



Leading the Way to Environmental Literacy and Quality: National Guidelines for Environmental Education

by Edward J. McCrea

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What do a cabinet level agency in the State of Kentucky, a Colorado environmental education association, and a Wisconsin company that is a global leader in automotive systems have in common? They are all using the National Guidelines for Excellence in Environmental Education to enhance environmental literacy in the United States. Read on to find out how.

The North American Association for Environmental Education (NAAEE) developed the Environmental Education Guidelines Project as part of overall efforts to promote excellence in environmental education. The goal of this quality initiative is to further an environmental education process that yields an environmentally literate citizenry—a citizenry that can compete in our global economy; has the skills, knowledge, and inclinations to make well-informed choices; and participates responsibly in the decision making processes that are our right and our duty.

What publications make up the guidelines series?

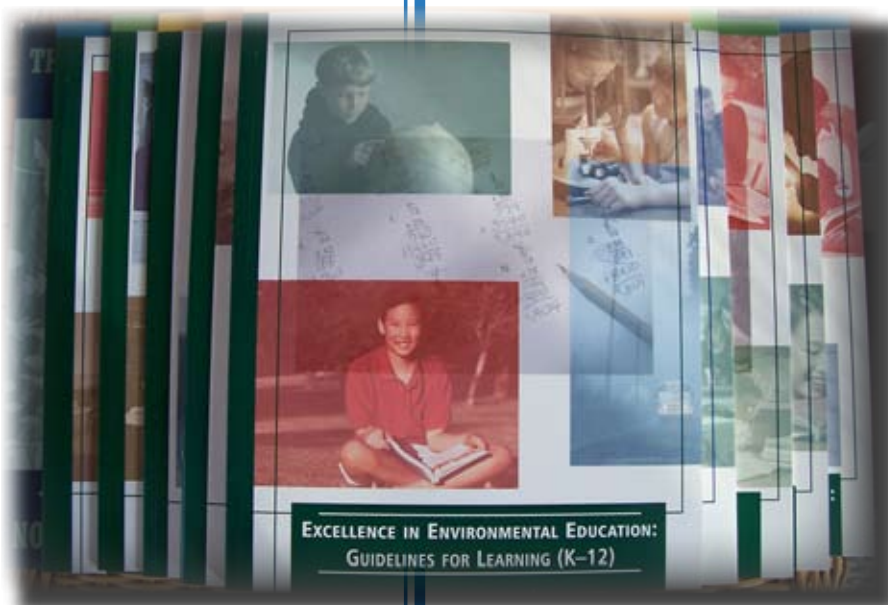


Presently ten documents make up the written materials for the Guidelines for Excellence Project. These publications, which are available from NAAEE, focus on three main areas:

1. Environmental literacy. The first area deals with setting a baseline for environmental literacy. This set of guidelines and the document that accompanies it detail what every student should know at the 4th, 8th, and 12th grade levels in order to have a basic grounding in the environment and environmental issues.

These guidelines facilitate the teaching of science, civics, social studies, mathematics, geography, language arts, etc. They help educators develop

Photo provided by Ed McCrea



The Guidelines Series is made up of a diverse array of publications



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meaningful environmental education programs that integrate across the curriculum and build upon the high standards set for the core disciplines. Two publications are part of this guidelines area:

- *Excellence in EE—Guidelines for Learning (Pre K-12)*
- *Guidelines for Learning (Pre K-12)—Executive Summary & Self Assessment Tool*

2. Environmental education materials and programs. The second area of the guidelines deals with environmental education materials and programs. These guidelines and their companion documents serve as essential tools for the development of balanced, scientifically accurate, and comprehensive environmental education programs and materials. Seven publications are part of this guidelines area:

- *Environmental Education Materials: Guidelines for Excellence*
- *Environmental Education Materials: Guidelines for Excellence—The Workbook*
- *The Environmental Education Collection—A Review of Resources for Educators—Volumes 1-3.* (A fourth volume in the series dealing with resources for biodiversity education and produced by World Wildlife Fund is also available.)
- *Nonformal Environmental Education Programs: Guidelines for Excellence*

3. Preparation and Professional Development of Environmental Educators. The third area deals with recommendations for the preparation and continuing education of teachers and other environmental educators. There is one publication in this guidelines area:

- *Guidelines for the Preparation and Professional Development of Environmental Educators*

Why were the guidelines developed?

