must** include the costs or contributions for the voluntary cost share in the project budget on the SF-424. If an applicant includes voluntary cost share in their workplan and budget narrative, but fails to include it on their SF-424, if selected, they may be required to revise their SF-424 to include the cost share as a condition of award. If an applicant proposes a voluntary cost share, the following apply:

- A voluntary cost share is subject to the match provisions in the grant regulations (2 C.F.R. Section 200.306);
- A voluntary cost share **must** be eligible and allowable;
- The recipient may not use other sources of federal funds to meet a voluntary cost share unless the statute authorizing the other federal funding provides that the federal funds may be used to meet a cost share requirement on a federal grant; and
- The recipient is legally obligated to meet any proposed voluntary cost share that is included in the approved project budget. If the proposed voluntary cost share does not materialize during grant performance, then EPA may reconsider the legitimacy of the award and/or take other appropriate action as authorized by 2 C.F.R. 200 and/or 1500.

Other leveraged funding/resources that are not identified as a voluntary cost share should not be included in the budget and the costs need not be eligible and allowable project costs under the EPA assistance agreement. While this form of leveraging should not be included in the budget, the grant workplan should include a statement indicating that the applicant expects to produce the proposed leveraging consistent with the terms of the announcement and the applicant's proposal. This form of leveraging may be met by funding from another federal grant, from an applicant's own resources, or resources from other third party sources. If applicants propose to provide this form of leveraging, EPA expects them to make the effort to secure the leveraged resources described in their proposals. If the proposed leveraging does not materialize during grant performance, then EPA may reconsider the legitimacy of the award and/or take other appropriate action as authorized by 2 C.F.R. § 200 as applicable.

Threshold Eligibility Criteria: These are requirements that if not met by the applicant by the time of application submission will result in elimination of the application from consideration for funding. Only applications for eligible activities from eligible entities (see above definitions of **applicant eligibility**, **eligible activities**, and **ineligible activities**) that meet these criteria by the time of application submission will be evaluated against the ranking factors in Section V of this RFA. Applicants deemed ineligible for funding consideration as a result of the threshold eligibility review will be notified by email within 15 calendar days of the ineligibility determination.

1. a. Applications seeking EPA funding in excess of $600,000 will be rejected. In addition, an application for a multi-phased project will be viewed as a request for the full amount of all phases. If that combined amount exceeds $600,000, the application will be rejected.
   b. Applications **must** substantially comply with the application submission instructions and requirements set forth in Section IV of this RFA or else they will be rejected. Where a page limit is stated for the Narrative Proposal in Section IV, pages in excess of the page limitation will not be reviewed.
   c. In addition, applications must be submitted through Grants.gov as stated in Section IV of this announcement (except in the limited circumstances where another mode of submission is specifically allowed for as explained in Section IV) on or before the application submission deadline published in Section IV of this announcement. Applicants are responsible for following the submission instructions in Section IV of this announcement to ensure that their application is timely submitted.
   d. Applications submitted after the submission deadline will be considered late and deemed ineligible without further consideration unless the applicant can clearly demonstrate that it was late due to EPA mishandling or because of technical problems associated with Grants.gov or relevant SAM.gov system issues. An applicant's failure to timely submit their application through Grants.gov because they did not timely or properly register in SAM.gov or Grants.gov will not be considered an acceptable reason to consider a late submission. Applicants should confirm receipt of their application with Glenn Warren (warren.glenn@epa.gov) as soon as possible after the submission deadline—failure to do so may result in your application not being reviewed.

2. Ineligible activities: If an application is submitted that includes any ineligible tasks or activities, that portion of the proposal will be ineligible for funding and may, depending on the extent to which it affects the proposal, render the entire proposal ineligible for funding.

Applicants should contact the applicable individual listed in Section VII with any questions about the threshold eligibility requirements.

IV. APPLICATION AND SUBMISSION INFORMATION

A. Requirement to Submit Through Grants.gov and Limited Exception Procedures

Applicants, except as noted below, must apply electronically through Grants.gov under this funding opportunity based on the Grants.gov instructions in this announcement. If an applicant does not have the technical capability to apply electronically through Grants.gov because of limited or no internet access which prevents them from being able to upload the required application materials to Grants.gov the applicant must contact OGDWaivers@epa.gov or the address listed below in writing (e.g., by hard copy, email) *at least 15 calendar days prior to the submission deadline under this announcement* to request approval to submit their application materials through an alternate method.

Mailing Address:
OGD Waivers
c/o Barbara Perkins
USEPA Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Ave., N. W.
Mail Code: 3903R
Washington, DC 20460

Courier Address:
OGD Waivers
c/o Barbara Perkins
Ronald Reagan Building
1300 Pennsylvania Ave., N.W.
Rm # 51267
Washington, DC 20004

In the request, the applicant must include the following information:
Funding Opportunity Number (FON)
Organization Name and DUNS
Organization's Contact Information (email address and phone number)
Explanation of how they lack the technical capability to apply electronically through Grants.gov because of 1) limited internet access or 2) no internet access which prevents them from being able to upload the required application materials through Grants.gov.

EPA will only consider alternate submission exception requests based on the two reasons stated above and will timely respond to the request -- all other requests will be denied. If an

alternate submission method is approved, the applicant will receive documentation of this approval and further instructions on how to apply under this announcement. Applicants will be required to submit the documentation of approval with any initial application submitted under the alternative method. In addition, any submittal through an alternative method must comply with all applicable requirements and deadlines in the announcement including the submission deadline and requirements regarding proposal content and page limits (although the documentation of approval of an alternate submission method will not count against any page limits).

If an exception is granted, it is valid for submissions to EPA for the remainder of the entire calendar year in which the exception was approved and can be used to justify alternative submission methods for application submissions made through December 31 of the calendar year in which the exception was approved (e.g., if the exception was approved on March 1, 2016, it is valid for any competitive or non-competitive application submission to EPA through December 31, 2016).Applicants need only request an exception once in a calendar year and all exceptions will expire on December 31 of that calendar year. Applicants must request a new exception from required electronic submission through Grants.gov for submissions for any succeeding calendar year. For example, if there is a competitive opportunity issued on December 1, 2016 with a submission deadline of January 15, 2017, the applicant would need a new exception to submit through alternative methods beginning January 1, 2017.

Please note that the process described in this section is only for requesting alternate submission methods. All other inquiries about this announcement must be directed to the Agency Contact listed in Section VII of the announcement. Queries or requests submitted to the email address identified above for any reason other than to request an alternate submission method will not be acknowledged or answered.

