

**U.S. Environmental Protection Agency
Region 5 Internship Program
Great Lakes National Program Office**

Project #Great Lakes 2002-01

Project Background:

The purpose of the Great Lakes Water Quality Agreement (GLWQA) between the United States and Canada is to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin ecosystem. In response to reporting requirements of the GLWQA, the biennial State of the Lakes Ecosystem Conferences (SOLEC) were established to provide independent, science-based reporting on the state of health of the Great Lakes basin ecosystem.

In the first SOLEC (1994), the governments reported on basin-wide conditions relating to aquatic ecosystem health, human health, aquatic habitat and wetlands, nutrients, contaminants, and the economy. For SOLEC 96, the focus was on the nearshore aquatic and terrestrial environments. For SOLEC 98, the organizers supported the further development of easily understood indicators which objectively represented the condition of the Great Lakes basin ecosystem, the stresses on the ecosystem, and the human responses to those stresses. In 2000, the status of Great Lakes ecosystem components were assessed based on a subset of the indicators defined in 1998, and a report, *State of the Great Lakes 2001*, was subsequently prepared based on the SOLEC indicator reports.

The next SOLEC will be held in October 2002, in Cleveland, Ohio. The theme of this conference will be biological integrity in the Great Lakes basin, and the status of Great Lakes ecosystem components will be assessed from a subset of the environmental indicators. Approximately 500 people are expected to attend, representing federal, state, provincial and municipal governments, non-government environmental organizations, industry, academic institutions and private citizens.

Objectives:

The overall objective of this research opportunity is to help SOLEC organizers ensure that the many facets of planning and conducting an international conference on the state of the Great Lakes (SOLEC 2002) are fully successful. Project elements may include, but not be limited to: analysis of environmental data to be presented at the conference, preparation of indicator reports, preparation of visual materials for oral presentations, assistance with conference logistics and communications (e.g., meeting notes, mailing lists, schedule tracking), and post-conference follow-up work. To complete project elements in a timely manner, the Research Associate will apply and extend analytical, organizational and communication skills and technical knowledge.

Specific Tasks:

The intern will assist GLNPO staff scientists in the analysis and reporting of environmental data

and the planning and conducting of SOLEC 2002. Specific tasks and learning opportunities may include, but not be limited to:

- * Identification of indicator data sources and retrieval of the data.
- * Interpretation of the data in the context of the indicators, including statistical analyses, review of quality assurance data, preparation of tables and figures
- * Writing of papers to be presented at the conference and/or to be issued as post-conference reports.
- * Help to maintain a computerized database of information about SOLEC indicators.
- * Assist SOLEC organizers (including other U.S. and Canadian agencies and local organizers from Cleveland, Ohio) to plan and implement various logistic elements of the conference, for example: organizing and attending conference calls and meetings, preparing and distributing records of the calls and meetings, distributing materials to intended participants, assisting with conference registration and displays.

Expected Results:

A fully successful conference is expected, including the preparation of written and graphic materials. The assistance of the Research Associate will help ensure that SOLEC attendees will participate in an interactive, informative conference and will receive information useful to their responsibilities for the management of components of the Great Lakes ecosystem.

Benefits to the Intern:

The during this project the intern will:

- * learn 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
- * learn roles and responsibilities for working as part of an international team
- * obtain professional contacts around the Great Lakes basin
- * increase sense of professional responsibility

Impact on protecting and enhancing the environment:

The biennial SOLEC conferences are major venues for the exchange of information and ideas between environmental managers, decision makers, and other interested stakeholders throughout the Great Lakes basin. These conference attendees strongly influence the programs and activities in and around the Great Lakes that impact the maintenance, protection and/or restoration of components of the Great Lakes ecosystem. SOLEC 2002 is expected to facilitate information exchange that leads to better or more efficient management activities.

Qualifications:

Required:

- * Baccalaureate degree with significant course work in science disciplines
- * Excellent verbal and written communication skills in English
- * Ability to quickly learn computer software programs as needed, e.g., statistical analysis, scientific graphing, and presentations.

Strongly Desired:

- * Basic knowledge of components of the Great Lakes ecosystems, including aspects of biology, water chemistry, toxic chemicals, habitats, nearshore terrestrial environments, and human society.
- * Computer skills, including proficiency in word processing (such as WordPerfect and Microsoft Word), spreadsheet manipulation (such as Microsoft Excel), and presentation graphics (such as PowerPoint).
- * Pleasant and cooperative inter-personal skills.
- * Ability to travel overnight to attend occasional meetings around the Great Lakes, including in Canada.

Background Information:

As the U.S. Office responsible for implementing the monitoring provisions of the Great Lakes Water Quality Agreement, GLNPO has a fundamental role to collect and disseminate data on the physical, chemical and biological integrity of the Great Lakes waters. The primary domain of the GLNPO monitoring program is the open, offshore waters of the Great Lakes, exploiting the capabilities of the research vessel R/V Lake Guardian. GLNPO also supports the Great Lakes Fish Contaminants Monitoring Program and the International Atmospheric Deposition Network. Other federal and state environmental agencies conduct monitoring activities in nearshore areas, embayments, tributaries, etc. The specific activities in which GLNPO engages are determined in large measure by the data and information needed to support the Great Lakes Water Quality Agreement, the Lakewide Management Plans currently under development, and other specific needs of our federal and state partners. GLNPO is also a sponsor and organizer of the biennial State of the Lakes Ecosystem Conference (SOLEC), for which the health of the Great Lakes ecosystem components is assessed and reported through a series of indicators.

Additional Information:

The Research Associate will work out of the U.S. EPA Great Lakes National Program Office; Monitoring, Indicators and Reporting Branch, in Chicago, Illinois. Opportunities may exist for the Research Associate to participate in Great Lakes research and monitoring activities onboard the research vessel R/V Lake Guardian.

The Postgraduate Research Program for EPA is administered by the Oak Ridge Institute for Science and Education. **Please reference Project # Great Lakes 2002-1 when calling or writing for information.** For additional information and application material contact: Postgraduate Research Program/EPA, Attn: Debbie Alcorn, Science and Engineering Education - MS 36, Oak Ridge Institute for Science and Education, P.O. Box 117, Oak Ridge, Tennessee 37831-0117, Phone: (865) 576-3428 FAX: (865) 241-5220 e-mail: alcorn@orau.gov.