Oddly enough, the NAAEE guidelines project began in 1993 because a dedicated educator, Dr. Simmons, Professor of Environmental Education at Northern Illinois University (NIU), had a sabbatical semester. I was then Executive Director of NAAEE and mentioned to Dr. Simmons that there were several projects that we could use help with if she were interested. One project had to do with assistance with our international training courses, a second project had to do with fundraising activities, and the third project was the development of standards for environmental education. As I remember it, Dr. Simmons was intrigued by the international training project, but felt that the standards project was of more value to the environmental education community. As part of her sabbatical,

Dr. Simmons did extensive research on the then ongoing process to produce standards for the core curricular subjects in the United States. She produced a compelling summary and recommendations as to how NAAEE could ensure that environmental education became an active part of the national standards movement.

After discussions with the NAAEE Board of Directors and procurement of funds from several sources, the project was launched with the publication of *Environmental Education Materials: Guidelines for Excellence* in 1996. (In 1995, NAAEE formed a partnership with NIU to further the guidelines project. NIU, with funding and support from the Environmental Education and Training Partnership, houses the project and produces the guidelines in cooperation with NAAEE.) Since 1996, the other volumes in the series have followed at a steady pace—all under Dr. Simmon’s guidance.

Dr. Simmon’s decision to spend her sabbatical working on guidelines has been particularly fortunate for the environmental education field, as has her determination to see the project through its many phases. With unusual insight, she recognized the three main needs that the guidelines could fill:

1. Ensure that environmental education was not left out of the national educational standards movement then gaining momentum. Each of the core curricular standards that were being developed under the guidance of the U.S. Department of Education was, by definition, focused in only one area. Although the science standards could be expected to cover much of the core content of environmental education, it was obvious that none of the standards would incorporate the entirety of the multifaceted, cross-curricular

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Photo provided by Harry Spillman, Spillman Photography

The Guidelines bridge gaps between core subject standards to help ensure that educators are well prepared for standards based education.

world that is environmental education. Standards for environmental education were needed to bridge the gaps between and among the core curricular areas.

The Department of Education eventually decided that producing official government standards for environmental education would likely be controversial and too difficult, but NAAEE elected to proceed with the development of environmental education content guidelines. While lacking the official status of the national standards, the guidelines still could fill the role of bridging the gaps between the other official core area standards.

Dr. Simmon's strategy in producing what was to become *Excellence in EE—Guidelines for Learning (Pre K-12)* was to review each of the subject-specific standards as they were being developed, select those standards that were related to environmental education, and add new standards as needed to reflect environmental education's breadth and multi-curricular strengths. Dr. Simmons circulated multiple drafts of the developing guidelines to NAAEE members and other stakeholders in the process until more than 2500 educators and interested others had participated in development of these guidelines. A similar participatory model was used in the production of the other guidelines.

2. Help create coherence and unity in the field. The EE field is extremely diverse. That diversity is a strength in many respects, but it makes it difficult to explain to other educators and potential funders what environmental education is, why it should be done, how it is done, and who is doing it. The guidelines that Dr. Simmons, the NAAEE staff, and its board of directors envisioned could help to promote unity, a common language, and support the professionalization of the field.

3. Provide answers to critics of environmental education. Criticism of environmental education that had been building for much of the proceeding decade continued in the 1990s. Politically astute and media savvy individuals were successfully undermining the credibility of environmental education with funders and politicians. When surveyed¹, parents continually evidenced strong support for environmental education, but this support was not being turned into funding or policy action. A major argument of the opponents of environmental education was that environmental education materials and programs were emotional, unscientific, and biased. Despite their lack of real world knowledge about the subject or any rigorous evidence to back up their claims, the critics hammered at these supposed deficiencies in environmental education. NAAEE's response was to pursue the guidelines project more vigorously in order to provide the foundation and backbone that could show that most critical comments about environmental education were incorrect and to provide the tools to make improvements where deficiencies were found.