B. Submission Instructions

The electronic submission of your application must be made by an official representative of your institution who is registered with Grants.gov and is authorized to sign applications for Federal assistance. For more information on the registration requirements that must be completed in order to submit an application through Grants.gov, go to Grants.gov and click on "Applicants" on the top of the page and then go to the "Get Registered" link on the page. If your organization is not currently registered with Grants.gov, please encourage your office to designate an Authorized Organization Representative (AOR) and ask that individual to begin the registration process as soon as possible**. Please note that the registration process also requires that your organization have a DUNS number and a current registration with the System for Award Management (SAM) and the process of obtaining both could take a month or more.** Applicants must ensure that all registration requirements are met in order to apply for this opportunity through Grants.gov and should ensure that all such requirements have been met well in advance of the submission deadline. Registration on Grants.gov, SAM.gov, and DUNS number assignment is FREE.

Applicants need to ensure that the AOR who submits the application through Grants.gov and whose DUNS number is listed on the application is an AOR for the applicant listed on the application. Additionally, the DUNS number listed on the application must be registered to the applicant organization's SAM account. If not, the application may be deemed ineligible.

To begin the application process under this grant announcement, go to Grants.gov and click on "Applicants" on the top of the page and then "Apply for Grants" from the dropdown menu and then follow the instructions accordingly. Please note: To apply through Grants.gov, you must use Adobe Reader software and download the compatible Adobe Reader version. For more information about Adobe Reader, to verify compatibility, or to download the free software, please visit Adobe Reader Compatibility Information on Grants.gov (https://www.grants.gov/web/grants/applicants/adobe-software-compatibility.html).

You may also be able to access the application package for this announcement by searching for the opportunity on Grants.gov. Go to Grants.gov and then click on "Search Grants" at the top of the page and enter the Funding Opportunity Number, EPA-R5-GL2017-CLA, in the appropriate field and click the Search button. Alternatively, you may be able to access the application package by clicking on the Package button at the top right of the synopsis page for the announcement on Grants.gov. To find the synopsis page, go to Grants.gov and click "Browse Agencies" in the middle of the page and then go to "Environmental Protection Agency" to find the EPA funding opportunities.

Please note that Grants.gov is strongly encouraging users to sign up for and use their "Workspace" feature (https://www.grants.gov/web/grants/applicants/workspace-overview.html) when applying for opportunities. Grants.gov will be phasing out the "legacy" application process, so EPA recommends that all applicants begin using Workspace as soon as possible so they are prepared when the "legacy" application process is no longer available.

Application Submission Deadline: Your organization's AOR must submit your complete application package electronically to EPA through Grants.gov on or before 10:59 p.m. Central Time / 11:59 p.m. Eastern Time on September 5, 2017.

Please allow for enough time to successfully submit your application process and allow for unexpected errors that may require you to resubmit. Please submit *all* of the application materials described below using the Grants.gov application package that you downloaded using the instructions above. **All documents must be submitted as PDF files.** For additional instructions on completing and submitting the electronic application package, click on the "Show Instructions" tab that is accessible within the application package itself.

Application Materials

The following forms and documents are required under this announcement:

1. Application for Federal Assistance (SF-424)
2. Budget Information for Non-Construction Programs (SF-424A)

3. Assurances for Non-Construction Programs (SF-424B)
4. Grants.gov Lobbying Form
5. EPA Key Contacts Form 5700-54
6. EPA Form 4700-4 – Pre-award Compliance Review Report
7. Narrative Proposal (Project Narrative Attachment Form)-prepared as described in Section IV.D. of the announcement
8. Other Attachments Form - Resumes or *curriculum vitae* of Principal Investigators and Critical Staff
9. Disclosure of Lobbying Activities (SF-LLL), if applicable
10. Other Attachments Form - Negotiated Indirect Cost Rate Agreement, if applicable
11. Other Attachments Form - Letters of support, if applicable

Note that the Narrative Proposal includes the Summary Information Page; Workplan; Detailed Budget Narrative; Maps, Charts and Figures; and Meeting/Conference/Workshop Information. Prepare as described in Section IV.D. of the announcement. This is the only file that should be submitted using the Project Narrative Attachment form.

Note that an Other Attachments Form should be used for Resumes or curriculum vitae of Principal Investigators and critical staff. Use the "Other Attachments Form" in the "Optional Documents" box to attach a copy of the resume or curriculum vitae of principal investigators and critical staff for the proposed project. Such documentation should outline the education, work history, and knowledge/expertise of the individual that relate to managing the proposed project. Please include the word "resume" in the filename.

Note that an Other Attachments Form should be used for Support Letters. Use the "Other Attachments Form" in the "Optional Documents" box to attach any relevant letters from collaborators or partners in support of the project. A letter of support may also be required for voluntary cost share. Specifically indicate how the supporting organization will assist in the project or what that organization supports, as applicable. No other types of letters of support will be considered in the review of the application. Please include the words "letters of support" or "LOS" in the filename.

Applications submitted through Grants.gov will be time and date stamped electronically. If you have not received a confirmation of receipt from EPA (not from Grants.gov within 30 days of the application deadline, please contact Glenn Warren at (312) 886-2405. Failure to do so may result in your application not being reviewed.

C. Technical Issues With Submission

1. Once the application package has been completed, the "Submit" button should be enabled. If the "Submit" button is not active, please call Grants.gov for assistance at 1-800-518-4726. Applicants who are outside the U.S. at the time of submittal and are not able to access the toll-free number may reach a Grants.gov representative by calling 606-545-

5035. Applicants should save the completed application package with two different file names before providing it to the AOR to avoid having to re-create the package should submission problems be experienced or a revised application needs to be submitted.

2. Submitting the application. The application package must be transferred to Grants.gov by an AOR. The AOR should close all other software before attempting to submit the application package. Click the "submit" button of the application package. Your Internet browser will launch and a sign-in page will appear. **Note: Minor problems are not uncommon with transfers to Grants.gov. It is essential to allow sufficient time to ensure that your application is submitted to Grants.gov BEFORE the due date identified in Section IV of the solicitation.** The Grants.gov support desk operates 24 hours a day, seven days a week, except Federal Holidays.

A successful transfer will end with an on-screen acknowledgement. For documentation purposes, print or screen capture this acknowledgement. If a submission problem occurs, reboot the computer – turning the power off may be necessary – and re-attempt the submission.

Note: Grants.gov issues a "case number" upon a request for assistance.

