

Opportunity Title: Protecting and Restoring Great Lakes Ecosystem Health

Opportunity Reference Code: EPA-REG-5-GLNPO-2020-01

Organization U.S. Environmental Protection Agency (EPA)

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How to Apply A complete application consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. All transcripts must be in English or include an official English translation. Click [here](#) for detailed information about acceptable transcripts.
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations

All documents must be in English or include an official English translation.

If you have questions, send an email to EPArpp@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline 2/14/2020 3:00:00 PM Eastern Time Zone

Description *Applications will be reviewed on a rolling-basis.

Three postgraduate research project training opportunities are available with the U.S. Environmental Protection Agency's (EPA) Great Lakes National Program Office (GLNPO) in Chicago, Illinois.

GLNPO coordinates U.S. efforts with Canada under the Great Lakes Water Quality Agreement (GLWQA) to restore and maintain the chemical, physical, and biological integrity of the Great Lakes Basin ecosystem. GLNPO brings together federal, state, tribal, local, and industry partners under the strategic framework of the Great Lakes Restoration Initiative (GLRI) to accomplish the objectives of GLRI action plan which in turn fulfills the aims of the GWQA. Research opportunities at GLNPO allow participation in many facets of planning, implementation, assessment, and reporting of Great Lakes basin monitoring, restoration, and remediation. GLNPO seeks three participants who will each focus on one research project. The three research project descriptions below contain partial, but not complete, lists of developmental activities each project may include:

1. Science, Monitoring, Evaluation, and Reporting

GLNPO has a fundamental role to collect and disseminate data on the physical, chemical, and biological condition of the Great Lakes.

The specific activities in which GLNPO engages are determined in large measure by the data and information needed to support the GLWQA, Lakewide Action and Management Plans, and other specific needs of our federal, state, and tribal partners to implement the GLRI.

a. Great Lakes Monitoring Program Support. This project involves conducting data review, statistical data analysis, drafting technical reports, and updating websites, as well as researching and writing content for fact

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Opportunity Reference Code: EPA-REG-5-GLNPO-2020-01

sheets and other media to communicate technical topics to the public.

b. GLWQA Nutrients Annex (Annex 4). This project involves conducting literature reviews and analyses that support evaluation of nutrient targets and Lake Ecosystem Objectives for nutrients, reviewing and analyzing nutrient load estimates, reviewing and summarizing information from external partners on status of implementation of specific projects and activities as specified in domestic action plans, and developing brief progress reports and factsheets to highlight significant accomplishments and milestones achieved in the U.S.

c. GLWQA State of the Great Lakes Reporting. This project involves participating with U.S. and Canadian teams to prepare State of the Great Lakes reports. Project elements that the participant may be involved in could include scientific literature searches and identification of sources of environmental data, development of Great Lakes environmental indicators and indices, collection and analysis of environmental data, preparation of reports on environmental indicators, and preparation of oral and visual presentations.

2. GLRI Focus Area 1 (Areas of Concern) and Quality Assurance

The Area of Concern (AOC) Annex of the GLWQA calls for cleaning up Great Lakes AOCs, which involves implementing projects to address Beneficial Use Impairments (BUIs). Projects include contaminated sediment remediation, habitat restoration, beach health, local and state-wide AOC BUI studies/analyses, and other actions to address BUIs. In addition, once actions have been taken to clean up and restore sites, verification monitoring is conducted to determine whether the desired restoration goals have been achieved. Ensuring that EPA uses environmental data to support its decisions is critical to both effective implementation of those projects but also appropriate reporting on progress. Restoring Great Lakes AOCs is one of the top priorities of the GLRI and the GLWQA. This project will involve the participant learning about the AOC process from start to finish, and also learning about how quality assurance of the data supports the process.

