

# Nebraska

## Environmental Education Master Plan



Building Conservation and Environmental  
Education for the Future  
2005

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**For more information about NACEE  
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**Nebraska Alliance for Conservation and  
Environment Education  
P.O. Box 85344  
Lincoln NE 68501**



# forward

When visitors enter Nebraska they are greeted with the sign “Welcome to Nebraska- The Good Life.” This “Good Life” embodies both the spirit of Nebraskans and a quality of life that is inextricably intertwined with our natural environment. Our state’s magnificent native grasslands, rivers, wetlands, and forests provide us with not only countless opportunities to experience nature, but also an immense responsibility to conserve them for future generations. With today’s rapidly changing society, access to quality environmental education is more important than ever to ensure our natural treasures are understood, appreciated, and conserved for the next generation of Nebraskans.

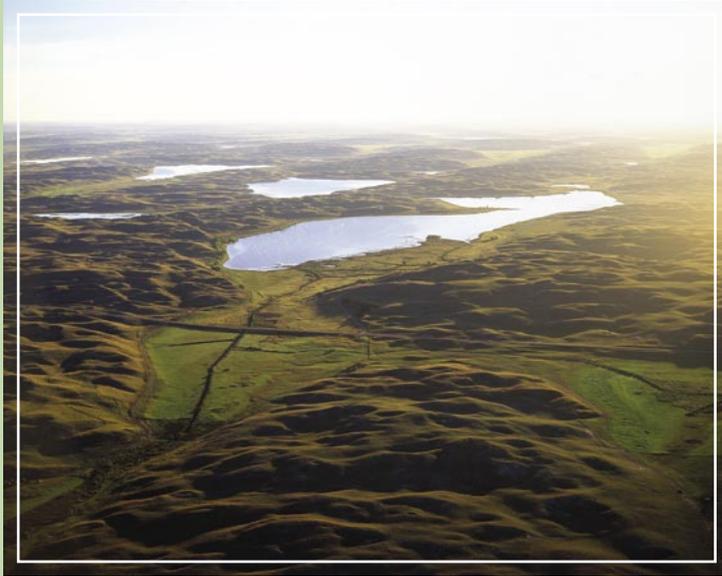
The development of a Nebraska Environmental Education Master Plan marks a significant milestone. This is the first plan of its kind for our state and one of only twenty environmental education master plans in the entire country. Over 185 Nebraskans contributed their time and energy to this planning effort, and it brought together leaders from the conservation and education communities. The bold strategy laid out in the following pages will serve to raise awareness about the need for environmental education and to stimulate new partnerships to implement the actions identified in this plan.

Environmental issues were once considered secondary concerns that could be put aside when more urgent issues surfaced. We now know that a healthy environment is an essential ingredient for maintaining a healthy citizenry, a productive economy, and a sustainable quality of life. The futures of our children and grandchildren are dependent upon informed decision-making and sound stewardship that are only possible when quality environmental education is accessible to all.

The responsibility for delivering environmental education cannot and should not be placed solely on one group. Instead, a new era of collaborative partnerships needs to commence that involves the leaders of conservation, education, agriculture, and the business sector. Nebraskans strongly support environmental education and understand its link to a strong economy. The 2003 Nebraska Conservation and Environment Literacy Survey showed that 97% of Nebraskans think environmental education should be taught in schools and 89% of Nebraskans think the condition of the environment will play a role in the nation’s economic future.

Nebraskans have a proud history of working together to find solutions when challenges arise. With this plan we now have a vision for the future that will help us raise our citizens’ awareness and knowledge about the environment. With a can-do attitude we will succeed in conserving the “Good Life” for current and future generations to enjoy.

Mary Harding  
Executive Director, Nebraska Environmental Trust



## Nebraska Environmental Education Master Plan Supporters

“Nebraska’s strategic plan for environmental education recognizes that many different perspectives on environmental education exist within our state. At the same time it provides us with a road map for not only honoring these perspectives but for moving forward and enhancing environmental education for all.”

Helen Bartee, *Director of Education, Fontenelle Nature Association*

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“Nebraska’s Environmental Education Master Plan will provide a much needed strategic vision for better integrating environmental education into all conservation work. Environmental education and conservation are joined at the hip; we can’t be successful with one without the other.”