3. Transmission Difficulties. If transmission difficulties that result in a late transmission, no transmission, or rejection of the transmitted application are experienced, and following the above instructions do not resolve the problem so that the application is submitted to Grants.gov by the deadline date and time, follow the guidance below. The Agency will make a decision concerning acceptance of each late submission on a case-by-case basis. All emails, as described below, are to be sent to warren.glenn@epa.gov with the FON in the subject line. If you are unable to email, contact Glenn Warren at (312) 886-2405. Be aware that EPA will only consider accepting applications that were unable to transmit due to Grants.gov or relevant SAM.gov system issues or for unforeseen exigent circumstances, such as extreme weather interfering with internet access. Failure of an applicant to submit timely because they did not properly or timely register in SAM.gov or Grants.gov is not an acceptable reason to justify acceptance of a late submittal.

a. If you are experiencing problems resulting in an inability to upload the application to Grants.gov, it is essential to call Grants.gov for assistance at 1-800-518-4726 before the application deadline. Applicants who are outside the U.S. at the time of submittal and are not able to access the toll-free number may reach a Grants.gov representative by calling 606-545-5035. Be *sure* to obtain a case number from Grants.gov. If the problems stem from unforeseen exigent circumstances unrelated to Grants.gov, such as extreme weather interfering with internet access, contact Glenn Warren at (312) 886-2405.

b. Unsuccessful transfer of the application package: If a successful transfer of the application cannot be accomplished even with assistance from Grants.gov due to electronic submission system issues or unforeseen exigent circumstances, send an email message to warren.glenn@epa.gov prior to the application deadline. The email message must document the problem and include the Grants.gov case number as well as the entire application in PDF format as an attachment.

c. Grants.gov rejection of the application package: If a notification is received from Grants.gov stating that the application has been rejected for reasons other than late submittal promptly send an email to warren.glenn@epa.gov with the FON in the subject line within one business day of the closing date of this solicitation. The email should include any materials provided by Grants.gov and attach the entire application in PDF format.

Please note that successful submission through Grants.gov or via email does not necessarily mean your application is eligible for award.

D. Narrative Proposal:

Narrative Proposals (including the **Summary Information Page, Workplan, Detailed Budget Narrative; Maps, Charts and Figures; and Meeting/Conference/Workshop Information**) must be no more than **thirty** single-spaced pages in length and include the items below in the requested order**. Excess pages will not be reviewed. Maps, charts, pictures, and other figures must be included in the Narrative Proposal file. They may be included within the body of the workplan or as an appendix. In either case those items will be counted against the page limit. Maps, charts, pictures, and other figures that are submitted as a separate attachment will not be reviewed.**

Each Narrative Proposal must be formatted for 8½" x 11" paper and should use no smaller than an 11-point Times New Roman font with 1" margins. Do not use a "double column" (aka newspaper) format. Readability is of paramount importance. Do not include more than one application in any file. Please do not zip the file or use a zip extension for your file because it will not be accepted.

Summary Information Page (should not exceed one page):

i. **Project Title.** Please limit to 60 characters. EPA reserves the right to change the project title for its administrative convenience.

ii. **Applicant Information.** Include applicant (organization) name, address, contact person, phone number, and email address. *Do not include private information.*

iii. **Proposed Funding Request.** The total dollar amount requested from EPA-make sure it is within the limits specified or your application will be rejected.

iv. **Project Duration.** Provide beginning and ending dates. See "Anticipated Start and End Dates" in Section II.

v. **Brief Project Description.** Summarize the proposed project in 100 words or less in a clear and succinct manner in PLAIN LANGUAGE, including expected outputs, outcomes and environmental benefits resulting from implementation of the project Include environmental KEY TERMS that could

be used as search terms (e.g., *Cladophora*, algae, ecosystem, water quality, *etc*.). Do not use acronyms. Should the proposal be selected and a grant awarded, this description may be posted to the EPA Website. EPA reserves the right to make unilateral changes to conform to posting requirements. See https://www.glri.us//projects/index.html for examples.

Work Plan:

The Work Plan for the proposed project **must** explicitly describe how the proposed project meets the guidelines established in Sections I-III of this RFA (including the threshold eligibility criteria in Section III) and **must** address each of the evaluation criteria set forth in Section V. Each Work Plan should be organized in the order and with the headings and information requested below. Details and associated point values for each section of the workplan are described in RFA Section V.A (Application Review) below.

1) Technical Process and Study Design

Applicants should describe with specificity the nature of the proposed project including what will be done, by whom, how, and when it will be accomplished. Outline the steps to be taken and the significant milestones to be achieved to complete the proposed project as well as the estimated dates of these achievements, including the submittal of the final report.

Applicants should describe the process by which the applicant will implement a project consistent with the two major objectives of this RFA: 1) establishment of sentinel monitoring sites in Lakes Michigan, Huron, Erie and Ontario by a consortium for one or more growing seasons to measure *Cladophora* growth, biomass and water quality parameters influencing growth at varying nearshore depth intervals, and 2) application of enhanced *Cladophora* growth models to enable total and soluble reactive phosphorus targets to be developed for the eastern basin of Lake Erie as well as for Lakes Ontario, Michigan, and Huron.

a) **Establishment of sentinel sites and sample collection –** Applicants should describe their plans and rationale to establish sentinel sites for the collection of data on *Cladophora* growth, biomass and water quality parameters and other environmental characteristics driving *Cladophora* growth and distribution at varying nearshore depths. Sentinel sites should correspond to known fouling areas, where it is possible to do so. Maps of *Cladophora* sites and control sites for each lake should be included.

Applicants should describe their selected sites and the measurements that will be taken there. Two or more sites per lake should be established (at least one in a *Cladophora* growth area and one in a control area). Applicants should describe how they will provide data to support modeling. For example, current models require measurements of *Cladophora* growth, biomass, stored phosphorus content, strand length and water quality parameters influencing growth for an entire growing season.

