



**Date Posted: January 13, 2022**

## **REQUEST FOR PROPOSALS (RFP)**

### ***Utility Field Guide for Developing a Cyanobacteria and Cyanotoxin Monitoring Program (RFP 5120)***

**Due Date:** Proposals must be received by **3:00 pm Mountain Time**  
**on Thursday, March 10, 2022**

**WRF Project Contact:** Julie Minton, [jminton@waterrf.org](mailto:jminton@waterrf.org)

#### **Project Objectives**

Develop a field guide that helps drinking water systems choose cyanotoxin monitoring strategies that aid in their site-specific drinking water risk management, including:

- Synthesis of available tools to evaluate the presence of cyanobacteria and/or cyanotoxins in source water, in-plant, and finished water, and their relative advantages and disadvantages and estimation of costs. This will include a discussion of the mechanisms, strengths and limitations of LC/MS/MS, ELISA, genetic techniques, and microscopy.
- Information and decision criteria to help utilities select and apply various screening and monitoring tools including test strips, laboratory analysis, remote sensing, and genetic tools (both DNA- and RNA-based) to assess the presence of cyanobacteria indicators (chlorophyll *a*, turbidity, etc.), cyanobacteria, and cyanotoxins in source water, in-plant, and finished drinking water.
- Guidance on how to interpret results that may be congruent (where all techniques agree) or where techniques may be discordant and determine risk from the results.
- Providing various designs for monitoring programs using both direct and indirect (qPCR) toxin methods as well as microscopy. The proposed monitoring program should include components for source water monitoring, in-plant monitoring, and/or finished water monitoring. Several case studies should be included to show the varying degrees of effort that could be used to develop an effective monitoring program.

#### **Budget**

Applicants may request up to \$100,000 in WRF funds for this project. WRF funds requested and total project value are evaluation criteria considered in the proposal selection process.

#### **Background and Project Rationale**

Although there are resources to help utilities understand monitoring approaches for cyanobacteria and their toxins in their source and finished water, including resources developed by Ohio EPA, ITRC, AWWA/WRF, there is no one resource that utilities can use to determine how to develop a monitoring design that is specific to their needs including a monitoring approach that could incorporate source water monitoring, in-plant monitoring, and finished water monitoring. Based on a survey from [project](#)

[4912](#), utilities are seeking improved methods that provide early warning for potential cyanotoxin contamination in their water supplies.

Currently, the WRF Research Area, *Cyanobacterial Blooms and Cyanotoxins: Monitoring, Control, and Communication Strategies*, has two WRF projects nearing completion that are developing web tools, a guidance document, and decision trees to assist utilities in early warning decision-making and understanding of cyanobacteria blooms ([project 4912](#) and [4914](#)). The goal for this new project is to build on the deliverables from these two projects by providing more details in the form of a clearly understandable field guide for utilities to aid in choosing and implementing a monitoring approach to manage cyanobacteria and cyanotoxin risk in their source waters and finished water.

### **Research Approach**

This RFP is intentionally flexible in the research approach to encourage creativity and originality from proposers. Proposers should describe how they will conduct the research to meet the objectives listed above. The following approach is intended as a starting point:

- This project will provide a synthesis of screening and monitoring tools for determining levels of cyanobacteria, cyanotoxins, and their indicators (e.g., test strips, fluorometry, laboratory methods, qPCR, Next Generation Sequencing [NGS], etc.) with context for field application.
- Develop a guidance document providing graphical abstract explanations of techniques, tools, and approaches to be used for cyanobacteria/cyanotoxin monitoring similar to [project 4692b](#). The guidance document should:
  - Discuss required level of analyst experience, cost, storage conditions, sampling techniques, response time, etc., for utilities to understand what it will take to perform these analyses.
  - Provide case study examples of real-world monitoring designs that have used these techniques in varying capacities.

### **Expected Deliverables**

- Guidance Document/Field Guide
  - The target user of the guide is a water treatment/water quality superintendent.
  - The goal of the guide is to aid utilities in developing a cyanobacteria/cyanotoxins monitoring program with information about screening and monitoring techniques.
  - The guide will include a synthesis of available monitoring tools, their pros and cons, and case studies of effective monitoring programs.

### **Communication Plan**

Please review WRF's *Project Deliverable Guidelines* for information on preparing a communication plan. The guidelines are available at <https://www.waterrf.org/project-report-guidelines>. Conference presentations, webcasts, peer review publication submissions, and other forms of project information dissemination are typically encouraged.

### **Project Duration**

The anticipated period of performance for this project is 18 months from the contract start date.

### **References and Resources**

The following list includes examples of research reports, tools, and other resources that may be helpful to proposers. It is not intended to be comprehensive, nor is it a required list for consideration.

- [Early Detection of Cyanobacterial Toxins Using Genetic Methods \(project 2881\)](#)
  - The international need for this area of research is evident. Earlier this year, Water Research Australia (WaterRA) released a Request for Funding entitled [Guidance for Integration of Gene Testing in Cyanobacterial Management](#). Several Australian utilities and health departments joined forces to support the WaterRA project, which commenced in October 2021. There is great alignment on these two projects, and WRF has begun conversation with WaterRA to potentially create a partnership. Dr. Arash Zamyadi ([arash.zamyadi@waterra.com.au](mailto:arash.zamyadi@waterra.com.au); [@ArashZamyadi](#)) is the WaterRA point of contact working with WRF.
  - [Strategies for Preventing and Managing Harmful Cyanobacterial Blooms \(HCBs\)](#)
  - [Developing Guidance for Evaluation and Implementation for Control of HABs in Source Water \(project 4912\)](#)
  - [Utility Responses to Cyanobacterial/Cyanotoxin Events: Case Studies and Lessons Learned \(project 4914\)](#)
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### **Proposal Evaluation Criteria**