Jim Douglas, *Wildlife Division Administrator, Nebraska Game and Parks Commission*

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“The Nebraska Environmental Education Master Plan provides a great opportunity for Nebraska citizens to further enhance critical thinking and problem solving skills. The plan encourages individuals to look at all sides of the issues and make informed and realistic decisions about the issues facing Nebraska.”

Dean Edson, *Executive Director, Nebraska Association of Resources Districts*

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“I have high hopes that the Nebraska Environmental Education Master Plan will guide this state to a higher level both in teaching about Nebraska’s environment and in raising awareness of the importance of such education and of conservation and restoration efforts.”

Nancy Furman, *Coordinator, Pioneers Park Nature Center*

“The Nebraska Environmental Education Master Plan will provide necessary direction that will lead to protection of our health, provide advanced quality education, create new jobs, and foster the opportunity to promote sustainable development.”

John Harms, *Ed.D., President, Western Nebraska Community College*

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“Growing up on a farm has been replaced by a growing need for understanding where food comes from and why the natural world is so vital to our well-being and happiness. The voices of many caring people contributed to make this plan a trusted road map to balanced environmental education and better decisions about the special place called Nebraska that we are leaving our children.”

Ron J. Johnson, *Professor and Extension Wildlife Specialist,  
School of Natural Resources, University of Nebraska–Lincoln.*

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“Everyone who cares about Nebraska should be part of this effort to ensure that our citizens are able to make informed decisions for a healthy environment. Our grandchildren will live with the results of our decisions, so let’s roll up our sleeves!”

Marian Langan, *Director, Spring Creek Prairie Audubon Center*

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“This well thought out plan will help bring people of all professions together to gain a better understanding of the diverse natural resources of Nebraska and the need to be good stewards of those resources.”

Gene D. Mack, *Project Leader, Rainwater Basin Wetland Management District,  
U.S. Fish and Wildlife Service*

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“The Environmental Education Master Plan for Nebraska is a vitally important road map for every organization and individual working toward the preservation and conservation of Nebraska’s natural resources.”

Susan Seacrest, *President, The Groundwater Foundation*

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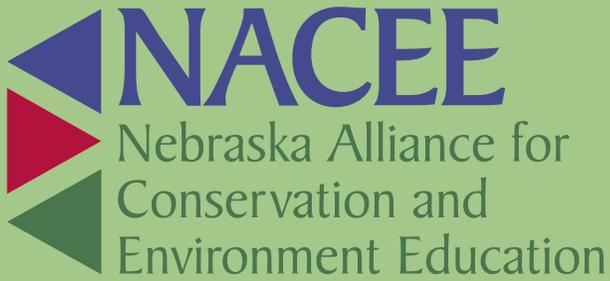
“Environmental education is especially important today, as many children spend less time enjoying the casual opportunity of playing and exploring in the outdoors. I know that people will take care of things they value. They value things when they recognize their importance and uniqueness.”

Vince Shay, *Nebraska State Director, The Nature Conservancy*

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“No student should graduate from a Nebraska high school without a fundamental understanding of environmental principles. This plan provides guidance to schools as they define essential learning for all students.”

Jim Woodland, *Director, Science Education, Nebraska Department of Education*



# acknowledgements

The Nebraska Alliance for Conservation and Environment Education is a volunteer-driven organization. Thousands of hours were given in total by over 185 Nebraskans over the last four years to create this plan. We acknowledge the funding support of the U.S. Environmental Protection Agency's Office of Environmental Education (Grant # NE-83058101), without which this project would not have been possible. We thank everyone who shared their thoughts, time, and efforts to make this plan a reality.

Produced by the Nebraska Alliance for Conservation and Environment Education.

Funding provided by the Environmental Protection Agency. Coordinated by Natural Resource Consulting.