The water quality parameters included in *Cladophora* growth models could include: light extinction, total phosphorus, bioavailable and soluble reactive phosphorus, nitrate, ammonia, temperature, and other routine water quality parameters. Frequency of sampling should also be addressed. If used, applicants should describe deployment and use of in-situ sensors and cameras to measure currents (water movement), near bottom water quality conditions and *Cladophora* sloughing events; remote sensing based analysis of benthic vegetation; and shore fouling surveys to measure algal debris over a defined area of shoreline corresponding to the sentinel sites. Sample collection methods should be consistent across all sentinel site locations so as to provide comparable measurements of *Cladophora* growth.

b) **Model enhancement –** Applicants should describe how the results of the year-long sentinel sites will be used to enhance *Cladophora* growth models with sufficient resolution to diagnose whole lake and local/nearshore relationships to enable phosphorus targets to be developed for the eastern basin of Lake Erie as well as phosphorus targets for Lake Michigan, Huron and Ontario. Applicants should describe their approach to:
   (1) Develop/enhance *Cladophora* growth models with respect to relationships with nutrient concentrations, nutrient loads, light, temperature, and benthic boundary layer on various temporal resolutions.
   (2) Link *Cladophora* growth models to biophysical and hydrodynamic models with sufficient resolution to diagnose whole lake and local/nearshore relationships.
   (3) Use enhanced models to forecast the phosphorus load and concentration required to reduce *Cladophora* biomass to acceptable levels.
   (4) Calibrate and confirm models for use in each Lake using the sentinel site results and other existing data. Develop approaches (including field validation) to estimate the accuracy and predictive uncertainty associated with these models.
   (5) Enhance model algorithms of *Cladophora* sloughing and integrate with transport and fate modules to forecast the deposition of *Cladophora* on beaches.
   (6) Conduct performance evaluation of models/model sensitivity analyses.

c) **Reporting and data dissemination –** Applicants should describe their plans to ensure the monitoring and modeling information generated as a result of this project is made available to the Great Lakes community in a wide variety of formats, including peer-reviewed journals and internet products.

   Applicants are expected to discuss how this dissemination will occur, with a focus on water quality managers.

   Applicants should demonstrate how they will work with the EPA Project Officer and Technical Contact to report on the status of the project in a timely fashion. Applicants should also discuss how their work will increase understanding of the biological health of the Great Lakes and the implications for ecosystem management. The advancement of scientific knowledge may include the application of ecosystem

models, development of nearshore indicators, and the further education of graduate students in taxonomy and Great Lakes ecosystem research.

Applicants should demonstrate how they will provide an interim report with initial findings of this study by March 2019 for use in the 2019 GLWQA Progress Report of the Parties and the Great Lakes Public Forum. The final report should include recommendations for future application of this work, specifically ways to utilize the sentinel sites to enhance ongoing monitoring and assessment programs in the Great Lakes, such as CSMI or SOGL, to meet GLRI and GLWQA objectives.

Applicants should explain how the results will be interpreted using a common suite of indicators and metrics, consistent with the recommendations from Annex 4. For example, the Annex 4 Objectives and Targets Task Team 2015 report identified the following potential metrics for in-lake growth: a) areal dry weight of *Cladophora* as the maximum seasonal biomass over the depth range of *Cladophora* growth, or b) areal dry weight of *Cladophora* as the maximum seasonal biomass measured over a standardized depth strata that have been pre-identified as the zone of maximum growth over the specific sentinel shoreline segment, and c) tissue concentrations of P in *Cladophora* collected at the time of seasonal peak growth and at the depth of maximal growth of *Cladophora.*

2) Results - Outputs and Outcomes

Specify the estimated quantitative and qualitative expected results (outputs and outcomes) of the proposed project **including but not limited to those specifically identified in Section I**, as well as the GLRI Action Plan II goal of nuisance algal blooms eliminated and the GLRI Action Plan II commitment to issue Great Lakes Water Quality Agreement triennial State of the Lakes reports,, and the approach and measurements that will be used to track and measure your progress towards achieving the applicable outputs and outcomes. Demonstrate how the project will achieve the desired results. Provide a timetable or schedule with target dates projected for major tasks, accomplishments and deliverables.

Include a statement of the project's relevance to the Great Lakes, particularly how the results will address (1) the needs and priorities of the GLRI Action Plan II (http://glri.us/actionplan/pdfs/glri-action-plan-2.pdf), or (2) Great Lakes protection and restoration pursuant to Objective 2.2 (Protect and Restore Watersheds and Aquatic Ecosystems) of the Fiscal Year 2014-2018 EPA Strategic Plan (http://www2.epa.gov/planandbudget/strategicplan). (It is sufficient for the purpose of clause (ii) to include a general statement of how the project will protect and restore the Great Lakes ecosystem without specifying a connection to the strategic measures for the Great Lakes that are included in the EPA Strategic Plan.)

3) Collaboration

Describe the type of any collaboration/support proposed, how you will ensure that it will materialize during project performance, and what role it will play in the overall project. (Any letters demonstrating evidence of collaboration and support from the public or private sector should be attached as part of item 11 of the Application Materials listed in Section IV.) Describe how you will coordinate activities of the project with related or complementary projects and studies. IF YOU INTEND TO PROVIDE EPA FUNDS TO ANY COLLABORATING ORGANIZATION, PLEASE CAREFULLY REVIEW PROVISIONS ON "CONTRACTS AND SUBAWARDS" at: https://www.epa.gov/grants/epa-solicitation-clauses.

Applicants proposing to provide a voluntary cost-match or other form of leveraging to demonstrate collaboration and support for the project should describe that in this section in accordance with the voluntary cost share requirements in Section III of this announcement. Applicants should describe how they will ensure it is provided during project performance and what role it will play in the overall project. A letter of support should also be included in the application package to document any proposed leveraging. Any additional funds/resources, including voluntary cost-matches and their source, must be identified in the application and, if applicable, on appropriate grant application forms. The additional funds or other resources need not be for eligible and allowable project costs under the EPA assistance agreement unless the applicant proposes to provide a voluntary cost-match. If EPA accepts an offer for a voluntary cost-match, applicants must meet the matching commitment as a condition of receiving EPA funding. The recipient is legally-obligated to meet any proposed voluntary cost-match that is included in the approved project budget because the grant agreement will include the voluntary cost-match. Applicants may use their own funds or other resources for a voluntary cost-match if the standards at 2 C.F.R. § 200.306 are met. Only eligible and allowable costs may be used for voluntary cost-match. Other federal grants may not be used as voluntary cost-matches without specific statutory authority (e.g., HUD's Community Development Block Grants).

4) Programmatic Capability and Past Performance

Submit a list (of no more than 5) of federally-funded assistance agreements[3] (including but not limited to previous GLRI awards from EPA or other federal sources) similar in size, scope and relevance to the proposed project that your organization performed within the last three years (no more than 5 agreements, and preferably EPA agreements) and describe: (1) whether, and how, you were able to successfully complete and manage those agreements and (2) your history of meeting the reporting requirements under those agreements including whether you adequately and timely reported on your progress towards achieving the expected outputs and outcomes of those agreements (and if not, explain why not) and whether you submitted acceptable final technical reports under the

[3] Assistance agreements include federal grants and cooperative agreements, but not federal or other contracts.

agreements. For all EPA grants listed, include the EPA Grant Number. In evaluating applicants under these factors in Section V, EPA will consider the information provided by the applicant and may also consider relevant information from other sources, including information from EPA files and from current and prior federal agency grantors (e.g., to verify and/or supplement the information provided by the applicant).