¹ Roper Starch Worldwide has conducted the survey annually over a ten-year period.

How have the guidelines made a difference?

Educators use the guidelines to gauge age and developmental appropriateness of lessons and other programs. They use them to assess gaps in programs designed to enhance or develop environmental literacy or to demonstrate to prospective funders that a program is educationally sound. In addition, many educators use the guidelines as they develop new educational materials. However they are used, the guidelines have proven themselves repeatedly to be valuable tools for helping everyone concerned about environmental quality and environmental literacy do their jobs better.

The following examples illustrate a few of many “success stories” relating to the use of the guidelines.

Kentucky EE Council

“I don’t think we would be able to do nearly as many things in environmental education without the guidelines,” said Jane Eller, Executive Director of the Kentucky Environmental Education Council. “The guidelines provide us with structure and a framework around which to build.”

The Kentucky Environmental Education Council is a state agency located in the Education Cabinet. It was established to “improve Kentuckians’ understanding of their environment.” The Council uses the national environmental education guidelines in two main ways.

First, they have correlated the K-12 guidelines to the state education standards. That way educators who design units of studies about the environment can ensure that new materials will help Kentucky teachers meet standards requirements while providing accurate and integrated activities to teach about Kentucky’s environment.

“It is extremely helpful to have the guidelines to work from as we do our correlations. We know that many knowledgeable people were involved in the development of the guidelines, and having this material readily available saves us a great deal of time since we don’t need to develop similar material just for Kentucky.”

Second, the Council uses the guidelines as the foundation for its certification program, which has two components. One component is directed at the certification of nonformal environmental educators. Through attending four workshops and completing an independent study project, Kentucky’s educators at nature centers, government agencies, and nongovernment organizations can gain certification



The Kentucky Environmental Education Council has made extensive use of the Guidelines in its programs.

The guidelines provide us with structure and a framework around which to build.

- Jane Eller

in environmental education. The course of study includes extensive work from all of the national environmental education guidelines publications.

A second part of the certification program is aimed at classroom teachers. By taking three to four college level courses, Kentucky teachers can have an endorsement in environmental education added to their teaching certificate. This endorsement demonstrates that they are specialists in the area of environmental education and may result in higher pay. Again, coursework included under the certificate endorsement program is built on the foundation provided by the national environmental education guidelines. Developing these courses based on the national Guidelines for the Preparation and Professional Development of Environmental Educators also helps Kentucky colleges begin to prepare for the implementation of the new National Council for Accreditation of Teacher Education (NCATE) guidelines in environmental education that NAAEE is drafting for review.

“The common goals and structure of the national environmental education guidelines help give environmental education credibility as an area of specialization. The guidelines also help educators and administrators see that environmental education is not just science education or ecology—it is an integrated, multidisciplinary area of study that can help link core disciplines covered by the Kentucky education standards.”

The Council also feels that, in the future, continuing education will be another important part of the Kentucky education system that will benefit from the integrated resources provided by the national environmental education guidelines.

For more information on the Kentucky program, visit the Council’s website: <http://www.state.ky.us/agencies/envred>

[Colorado Alliance for EE](#)

“Change comes slowly in environmental education, but we think the resources review process we developed has tremendous potential for contributing to the quality of environmental education in the state,” notes Ali Sweeney, the Director of the Colorado Alliance for Environmental Education. “The very act of participating in the training and self review of their programs is a major tool for the professional development of environmental educators in Colorado.”

The Colorado Alliance for Environmental Education (CAEE) has used the national guidelines for environmental education to establish a process for reviewing the quality of environmental education programs and materials in Colorado. The goal of the review process is to create an online database that shows how specific programs and materials address the guidelines. The process that they have pioneered is made up of four steps:

- Training of individuals who want to have their materials or programs included in the database. Training prepares the individual to participate successfully in the process.
- Self-evaluation of resources by those wishing to submit their material for possible inclusion in the database.
- Peer review of the resource and of the self-review by three CAEE reviewers. (Reviewers must agree unanimously on the final review of the resource.)
- Feedback to the submitter after the review by CAEE. The person submitting the materials can then decide whether the review should be posted in the database for public access. (The person may wish to withdraw the submission and work with CAEE on bringing the materials into better compliance with the guidelines depending on comments received from the reviewers.)