## **Writing Committee:**

Joe Gabig, Natural Resource Consulting  
Mark Humpert, Nebraska Game and Parks Commission  
Marian Langan, Spring Creek Prairie Audubon Center  
Becky Seth, Pioneers Park Nature Center  
Troy Thompson, Lower Platte North Natural Resources District

## **Project Management**

Marian Langan, Spring Creek Prairie Audubon Center

## **Fiscal Management**

Donna Christiansen, Keep Northeast Nebraska Beautiful  
Marian Langan, Spring Creek Prairie Audubon Center  
Brooke Levey, University of Nebraska Extension

## **Project Contractors**

Joe Gabig, Natural Resources Consulting  
Shannon Witt, Valentine NE





# organization

The Nebraska Alliance for Conservation and Environment Education (NACEE) is a volunteer-driven 501(c)(3) organization that exists to promote conservation and environment education in Nebraska. The organization is overseen by a 12-member Board of Directors. Sponsored projects include conferences, newsletters, a statewide environmental literacy survey, and the strategic planning process outlined in this document. For further information regarding NACEE, please visit [www.nacee.org](http://www.nacee.org).

# mission

To facilitate and promote conservation and environment education for all Nebraska.

# vision

NACEE seeks to foster an environmentally literate citizenry in Nebraska and to serve as a leader in conservation and environmental education.



# introduction

Nebraskans learn about the environment and our relationship to it in numerous ways. For example, some of us learn about water quality issues in a high school class, some from the newspaper, and some by seeing a local stream become decimated by water pollution. While opportunities to learn do exist, there is no comprehensive way for us to learn what we need to know to protect our natural resources for ourselves and future generations. To address this fragmentation, the Nebraska Alliance for Conservation and Environment Education (NACEE) in 2001 set about creating a plan that allows us all to work together to address the needs of our citizens.

The results of the Nebraska Conservation and Environment Literacy Survey, completed in 2003, showed that while Nebraskans have a strong commitment to a healthy environment, great needs still exist. There are educational gaps; for example, only 44% of respondents correctly chose “cleaning water” as the primary benefit of wetlands. At the same time, 97% of respondents think environmental education should be taught in schools. The information obtained from Nebraska’s first environmental literacy survey was used to assess knowledge, attitudes, and behavior tendencies and to craft the actions for this plan. (The survey was funded by the Wildlife Conservation and Restoration Program through the Nebraska Game and Parks Commission and was conducted by the Bureau of Sociological Research at the University of Nebraska. Survey information can be found at [www.nacee.org](http://www.nacee.org).)

The input of over 185 people from around the state was gathered in a series of public meetings, surveys, and interviews. Using this input, a draft Master Plan was developed, then reviewed and revised by a 12-member workgroup of NACEE members. The resulting revision was sent to previous participants in the process for their comments, and discussed in six public meetings. A five-member committee incorporated this input into the document summarized here. A copy of the complete Master Plan including process details and appendices can be found at the NACEE website: [www.nacee.org](http://www.nacee.org).

Throughout the planning process, participants were able to set priorities and identify actions needed to improve environmental education on a statewide level. This plan provides a visionary and far-reaching blueprint for environmental education that can be used by organizations, agencies, and the public in Nebraska to focus and coordinate their efforts.

# background

The National Environmental Education Act, passed by Congress in 1990, concluded that national as well as international environmental problems are increasing and represent a threat to the quality of life and economic vitality, and that effective solutions require education of the public. In the United States, individual states are in various stages of addressing this need in a comprehensive manner.

Over the decades, many definitions of environmental education have been used. This is indicative of the vast number of disciplines that make up environmental education and the broad array of organizations and perspectives that are part of the field. The definition used by the U.S. Environmental Protection Agency (1996) most closely meets the definitions of the participants of this strategic planning process.

*“Environmental education is a learning process that increases people’s knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action.”*

Environmental education has been shown to enhance critical thinking, problem solving, and effective decision-making skills. It also teaches individuals to weigh various sides of an environmental issue to make informed and responsible decisions. It does not advocate a particular viewpoint or course of action. Environmental education can help ensure the health and welfare of our nation by:

- Protecting human health
- Advancing quality education
- Expanding employment opportunities
- Promoting sustainable development
- Protecting America’s natural heritage

Environmental education protects human health by empowering Nebraska residents to identify environmental pollution, to learn the potential for pollutants to affect human health, and to make informed choices about mitigating those affects based on science and critical thinking. Examples of environmental issues that affect human health include lead poisoning in paint, pesticides and nitrates in food and water, and discharges of sulfur compounds into the air.

The quality of education is advanced through the teaching of critical thinking and problem solving skills through environmental education. The skills are applied to the needs and issues of the community. Interdisciplinary teaching is strengthened because environmental topics can be addressed from many perspectives. Students are encouraged to evaluate data from a wide spectrum of subjects and to solve problems based on sound science and economics.