Please Note: If you have previously received a GLRI award or awards, you should list the award(s) and provide the information described above. In addition, for EPA GLRI awards issued in 2010 to 2016 please provide an explanation of and documentation supporting your quarterly rate of expenditure on those prior GLRI projects up through the date of the applicant's submission under this solicitation.

If you do not have any relevant or available past performance or past reporting information, please indicate this in the proposal and you will receive a neutral score for these factors (a neutral score is half of the total points available in a subset of possible points). **If you do not provide any response for these items, you may receive a score of 0 for these factors.**
In addition, provide information on your organizational experience and plan for timely and successfully achieving the objectives of the proposed project, and your staff expertise/qualifications, staff knowledge, and resources or the ability to obtain them, to successfully achieve the goals of the proposed project.

Applicants should demonstrate expertise in *Cladophora* monitoring and modeling through publications in the literature relevant to the Great Lakes, limnology, and aquatic biology. Provide information on your organizational experience and your plan for timely and successfully achieving the objectives of the proposed project, and your staff expertise/qualifications, staff knowledge, and resources (or the ability to obtain them) to successfully achieve the goals of the proposed project. This information should be supported by resumes or curricula vitae for key staff as defined in document 8 of Section IV.

5) Education/Outreach

Applicants should describe how they intend to educate and train undergraduate and graduate students in Great Lakes ecological issues as part of the project.

Applicants should demonstrate that the project will effectively disseminate data and reports for use by local, state and tribal environmental managers, academia and/or other interested stakeholders. The applicant must also specify plans for timely information transfer, including annual interpretive reports, presentations at meetings and conferences, journal articles, textbooks, Internet postings, and peer-reviewed publications.

Applicants should describe how project results will be disseminated to interested stakeholders; your demonstrated track record of outreach to citizens on environmental

issues; and the potential of the project for transferability and applicability to other places in accordance with the application review criteria in Section V.A.7.

6) Detailed Budget Narrative

Applicants should clearly explain how EPA funds and any voluntary cost-share will be used. For guidance, see Appendix -1. Use this section to provide a narrative description of the budget found in the SF-424A. Applicants must itemize costs related to personnel, fringe benefits, contractual costs, travel, equipment, supplies, other direct costs, indirect costs, and total costs. Applicants should use whole dollar amounts. Applicants should include costs for quality system documentation (i.e., quality assurance project plans or quality management plans) and environmental and regulatory compliance (e.g., costs for assisting EPA with compliance by conducting surveys and analysis to identify whether protected resources are in the project location and, if so, whether there will be any effects; costs associated with potential mitigation measures; *etc.*). Applicants that do not include such costs may have to fund these and other overlooked costs out of their own funds.

As part of the detailed budget narrative, applicants should explain their approach, procedures, and controls for ensuring that awarded grant funds will be expended in a timely and efficient manner. Please include an explanation of expenditure projections, with quarterly fiscal projections and milestones, for the life of the grant.

E. Other Attachments

The additional attachments listed in Section IV are not part of the Narrative Proposal and are not included in the 30-page limit; however, forms 8 and 11 as described in Section IV.B may, as appropriate, be considered during evaluations. For additional information about each of these attachments, see the descriptions contained in Section IV.B.

F. Notification

Within two weeks after the application due date, EPA intends to post a link to project information (including title and identification number) to: http://www.epa.gov/great-lakes-funding/2017-rfa-great-lakes-cladophora. ALL APPLICANTS SHOULD CHECK THIS POSTING TO VERIFY THAT THEIR SUBMISSIONS HAVE BEEN INCLUDED IN EPA'S DATABASE. See Section VII for contact information if you do not receive a confirmation or if your project is not posted. All applicants will be contacted following selections to tell them whether or not they have been selected. Selection information will also be posted to a page linked to: http://www.epa.gov/great-lakes-funding/2017-rfa-great-lakes-cladophora.

G. Information provided to EPA

Before applying for an award, applicants should be aware that under Public Law No. 105-277,

data produced under an award, and any information provided to EPA, is subject to the Freedom of Information Act.

H. Communications

See: http://www.epa.gov/grants/epa-solicitation-clauses for general provisions regarding communications with applicants. Submit questions using the form available from http://www.epa.gov/great-lakes-funding/2017-rfa-great-lakes-cladophora. EPA will respond to questions received through August 18, 2017, but cannot guarantee that it will respond to questions received thereafter.

I. Intergovernmental Review

Executive Order 12372, Intergovernmental Review of Federal Programs, may be applicable to awards resulting from this announcement. Applicants selected for funding may be required to provide a copy of their application to their State Point of Contact (SPOC) for review, pursuant to Executive Order 12372. This review is not required before submitting an application and not all states require such a review. The Office of Management and Budget may be in the process of updating the SPOC list. Until it is updated or further guidance is provided, for informational purposes only, a prior listing of SPOC may be accessed at https://obamawhitehouse.archives.gov/omb/grants_spoc/

J. Additional Provisions For Applicants Incorporated Into RFA.

Additional provisions that apply to this RFA and/or awards made under this RFA, including but not limited to those related to confidential business information, application assistance and communications, management fees, contracts and subawards under grants, and duplicate funding can be found at: EPA Solicitation Clauses (https://www.epa.gov/grants/epa-solicitation-clauses).

These, and the other provisions that can be found at the website link, are important, and applicants **must** review them when preparing proposals for this RFA. If you are unable to access these provisions electronically at the website above, please communicate with the EPA contact listed in Section VII of this RFA to obtain the provisions.

V. APPLICATION REVIEW AND SELECTION PROCESS

A. Application Review:

Applications meeting the threshold eligibility criteria in Section III will be evaluated based on the criteria set forth below. Applicants should directly and explicitly address these criteria as part of their Narrative Proposal and application submission. Each submittal will be rated under a point system, with a total of 120 points possible. Applicants will be evaluated based on the quality and extent to which the work proposed will address the criteria; the failure to provide applicable information in the application may affect the score assigned for a criterion.