“Although the review program is relatively new, there is an excitement building around it,” states Sweeney.

In an interesting note, the use of the guidelines has gone full circle. NAAEE has recently adopted the procedures for materials review developed by CAEE and is using the CAEE model for the review of national environmental education materials. NAAEE is also encouraging other states to adopt the review program.

For more information on the program in Colorado, visit the CAEE website at <http://www.cae.org/>.

For information on the national resource review project, visit <http://naaee.org/pages/resourcereview/QA.html>.

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- Ali Sweeney

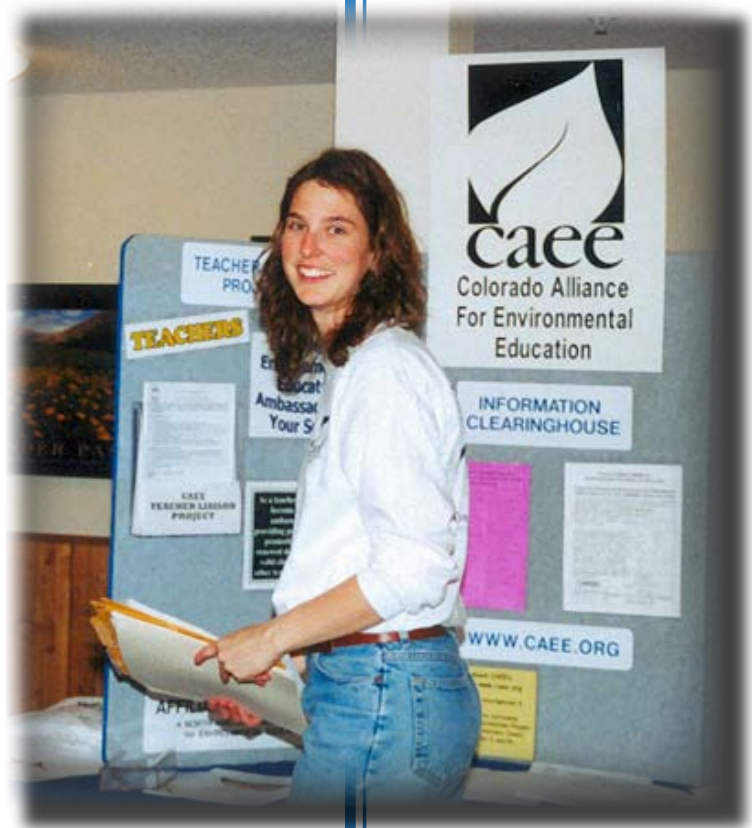


Photo provided by CAEE

Ali Sweeney, Director of the Colorado Alliance for Environmental Education, sees the Guidelines as a major tool for the professional development of environmental educators in Colorado.



Private industries such as Johnson Controls have found the Guidelines useful in developing education programs for employees and customers.

The concept [for SEEC] was developed in cooperation with the National Energy Foundation using the North American Association for Environmental Education (NAAEE)'s Environmental Education Materials: Guidelines for Excellence.

- Darryll Fortune

Johnson Controls

Johnson Controls is a Wisconsin based company that got its start with the invention of a simple electronic room thermostat back in 1883. Today the company is a \$28 billion corporation with industry leadership in automotive systems and facility management and control.

Employees of Johnson Controls were convinced that organizations and companies could save money by reducing energy and water use and by operating more sustainably. To help others meet sustainability goals, Johnson Controls developed the Sustainable Energy Education and Communications (SEEC) employee training and communications program.

“Through SEEC, employees learn in compelling and interactive ways how saving energy and water, keeping indoor air clean, and other sustainable strategies can save money, reduce harmful emissions and help them stay healthy—both on the job and at home,” said Paul von Paumgarten, director of energy and environmental affairs for the Controls Group of Johnson Controls.

In a company news release, Darryll Fortune, Director of Public Relations for the company stated:

The concept [for SEEC] was developed in cooperation with the National Energy Foundation using the North American Association for Environmental Education (NAAEE)'s Environmental Education Materials: Guidelines for Excellence.