More employment opportunities are available to members of a community with environmental education because of the growing demand for trained workers in environmentally related fields. These opportunities occur in industries such as air pollution control, energy development, hazardous waste management, and manufacturing where chemicals are used.

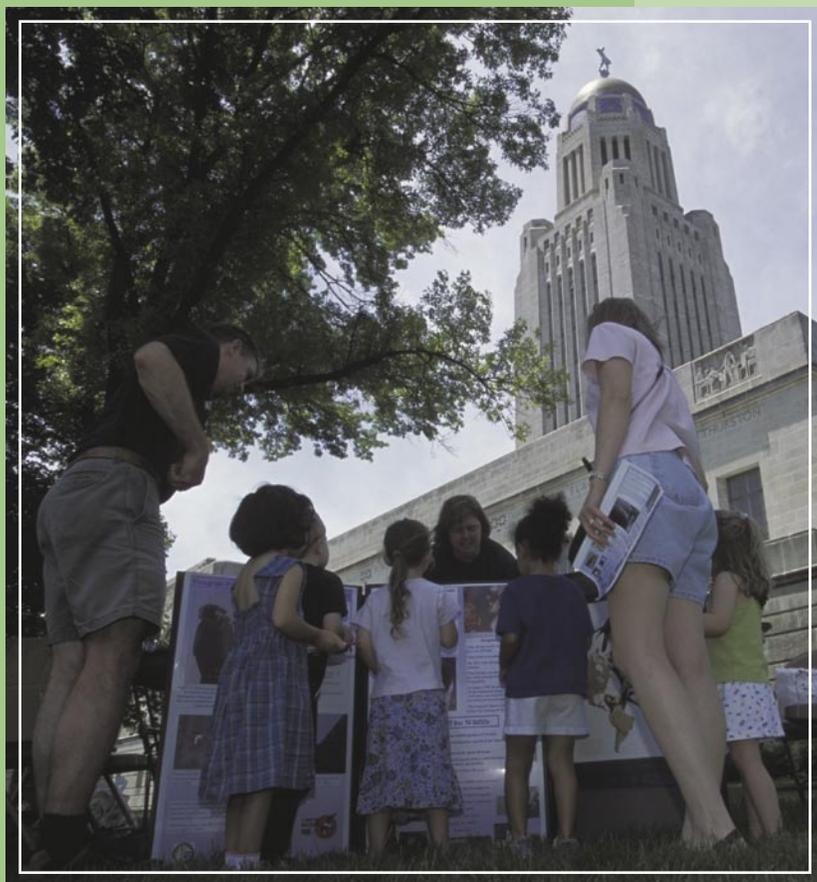
Developing the earth’s resources sustainably is critical to the future health and welfare of our nation. Sustainability requires an informed citizenry and government and the recognition that conservation needs to be integrated with development. One objective of environmental education is to create the skills and information to make responsible decisions and take responsible actions. In addition, environmental education is best viewed from a number of perspectives and is cross-disciplinary by nature. These two features allow development to take place at the same time resources are conserved.

America’s natural heritage is protected through environmental education by creating opportunities for people to expand their knowledge about ecology and endowing an appreciation for biological diversity. In addition, critical thinking and problem solving skills lead to an understanding of how human actions affect ecosystems and diversity.

# a strategic plan for environmental education in Nebraska

## goal

Advance understanding of the conservation, restoration, and protection of Nebraska's natural environment by providing a blueprint to improve, build, and promote quality conservation and environmental education in Nebraska.



# Objective

# 1

Increase the opportunities for Nebraska residents of all ages to enhance their awareness and understanding of Nebraska's natural heritage.

## Action 1

*Encourage the development of quality programs that give families the opportunity to explore the natural world together.*

Access to quality nature-oriented programming is essential to having an environmentally literate citizenry. Increased support should be given to existing nature centers, state parks, camps, etc., and new facilities should be developed in underserved areas.

## Action 2

*Develop resources, training, and sites that incorporate environmental education into early childhood development.*

Nebraska-based early childhood environmental education curricula should be developed and training provided to preschool teachers and caregivers that allow them to incorporate outdoor exploration in their programs. Nature-oriented preschools should be promoted that allow for teaching in both inside and outside environments.