1) **Technical Process and Study Design (60 points)**

a) **Establishment of sentinel sites and sample collection (30 points)**

Applicants will be evaluated based on how well they demonstrate a study design and monitoring protocols that will determine *Cladophora* growth, biomass and water quality parameters and other environmental characteristics driving *Cladophora* growth and distribution in the nearshore.

b) **Model development (20 points)**

Applicants will be evaluated on their demonstrated ability to use the data collected at sentinel sites to: enhance *Cladophora* growth models; to forecast the phosphorus load and concentration required to reduce *Cladophora* biomass to acceptable levels; and estimate the accuracy and predictive uncertainty associated with these models.

c) **Reporting and data dissemination (10 points)**

Applicants will be evaluated based on how well they demonstrate their plans and ability to report in a timely manner on the results of this project to water quality managers and the broader Great Lakes community in a wide variety of formats, including peer-reviewed journals and internet products. Applicants will also be evaluated on their plans to disseminate data.

2) **Results (12 points)**

a) **Outputs (6 points)**

Applicants will be evaluated based on how well their project will achieve the expected outputs listed in Section I and demonstrates how it will achieve the GLRI Action Plan II commitment to issue Great Lakes Water Quality Agreement Triennial State of the Lakes reports. In addition, the applicants approach for tracking and measuring its progress towards achieving the outputs will be evaluated.

b) **Outcomes (6 points)**

Applicants will be evaluated based on the how well they demonstrate a proposed *Cladophora* monitoring and modeling plan will achieve relevant long-term goals of GLRI Action Plan II (nuisance algal blooms eliminated), the 2012 GLWQA, and EPA's goal of protecting human health and the environment. Applicants will also be evaluated on the extent to which they demonstrate how the project outcomes including those identified in Section I will be achieved and how progress towards achieving the project outcomes can be measured, assessed and tracked in detail over the project period.

3) **Collaboration (12 points)**

Applicants will be evaluated based on how well they demonstrate that their project will involve a diverse collaboration of academic institutions, government agencies and/or other interested stakeholders as described in Section IV.D.3. The diverse collaboration may contribute to all aspects of the project including study design, data collection, analysis, and dissemination of results to a broad Great Lakes audience.

Applicants proposing voluntary cost-share or another form of leveraging will be scored under this criterion. Applicants will be evaluated based on the extent they demonstrate that they will leverage additional funds/resources, including voluntary cost-matches, beyond the grant funds awarded to support the proposed project activities and how these funds/resources will be used to contribute to the performance and success of the proposed project. Applicants will also be evaluated based on the amount and type of leveraged resources to be provided, how they will obtain the leveraged resources, the likelihood the leveraging will materialize during grant performance, the strength of the leveraging commitment, and the role the leveraged funds/resources will play to support the proposed project activities.

4) **Programmatic Capability and Past Performance (12 points - 3 points each item below)**

Under this criterion, applicants will be evaluated based on their ability to successfully complete and manage the proposed project taking into account:
(i) the organization's past performance in successfully completing and managing the assistance agreements identified in response to Section IV.D of the announcement **(3 points),**
(ii) the organization's history of meeting the reporting requirements under the assistance agreements identified in response to Section IV.D of the announcement including whether they submitted acceptable final technical reports under those agreements and the extent to which they adequately and timely reported on their progress towards achieving the expected outputs and outcomes under those agreements and if such progress was not being made whether they adequately reported why not **(3 points),**
(iii) the organization's experience and plan for timely and successfully achieving the objectives of the proposed project **(3 points),** and
(iv) staff expertise/qualifications, staff knowledge, and resources or the ability to obtain them, to successfully achieve the goals of the proposed project. Demonstrated expertise of staff in monitoring and modeling Great Lakes *Cladophora* through publications in the literature relevant to the Great Lakes, limnology, and aquatic biology. **(3 points)**.

In evaluating applicants under items i and ii of this criterion, the Agency will consider the information provided by the applicant and may also consider relevant information from other sources including agency files and prior/current grantors (e.g., to verify and/or supplement the information supplied by the applicant). If you do not have any relevant or available past performance or past reporting information, please indicate this in the proposal and you will receive a neutral score for these subfactors (items i and ii above: a neutral score is half of the total points available in a subset of possible points). If you do not provide any response for these items, you may receive a score of 0 for these factors.

NOTE: Points may be reduced from an applicant's score under item a, above, if it has previously been awarded GLRI funds and such funds, or a significant portion of them, have not been expended expeditiously as of the date of the applicant's submission without adequate explanation. Applicants must provide an explanation if they have failed to expeditiously expend previously awarded GLRI funds or a significant portion thereof.

5) **Education/Outreach (6 points)**

Applicants will be evaluated based on the quality and diversity of project dissemination methods proposed including the range of audiences targeted for dissemination, plans and flexibility to summarize various data in formats appropriate for intended use by audiences, and the immediacy of information dissemination. Applicants will also be evaluated on the extent to which undergraduate and graduate students will benefit from training and activities associated with the agreement.

6) **Detailed Budget Narrative (18 points): (Also see Appendix I, Budget Sample).** Applications will be evaluated based on the reasonableness, necessity and allowability (of costs) of the proposed budget for the level of work proposed and for the expected benefits to be achieved. Applicants will also be evaluated on their approach, procedures, and controls for ensuring that awarded grant funds will be expended in a timely and efficient manner.

An applicant's budget and budget narrative must account for both federal funds and any non-federal funds (e.g., any voluntary cost-share/match if applicable). Applicants must precisely describe in their budget narrative how they will account for any voluntary cost-share/match or other non-EPA funds and what role EPA funding will play in the overall project

B. Selection Process:

1. **Evaluation:**

Applications will first be evaluated against the threshold factors listed in Section III. Only those applications which meet all of the threshold factors will be evaluated using the evaluation criteria listed above. There will be a review panel, composed of federal agency staff, established to assess an applicant's ability to perform the proposed project successfully based on the criteria above. Eligible applications will be evaluated by the review panel members independently based on the criteria above. Following independent assessment by review panel members, the panel will be convened to discuss the merits of each proposal and develop rankings and a preliminary funding recommendation for the selection official.

Final funding decisions will be made by the selection official. In making the final funding decision, the selection official will consider the review panel rankings and recommendations and may also consider the following factors: (a) the amount of the organization's unliquidated obligations on previous GLRI grants and (b) program priorities.