NAAEE defines six key characteristics of high quality environmental education materials: fairness/accuracy, depth, emphasis on skills building, action orientation, instructional soundness and usability. As experts in both employee training and sustainability, Johnson Controls kept all these characteristics in mind while creating SEEC.

For more information on the SEEC program, visit the Johnson Controls website at <http://www.johnsoncontrols.com/>

What can be expected in the future?

Spin-offs and Extensions that Build on the Guidelines

In the future, the guidelines will continue to do the core group of tasks for which they were designed. They have proven their worth in these areas and with occasional revisions and updates will be a valuable resource for years to come. However, we are now beginning to see the guidelines used in a variety of ways that we did not envision when we held the first discussions about standards and guidelines over a decade ago.

One notable extension that may become a reality is the use of the guidelines as part of pre-service education for teachers. Efforts are underway to work with the National Council for Accreditation of Teacher Education (NCATE) on the inclusion of environmental education as a requirement in the pre-service education of the nation's teachers.

NCATE is the [education] profession's mechanism to help establish high quality teacher preparation. Through the process of professional accreditation of schools, colleges and departments of education, NCATE works to make a difference in the quality of teaching and teacher preparation today, tomorrow, and for the next century. NCATE's performance-based system of accreditation fosters competent classroom teachers and other educators who work to improve the education of all P-12 students. NCATE believes every student deserves a caring, competent, and highly qualified teacher.

Citation: (NCATE. (n.d.). About NCATE. Retrieved February 8, 2006, from <http://www.ncate.org/public/aboutNCATE.asp>

This effort, if successful, has the potential for greatly enhancing the quality and scope of the field of environmental education. The guidelines project is at the heart of the work with NCATE.

Another extension that is now a reality is the use of the guidelines in programs to certify environmental educators. As detailed in the section above on Kentucky, the guidelines are being used by states to certify their environmental educators as meeting certain core requirements. In addition to Kentucky, Utah and Texas have developed certification programs based on the national guidelines. In the future, NAAEE may become more involved in the overall certification process and work closely with states to help ensure that the guidelines are consistently and rigorously applied to promote a national cadre of certified environmental educators.

The development of online courses based on the guidelines to provide professional development for educators has also added to the guidelines' impact on the environmental education field. These courses, developed by the University of Wisconsin-Stevens Point with support from EETAP, can also be used to develop many of the competencies required by those seeking state certification as environmental educators.