3. GLRI Focus Area 4 (Habitat and Species Restoration and Protection)

Through the GLRI and the GLWQA, GLNPO plays a central role in the region to provide direction and collaborate with federal, state, tribes, and other entities to protect and enhance populations of native species through research, monitoring, and habitat restoration. GLNPO currently collaborates with at least 11 federal agencies, 8 states, and multiple tribes to annually provide direction and plan activities consistent with the Action Plan (FY2020-2024). Though located in EPA Region 5 headquarters in Chicago, GLNPO staff also work in Region 2 to ensure a basin-wide approach is taken to address the most critical habitat and species needs. This project will involve the participant learning about how collaboration between EPA and its partners achieves habitat and species restoration and protection.

Additionally, all three participants selected for research opportunities within GLNPO are required to be available to participate in the following:

Great Lakes Sampling aboard the R/V Lake Guardian

Since 1983, GLNPO has monitored the chemistry and biology of the Great

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Opportunity Reference Code: EPA-REG-5-GLNPO-2020-01

Lakes using the 180-foot research vessel R/V Lake Guardian. Water samples are collected and analyzed for nutrients and standard limnological parameters. Phytoplankton, zooplankton and benthos samples are collected and analyzed to assess the status of the lower food web. Opportunities will be available to be involved in: measuring water quality parameters, preparing samples for nutrient analysis, collecting and reviewing sensor data, statistical analysis of data, conducting outreach, and preparing reports. Note: participation in field sampling requires living onboard the R/V Lake Guardian from a few days up to several weeks on any or all of the Great Lakes, as well as physical abilities and stamina (to be able to stand and navigate throughout the ship during inclement weather).

During the appointment, participants may:

- Develop knowledge about the many complex elements of the Great Lakes ecosystem
- Increase skills in data analysis and reporting
- Learn the many facets required to plan and implement a complex project
- Develop skills and responsibilities associated with being part of a team potentially consisting of other federal, state, tribal, and even international partners
- Develop skills to coordinate scientific projects
- Obtain professional contacts throughout the Great Lakes scientific community
- Increase field methodology skills
- Increase personal sense of professional responsibility

Anticipated Appointment Start Date: March 16, 2020

This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and EPA. The initial appointment is for one year, but may be renewed upon recommendation of EPA and is contingent on the availability of funds. **The participant will receive a monthly stipend commensurate with educational level and experience. Funding may be made available to reimburse the participant's travel expenses to present the results of his/her research at scientific conferences.** No funding will be made available to cover travel costs for pre-appointment visits, relocation costs, tuition and fees, or participant's health insurance. Proof of health insurance is required for participation in this program. The appointment is full-time in the Chicago, Illinois area. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits.

Qualifications The qualified candidate should have received a bachelor's or master's degree in one of the relevant fields, or be currently pursuing the degree and will reach completion by June 15, 2020. Degree must have been received within five years of the appointment start date.

Opportunity Title: Protecting and Restoring Great Lakes Ecosystem Health

Opportunity Reference Code: EPA-REG-5-GLNPO-2020-01

Candidates should be able to participate in occasional travel from a few days up to several weeks on any or all of the Great Lakes.

Preferred skills:

- Basic knowledge of the Great Lakes basin ecosystems
- Experience in field work (biological and chemical sampling of lakes)
- Field sampling and analysis in marine environments
- GIS (including scripting, Python)
- Familiarity with data processing software (e.g., R, Matlab)
- Database management
- Spreadsheet manipulation

**Eligibility
Requirements**

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Bachelor's Degree or Master's Degree received within the last 60 months or anticipated to be received by 6/15/2020 11:59:00 PM.
- **Academic Level(s):** Graduate Students, Post-Bachelor's, Post-Master's, or Undergraduate Students.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([9](#))
 - **Communications and Graphics Design** ([1](#))
 - **Computer, Information, and Data Sciences** ([1](#))
 - **Earth and Geosciences** ([21](#))
 - **Engineering** ([1](#))
 - **Environmental and Marine Sciences** ([14](#))
 - **Life Health and Medical Sciences** ([16](#))