C. Additional Provisions Incorporated By Reference

Additional Provisions For Applicants Incorporated Into The Solicitation:
Additional provisions that apply to this solicitation and/or awards made under this solicitation including the clause on Reporting and Use of Information Concerning Recipient Integrity and Performance can be found at EPA Solicitation Clauses (https://www.epa.gov/grants/epa-solicitation-clauses). These, and the other provisions that can be found at the website link, are important, and applicants must review them when preparing proposals for this solicitation. If you are unable to access these provisions electronically at the website above, please communicate with the EPA contact listed in this solicitation to obtain the provisions.

VI. AWARD ADMINISTRATION

A. Award Notices and Status: Following evaluation of applications, all applicants will be notified regarding their status, as follows:

EPA anticipates notification to *unsuccessful* applicants will be made via email or postal mail to the original signer of the application or the project contact listed in the application.

EPA anticipates that notification to *finalists* will be made via email to the original signer of the application or the project contact listed in the application. The notification will advise them that their proposed project has been evaluated and forwarded to the EPA approving official for further consideration and possible award. This notification, which informs the applicant that its proposal has been selected and is being recommended for award, is not an authorization to begin work. Applicants are cautioned that only the EPA award official is authorized to bind the Government to the expenditure of funds; selection does not guarantee an award will be made. For example, statutory authorization, funding or other issues discovered during the award process may affect the ability of EPA to make an award to an applicant. The award notice signed by the EPA award official, is the authorizing document and will be provided through electronic or postal mail. The finalist may need to prepare and submit additional documents and forms (e.g., work plan), which **must** be approved by EPA, before the cooperative agreement can officially be awarded. The time between notification of selection and award of grant can take up to 90 days or longer.

B. Administrative and National Policy Requirement: The successful applicants will be required to adhere to federal grants requirements, particularly those found in 2 C.F.R. 200 (Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards) and EPA-specific regulations that are located in 2 CFR 1500. This includes government-wide requirements pertaining to accounting standards, lobbying, minority or woman business enterprise, publication, meetings, construction, and disposition of property. EPA regulations governing assistance programs and recipients are codified in Title 40 of the Code of Federal Regulations. A listing and description of general EPA regulations applicable to the award of assistance agreements may be viewed at: http://www.epa.gov/grants.

C. Quality System Documentation: Quality system documentation (i.e., quality assurance project plans or quality management plans) is required for grants involving the use or collection of environmental data. EPA **must** have this documentation within 90 days of award and it **must** be approved **before grantees commence activities associated with the use or collection of environmental data**. Applicants should budget time and resources for developing quality system documentation. **Applicants that do not do so may have to fund the quality system documentation and any necessary project changes out of their own funds.** For specific guidance on GLNPO's quality requirements please see http://www.epa.gov/greatlakes/quality/index.html.

D. Reporting Requirements: Applicants selected for funding shall provide narrative technical progress reports addressing financial and work progress. Special conditions requiring financial and progress reporting and a detailed final technical report, will be added to awards. Applicants should budget time and resources for these activities.

PLEASE NOTE: If selected, applicants may be asked to revise their anticipated fiscal expenditure projections on a quarterly basis in order to monitor the progress of the awarded project. These projections should be submitted as a part of the fiscal and technical reporting.

E. Other Programmatic Requirements: Additional applicable programmatic terms and conditions will be included in grant agreements, including provisions for: EPA pre-approval of subcontracting and of conference participation. Applicants should budget time and resources for these activities.

F. Issuance of Awards: EPA reserves the right to negotiate appropriate changes in project terms and amounts (i.e., changes that do not affect the integrity of the competition or materially change the application) consistent with EPA Order 5700.5A1 and other applicable policies, before making final decisions and awards. EPA reserves the right to reject all applications and make no awards. Applicants may be asked to include greater detail and specificity for their work plans before final awards are issued. Applicants may also be requested to satisfy data quality or peer review requirements before or shortly after the awarding of grants.

G. Additional Provisions For Applicants Incorporated Into RFA. Additional provisions that apply to this solicitation and/or awards made under this solicitation, including but not limited to those related to DUNS, SAM, copyrights, disputes, and administrative capability, can be found at EPA Solicitation Clauses (https://www.epa.gov/grants/epa-solicitation-clauses). These, and the other provisions that can be found at the website link, are important, and applicants must review them when preparing proposals for this solicitation. If you are unable to access these provisions electronically at the website above, please communicate with the EPA contact listed in this solicitation to obtain the provisions.

These, and the other provisions that can be found at the website link, are important, and applicants **must** review them when preparing proposals for this RFA. If you are unable to access these provisions electronically at the website above, please communicate with Glenn Warren (312-886-2405) to obtain the provisions.

VII. AGENCY CONTACTS

RFA Contact: (For administrative, eligibility, technical, and other general RFA questions):

- Glenn Warren, 312-886-2405 / warren.glenn@epa.gov

VIII. OTHER INFORMATION

GLNPO will send an email announcement of these and any of its funding opportunities to all who register at www.epa.gov/great-lakes-funding/great-lakes-news-email-list.

Appendix I
Budget Sample

Budget Narrative

This section of the work plan is a detailed description of the budget found in the SF-424A, and **must** include a detailed discussion of how EPA funds will be used. Applicants **must itemize** costs related to personnel, fringe benefits, travel, equipment, supplies, contractual costs, other direct costs, indirect costs, and total costs.

If the project budget includes any voluntary cost share, the Budget Detail portion of the narrative proposal **must** include a detailed description of how the applicant will obtain the cost-share and how the cost-share funding will be used. If EPA accepts an offer for a voluntary cost-share, applicants **must** meet their sharing commitment as a legal condition of receiving EPA funding. If the proposed cost-share is to be provided by a third-party, a letter of commitment is required. Any form of cost-share included in the Budget Detail **must** also be included on the SF 424 and SF 424A. Please see Sections III and Section IV.C.2.B.iii of this RFA for more detailed information on cost-share.

Applicants should use the following instructions, budget object class descriptions, and example table to complete the Budget Detail section of the work plan. Use only whole dollar amounts.

1. **Personnel - List all staff positions by title. Give annual salary, percentage of time assigned to the project, and total cost for the budget period.** This category includes only direct costs for the salaries of those individuals who will perform work directly for the project (generally, paid employees of the applicant organization). If the applicant organization is including staff time (in-kind services) as a cost share, this should be included as Personnel costs. Personnel costs do not include: (1) costs for services of consultants, contractors, consortia members, or other partner organizations, which are included in the "Contractual" category; (2) costs for employees of subrecipients under subawards, which are included in the "Other" category; or (3) effort that is nor directly in support of the proposed project, which may be covered by the organization's negotiated indirect cost rate. The budget detail **must** identify the personnel category type by Full Time Equivalent (FTE), including percentage of FTE for part-time employees, number of personnel proposed for each category, and the estimated funding amounts.