## Action 3

*Provide opportunities for citizens, especially youth, to assist in field research and ecosystem restoration efforts.*

Citizen-based science can help meet conservation and educational goals. Organizations should be encouraged to use volunteers to conduct research/surveys, assist with habitat projects, and participate in environmental education.

## Action 4

*Encourage college and universities to offer all students courses specifically devoted to environmental issues and integrate these into other disciplines.*

Knowledge of environmental issues is crucial to an informed citizenry. These issues are interdisciplinary and can be easily incorporated into a wide variety of courses. Coursework covering these concerns would ideally make use of the outdoors.

## Action 5

*Develop programs that provide environmental education opportunities for seniors.*

Senior citizens often have the interest and time to attend and/or participate in educational programming. Programs, partnerships, and volunteer opportunities should be developed with the older adult and retired community.

**Issue:** Without an adequate awareness of Nebraska's unique environmental resources, Nebraskans will lack the tools to make informed choices and to live in an environmentally sustainable manner.

**Rationale:** Nebraskans must have meaningful experiences with the natural world on which to build a deepening understanding of environmental issues. Research tells us that outdoor experiences for young people, both unstructured and guided by a mentor, are essential for developing the sense of place so important for human well-being. Participation in field research and ecosystem restoration is another kind of experience that can help develop this sense of place. The desire to increase knowledge and make informed decisions about environmental issues flow from such experiences. As we become a more urbanized society this involvement becomes all the more crucial.

# Objective

# 2

Increase funding for environmental education in Nebraska.



**Issue:** Without increased support and greater funding for the provision of necessary materials (training, student transportation, staff, etc.), successful environmental education programming will not be possible. Adequate funding can help address social issues by producing literature that discusses the concepts of environmental education and its importance in our lives.

## Action 1

*Seek increased support for environmental education from the state legislature.*

Although balanced, quality environmental education has large social benefits, it is rarely addressed by the state's legislative body. A forum should be created that explores and addresses funding and other related issues.

## Action 2

*Establish a state-sponsored competitive grants program for environmental education.*

Although demand for environmental education is growing, funding is insufficient to meet current or future demand. Funding is needed to develop and deliver quality programs and curricula, purchase materials, underwrite field trip costs, monitor performance, etc. Conservation agencies should be encouraged to make funding a higher priority by redirecting existing funds and identifying new funding sources, such as education license plates, pollution fines, and lottery proceeds.

## Action 3

*Encourage school districts, educational service units, private conservation organizations, and governmental agencies to increase their support and funding for environmental education.*

Environmental education should be given higher priority for funding and staff allocation within organizations having responsibility for educating our citizens and managing our natural resources.

## Action 4

*Identify corporate partners and private foundations whose mission/objectives are similar to and/or overlap those of environmental education and seek their support.*

Develop and prioritize a list of corporate partners and private foundations that would be most likely to support environmental education. Identify key groups or individuals who have existing relationships or could develop new ones with potential corporate and foundation leaders.

**Rationale:** There are some components of environmental education that can be accomplished without a significant increase in funding (redirecting current efforts, improved communication and planning, increased commitment, etc.). However, to deliver this effectively it is necessary to have items such as materials for students to use in experiments, study guides and training for teachers, funding for field trips, and a place for teachers to identify experts in various fields and staff to develop and sometimes deliver programs.

# Objective

# 3

Promote collaboration and partnerships among a diversity of environmental education stakeholders.

## Action 1

*Encourage greater participation by all stakeholders in addressing environmental education issues.*

Increased collaboration must be sought among the wide diversity of groups that impact environmental issues. These groups include, but are not limited to, agricultural groups, conservation groups, environmental groups, private industry, and individual landowners. By finding mechanisms for these various groups to assist in addressing environmental education issues together, the environmental health of the state can be enhanced.

## Action 2

*Establish a new task force or revitalize an existing one that includes education, agricultural, conservation, and business leaders to discuss and address issues related to environmental education.*

A forum is needed to bring together stakeholders. A new task force could be created or the existing governor's task force on agriculture and natural resources could be used to raise the profile of environmental education and address issues and concerns.

## Action 3

*Organize an annual statewide event and/or regional meetings and invite all environmental education stakeholders to attend and contribute.*

A statewide annual environmental education event would afford opportunities for stakeholders to learn from each other and exchange ideas, and provide a forum to celebrate successes and encourage greater participation.