The following criteria will be used to evaluate proposals:

- Understanding the Problem and Responsiveness to RFP (maximum 20 points)
- Technical and Scientific Merit (maximum 30 points)
- Qualifications, Capabilities, and Management (maximum 20 points)
- Communication Plan, Deliverables, and Applicability (maximum 15 points)
- Budget and Schedule (maximum 15 points)

### **Proposal Preparation Instructions**

Proposals submitted in response to this RFP must be prepared in accordance with the WRF document *Guidelines for Research Priority Program Proposals*. The current version of these guidelines is available at <https://www.waterrf.org/proposal-guidelines>, along with *Instructions for Budget Preparation*. The guidelines contain instructions for the technical aspects, financial statements, indirect costs, and administrative requirements that the applicant must follow when preparing a proposal.

Proposals that include the production of web- or software-based tools, such as websites, Excel spreadsheets, Access databases, etc., must follow the criteria outlined for web tools presented in the Web Tool Criteria and Feasibility Study for The Water Research Foundation Project Deliverables at <https://www.waterrf.org/sites/default/files/file/2021-07/WebToolCriteria.pdf>.

### **Eligibility to Submit Proposals**

Proposals will be accepted from domestic or international entities, including educational institutions, research organizations, governmental agencies, consultants or other for-profit entities, and teams composed of two or more of the entities listed.

WRF's Board of Directors has established a Timeliness Policy that addresses researcher adherence to the project schedule. The policy can be reviewed at <https://www.waterrf.org/policies>. Researchers who are late on any ongoing WRF-sponsored studies without approved no-cost extensions are not eligible to be

named participants in any proposals. Direct any questions about eligibility to the WRF project contact listed at the top of this RFP.

### **Administrative, Cost, and Audit Standards**

WRF's research program standards for administrative, cost, and audit compliance are based upon, and comply with, Office of Management and Budget (OMB) Uniform Grants Guidance (UGG), 2 CFR Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, and 48 CFR 31.2 Contracts with Commercial Organizations. These standards are referenced in WRF's *Guidelines for Research Priority Program Proposals* and include specific guidelines outlining the requirements for indirect cost negotiation agreements, financial statements, and the Statement of Direct Labor, Fringe Benefits, and General Overhead. Inclusion of indirect costs must be substantiated by a negotiated agreement or appropriate Statement of Direct Labor, Fringe Benefits, and General Overhead. Well in advance of preparing the proposal, your research and financial staff should review the detailed instructions included in WRF's *Guidelines for Research Priority Program Proposals* and consult the *Instructions for Budget Preparation*, both available at <https://www.waterrf.org/proposal-guidelines>.

### **Budget and Funding Information**

The maximum funding available from WRF for this project is \$100,000. The applicant must contribute additional resources equivalent to at least 33 percent of the project award. For example, if an applicant requests \$100,000 from WRF, an additional \$33,000 or more must be contributed by the applicant. Acceptable forms of applicant contribution include cost-share, applicant in-kind, or third-party in-kind that comply with 2 CFR Part 200.306 cost sharing or matching. The applicant may elect to contribute more than 33 percent to the project, but the maximum WRF funding available remains fixed at \$100,000. **Proposals that do not meet the minimum 33 percent of the project award will not be accepted.** Consult the *Instructions for Budget Preparation* available at <https://www.waterrf.org/proposal-guidelines> for more information and definitions of terms.

### **Period of Performance**

It is WRF's policy to negotiate a reasonable schedule for each research project. Once this schedule is established, WRF and its sub-recipients have a contractual obligation to adhere to the agreed-upon schedule. Under WRF's No-Cost Extension Policy, a project schedule cannot be extended more than nine months beyond the original contracted schedule, regardless of the number of extensions granted. The policy can be reviewed at <https://www.waterrf.org/policies>.

### **Utility and Organization Participation**

WRF encourages participation from water utilities and other organizations in WRF research. Participation can occur in a variety of ways, including direct participation, in-kind contributions, or in-kind services. To facilitate their participation, WRF has provided contact information, on the last page of this RFP, of utilities and other organizations that have indicated an interest in this research. Proposers are responsible for negotiating utility and organization participation in their particular proposals. The listed utilities and organizations are under no obligation to participate, and the proposer is not obligated to include them in their particular proposal.

### **Application Procedure and Deadline**

**Proposals are accepted exclusively online in PDF format, and they must be fully submitted before 3:00 Mountain Time on Thursday, March 10, 2022.**

The online proposal system allows submission of your documents until the date and time stated in this RFP. Submit your proposal at <https://forms.waterrf.org/212005734732851>

Please ensure you upload the required documents before the deadline. **Proposals submitted after the deadline will not be accepted.**

Questions to clarify the intent of this RFP and WRF's administrative, cost, and financial requirements may be addressed to the WRF project contact, Julie Minton at 301-922-7860 or [jminton@waterrf.org](mailto:jminton@waterrf.org). Questions related to proposal submittal through the online system may be addressed to Caroline Bruck at 303-347-6118 or [cbruck@waterrf.org](mailto:cbruck@waterrf.org).

## 5120 Utility and Organization Participants

The following utilities have indicated an interest in possible participation in this research. This information is updated within 24 business hours after a utility or an interested organization submits a volunteer form, and this RFP will be re-posted with the new information. **(Depending upon your settings, you may need to click refresh on your browser to load the latest file).**

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