2. **Fringe Benefits - Identify the percentage used, the basis for its computation, and the types of benefits included**. Fringe benefits are allowances and services provided by employers to their employees as compensation in addition to regular salaries and wages. Fringe benefits include, but are not limited to the cost of leave, employee insurance, pensions and unemployment benefit plans.

3. **Travel - Specify the mileage, per diem, estimated number of trips in-State and out-of-State and international (include specific international locations), number of**

travelers, and other costs for each type of travel. Travel may be integral to the purpose of the proposed project (e.g., inspections) or related to proposed project activities (e.g., attendance at meetings). Travel costs do not include: (1) costs for travel of consultants, contractors, consortia members, or other partner organizations, which are included in the "Contractual" category; (2) travel costs for employees of subrecipients under subawards, which are included in the "Other" category.

4. **Equipment - Identify each item to be purchased which has an estimated acquisition cost of $5,000 or more per unit and a useful life of more than one year.** Equipment also includes accessories necessary to make the equipment operational. Equipment does not include: (1) equipment planned to be leased/rented, including lease/purchase agreement; or (2) equipment service or maintenance contracts. These types of proposed costs should be included in the "Other" category. Items with a unit cost of less than $5,000 should be categorized as supplies, pursuant to 2 C.F.R. 200 and or 2 C.F.R. 1500. The budget detail **must** include an itemized listing of all equipment proposed under the project.

5. **Supplies - "Supplies" means all tangible personal property other than "equipment".** The budget detail should identify categories of supplies to be procured (e.g., laboratory supplies or office supplies). Non-tangible goods and services associated with supplies, such as printing service, photocopy services, and rental costs should be included in the "Other" category.

6. **Contractual - Identify each proposed contract and specify its purpose and estimated cost.** Contractual/consultant services are those services to be carried out by an individual or organization, other than the applicant, in the form of a procurement relationship. Leased or rented goods (equipment or supplies) should be included in the "Other" category. The applicant should list the proposed contract activities along with a brief description of the scope of work or services to be provided, proposed duration, and proposed procurement method (competitive or noncompetitive), if known.

7. **Other - List each item in sufficient detail for EPA to determine the reasonableness and allowability of its cost.** This category should include only those types of direct costs that do not fit in any of the other budget categories. Examples of costs that may be in this category are: insurance, rental/lease of equipment or supplies, equipment service or maintenance contracts, printing or photocopying, rebates, and subaward costs. Subawards (e.g., subgrants) are a distinct type of cost in this category. The term "subaward" means an award of financial assistance (money or property) by any legal agreement made by the recipient to an eligible subrecipient. This term does not include procurement purchases, technical assistance in the form of services instead of money, or other assistance in the form of revenue sharing, loans, loan guarantees, interest subsidies, insurance, or direct appropriations. Subcontracts are not subawards and belong in the contractual category. Applicants **must** provide the aggregate amount they propose to issue as subaward work and a description of the types of activities to be supported.

8. **Indirect Charges - If indirect charges are budgeted, indicate the approved rate and base.**
   Indirect costs are those incurred by the grantee for a common or joint purpose that benefit more than one cost objective or project, and are not readily assignable to specific cost objectives or projects as a direct cost. In order for indirect costs to be allowable, the applicant **must** have a federal or state negotiated indirect cost rate (e.g., fixed, predetermined, final or provisional), or **must** have submitted a proposal to the cognizant federal or state agency. Examples of Indirect Cost Rate calculations are shown below:

   - Personnel (Indirect Rate x Personnel = Indirect Costs)
   - Personnel and Fringe (Indirect Rate x Personnel & Fringe = Indirect Costs)
   - Total Direct Costs (Indirect Rate x Total direct costs = Indirect Costs)
   - Direct Costs minus distorting or other factors such as contracts and equipment
   - (Indirect Rate x (total direct cost – distorting factors) = Indirect Costs)

Example Budget Table

	EPA Funding	Cost-Share
Personnel		
(1) Project Manager @ $40/hr x 10 hrs/week x 52 wks		$20,800
(5) Project Staff @ $30/hr x 40 hrs/week x 40 wks	$244,000	
TOTAL PERSONNEL	$244,000	$20,800
Fringe Benefits		
20% of Salary and Wages	20% ($244,000)	20% (20,800)
- Retirement, Health Benefits, FICA, SUI	$48,800	$4,160
TOTAL FRINGE BENEFITS	$48,800	$4,160
Travel		
In State travel for Project Manager and staff: 500 mi/mo @ $0.55/mi x 12 mos.	$3,300	
Out of State (IL, WI, IA) Travel for Project Staff: 20 trips per month x $2,500 per trip	$600,000	
SOLEC Meeting (Toronto, Canada) Travel for Project Manager: 2 trips/year x $3,500 each	$7,000	
TOTAL TRAVEL	$610,300	
Equipment		
Sample Bottles (8600 x $2.98 each)	$25,700	
Fish Sampling Nets (300 x $50each)	$15,000	
1 Project Vehicle	$25,000	
1 Project Boat	$15,000	
TOTAL EQUIPMENT	81,100	
Supplies		
Office and related supplies to support training	$400	

Office computer and printer	$2,500	
TOTAL SUPPLIES	$2,900	
Contractual		
ABC Support Services Contract	$100,000	
XYZ Land & Water Conservation	$66,400	
TOTAL CONTRACTUAL	$166,400	
Other		
Travel for 3 representatives to attend workshop training – 100 trips x $1,000 each	$100,000	
Travel for 4 representatives to attend workshop training – 200 trips x $2,000 each	$500,000	
TOTAL OTHER	$500,000	
Indirect Charges		
Federal Negotiated Indirect Cost Rate = 10% (Indirect Rate x Personnel = Indirect Costs; as negotiated)	$26,480	
TOTAL INDIRECT	$26,480	
TOTAL FUNDING	$1,679,580	$24,960
TOTAL PROJECT COST	$1, 704,540	

** Any voluntary cost-share funds, while not required under this RFA, **must** also be included on the SF-424A as detailed in Section IV.C.2.B.iii of this RFA. Federal funds are not allowed to be used for cost share; please identify the source of the cost share in your budget narrative.

Expeditious Spending and Sufficient Progress in the use of GLRI Funds: Include an explanation of how, if the applicant is awarded a grant, they will ensure that the funding will be used expeditiously.