**Issue:** There are many local environmental education efforts in Nebraska but collaboration among different groups is often poor. For example, the goal of reducing soil erosion is supported by agricultural, wildlife conservation, and environmental groups because it sustains farmland, maintains wildlife habitat, and supports clean water and air, but these groups often do not coordinate their efforts.

**Rationale:** Environmental education is a broad and complex discipline. Various stakeholders have expertise and interest in specific areas and can best contribute to successful programs in those areas. Strengthening and diversifying existing partnerships and improving collaboration among all stakeholders would bring together more resources and foster a greater sense of shared responsibility.



## Objective

## 4

Ensure that environmental education reflects Nebraska's ethnic and cultural diversity.



### Action 1

*Seek to broaden environmental education to better reflect Nebraska's ethnic diversity.*

At present, many environmental education materials are not relevant to minority communities. In addition, minorities appear to be under-represented in the teaching profession. It is imperative to obtain minority input into material design and provide training for minority environmental educators so that the environmental education community can be broadened to be more representative of Nebraska residents.

### Action 2

*Develop new or modify existing environmental education programs that are designed specifically for underserved populations.*

Students of various communities have unequal access to hands-on materials and effective curricula. Given appropriate materials, more teachers may be encouraged to include environmental education in their classrooms.

### Action 3

*Develop new environmental education programs or modify existing ones that are sensitive to and address differences between rural and urban audiences.*

The workshops held across the state in 2004 to gain input for this Master Plan clearly showed that issues differ between rural and urban inhabitants as well as between various areas of the state. There is a need to incorporate these varying perspectives into environmental education programs.

**Issue:** Environmental education has not adequately addressed ethnic and cultural differences in Nebraska.

**Rationale:** Nebraska is, and will continue to become, more ethnically diverse. Four percent of Nebraska's population is black or African American, 5.5% is of Hispanic or Latino origin, 1.3% is Asian, and 0.9% is American Indian (U.S. Census Bureau 2000). An analysis by the Associated Press (Lincoln Journal Star, Sep 30 2004) found Nebraska's total population grew by 1.5% between 2000 and 2003, but minorities grew 10.1%. Materials available to environmental educators do not recognize the cultural and ethnic values of minority populations and therefore cannot bridge potential gaps between them and those of a larger white population. Nor do these materials explore the potential that diversity presents.

# Objective

# 5

Improve the quality and accessibility of environmental education resources.

## Action 1

*Develop, promote, and maintain an accessible and user-friendly database of environmental education resources.*

Identify partners who could assist in developing, maintaining, and integrating a database. Short- and long-term funding sources will need to be identified and secured. Every effort should be made to create a comprehensive, easy to use, web-based system. Funding should be secured to promote the availability of and provide maintenance for the completed database.

## Action 2

*Inventory and evaluate environmental education resources and improve the quality of and ease of access to these resources.*

Maintenance of a high quality inventory of available teaching resources is critical to being able to teach efficiently with up-to-date and accurate information. Some resources are nearly timeless in their content but others change as new information becomes available. Teaching methods also change or are enhanced and it is important to assure that they are available to a well-trained environmental education community.

## Action 3

*Increase financial, community, and state support for existing environmental education centers.*

Environmental education centers serve as a repository for materials, disseminate information about a broad array of environmental issues to the general public, provide office space for professionals who advise on and develop programs, deliver formal on-site programs, etc., and thus must be adequately supported.

## Action 4

*Identify gaps where new environmental education centers are needed.*

Existing centers are not easily accessible to all Nebraskans or educators. New centers may be needed in both urban and rural settings.

**Issue:** Many environmental education needs are not met because existing resources are unknown to teachers and the public, are cost or distance prohibitive, and/or don't meet a specific need. Moreover, there is no clearinghouse for promoting the availability of these resources.

**Rationale:** There is a large unmet demand and need for environmental education resources. Resources may include knowledgeable speakers, festivals, activity guides, nature center programs, hands-on materials, and videos. A well-maintained catalog of resources is needed that can be accessed easily by educators and others. An annotated inventory could highlight the best and most effective resources. Funding issues need to be addressed at environmental education centers. Areas where new nature centers are needed should be prioritized.