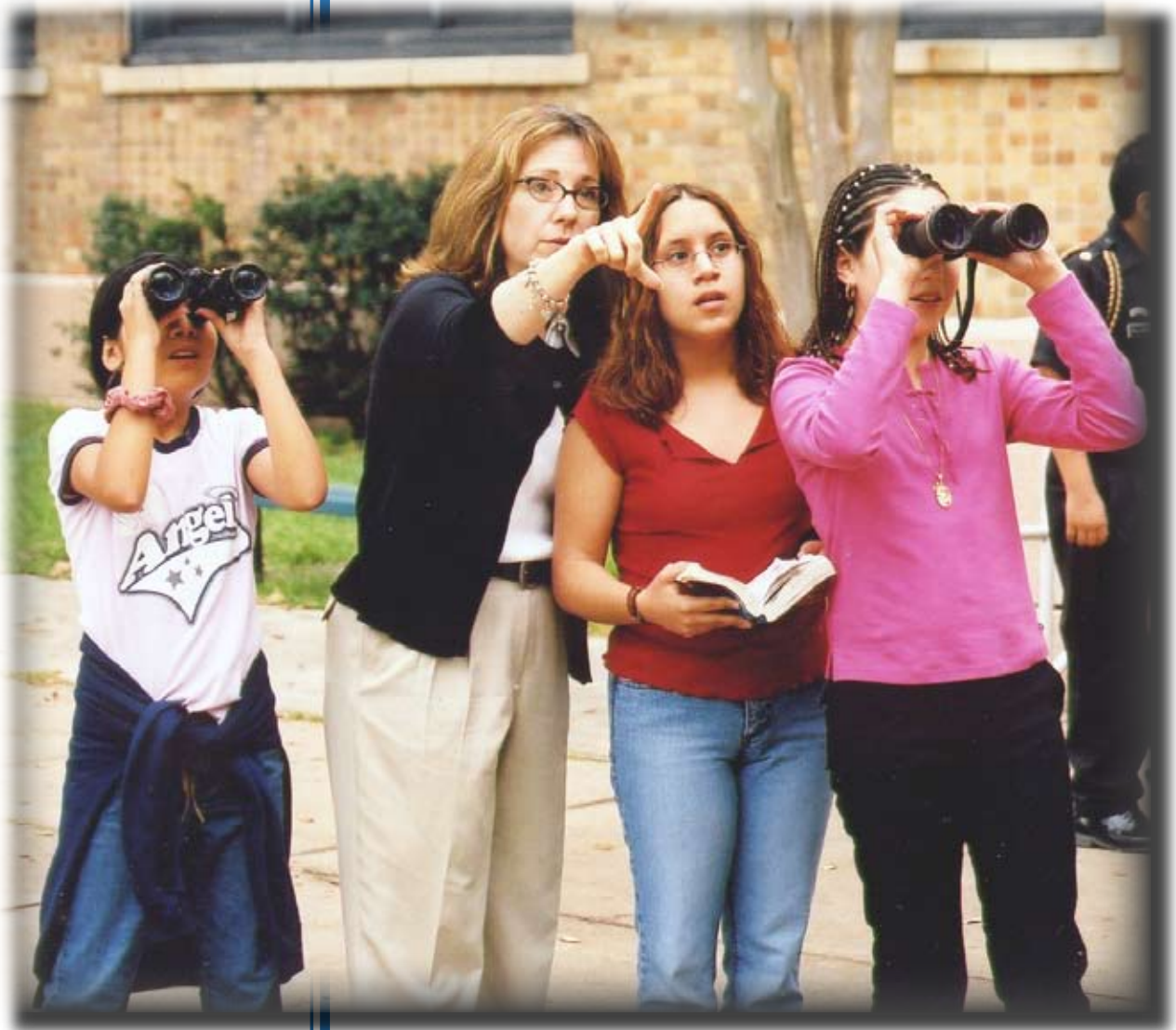


Photo provided by Council for Environmental Education/Flying WILD

The Guidelines help ensure that tomorrow's decision makers learn about the environment from scientifically accurate and educationally sound materials.

Also a reality is the database of national environmental education materials that NAAEE is developing. As noted previously, NAAEE is now using the guidelines to develop an online database of reviewed materials that environmental educators can use to find high-quality resources specific to their particular needs. While we envisioned this as one of the possible uses of the guidelines when they were first discussed, the structure and technology employed today are a long way from the original hardcopy materials reviews that we produced in the early days of the program.

Photo provided by Council for Environmental Education/Flying WILD



Students can look forward to a better environment because of the scientifically accurate and educationally sound materials the Guidelines help provide.

Where to obtain copies of the Guidelines

To access or obtain copies of these publications:

1. Read them online. The entire text of all of the publications can be viewed and read on the website of the North American Association for Environmental Education (NAAEE):
<http://naaee.org/pages/npeee/index.html>

2. Download PDFs. You can download (for free) a PDF of any National Project for Excellence in Environmental Education publication, also from the NAAEE website:
<http://naaee.org/pages/npeee/index.html>

3. Purchase them. You may purchase bound print volumes of the publications from NAAEE. You can order them online from the NAAEE e-commerce store using a credit card or you can download a PDF order form to mail with a check or purchase order:
<http://naaee.org/publications>.

4. Request a copy from the U.S. Environmental Protection Agency. You can call the toll free number (800 490-9198) to request a limited number of free copies of each volume.

Who has supported the development of the Guidelines?

The U.S. Environmental Protection Agency's Office of Environmental Education, through the Environmental Education and Training Partnership, has provided the primary support for development of the Guidelines. The National Environmental Education and Training Foundation, the National Fish and Wildlife Foundation, Northern Illinois University, and World Wildlife Fund provided additional support.

Questions?

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