# Objective

# 6

Increase the number of formal educators from all disciplines who have the knowledge, time, skills, and confidence to integrate environmental education into their curricula.

## Action 1

*Encourage colleges/universities to provide accredited course work in environmental education.*

Colleges and universities should provide courses and increase focus on environmental education. Course work should include content, methods, and a case for support to incorporate environmental education into interdisciplinary curricula. Support and assistance from conservation agencies/organizations and environmental education leaders should be encouraged when developing and implementing college level environmental education courses.

## Action 2

*Encourage expansion of existing environmental education training and develop new strategies in a continuing education environment.*

Provide funding and support to expand the reach of effective programs so that all teachers who want training can receive it. Provide opportunities and funding for teachers to engage in life-long learning through teacher institutes, advanced workshops, field experiences, distance learning, and experiential activities related to the environment. Participation in environmental education training should be credited for professional development.

## Action 3

*Develop a recognition program to acknowledge educators and institutions for outstanding efforts in environmental education.*

Certain individuals and institutions are invaluable contributors to environmental education. Their achievements are the result of selflessness, dedication, and professionalism. It is important for peers to recognize these individuals/institutions for their contributions and highlight their accomplishments as a model for others to emulate.

## Action 4

*Ensure that formal educators are aware of and have access to environmental education resources.*

By widely disseminating information about the availability of resources, teachers will be able to find information and materials relevant to their needs and have greater confidence to teach about these subjects. A database will ensure teachers have access to current information.

## Action 5

*Provide forums that increase networking and information exchange between formal educators and the environmental education community.*

Formal educators need to have opportunities to be informed on environmental topics. Listservs, electronic forums, newsletters, white papers, meetings/workshops, etc. can provide opportunities to network and exchange information.

## Action 6

*Seek changes to Nebraska state content standards so that they better reflect and support environmental education needs.*

Research has shown that environmental education can increase student achievement in science, math, reading, language arts, and other disciplines, as well as enhance critical thinking skills. Since content standards largely drive what is taught in the classroom, it is important that environmental education be included prominently. Leaders in the environmental education community should be involved when content standards are reviewed or changes proposed.

**Issue:** Many formal educators have had little or no training in the biological and environmental sciences. Therefore, they can lack the associated experiences, support, and mentoring in environmental education. As a result, topics are often neglected or not taught in sufficient detail.

**Rationale:** During the public input process for this plan, one common theme heard was that teachers lacked the confidence to effectively integrate environmental education into their curricula. Without initial and continuing education, teachers cannot be expected to effectively integrate environmental education into curricula, resulting in student underachievement in biological sciences and other disciplines.

# Objective

# 7

Increase the number of non-formal educators from all disciplines who have the knowledge, skills, and confidence to participate in environmental education.

## Action 1

*Develop, implement, and encourage use of an education training program for new educators and provide continuing education opportunities for existing educators.*

Non-formal educators need training opportunities to be given the tools and knowledge to be effective teachers (e.g. theory of multiple intelligences, inquiry-based learning, etc.). A 'train-the-trainer' program should be developed so that individuals across all disciplines can be instructed by their peers to be effective educators. Annual advanced training opportunities should be developed to provide continuing education opportunities to improve the effectiveness and content of environmental education.

## Action 2

*Encourage a greater number of professionals in the natural resources and environmental fields to support and take part in environmental education.*

Natural resource managers and administrators need to be made aware of the importance of environmental education to the conservation of natural resources, and engage their staff in meaningful environmental education.

## Action 3

*Ensure that non-formal educators have access to environmental education resources.*

By widely disseminating information about the availability of resources, educators will be able to find information and materials relevant to their needs and have greater confidence to teach about the environment. A database will ensure teachers have access to current information.

## Action 4

*Provide forums that increase networking and information exchange between non-formal educators and the environmental education community.*

Non-formal educators need to have opportunities to be informed and kept current on environmental topics and to have opportunities to network. Listservs, electronic forums, newsletters, white papers, and meetings/workshops, can be used to network and exchange information.

## Action 5

*Develop a recognition program that acknowledges non-formal educators for outstanding efforts in environmental education.*

There are many committed non-formal educators who are contributing to environmental education in Nebraska. Formal and informal appreciation of these efforts needs to be made through awards, public and private recognition, and other means.

**Issue:** Many professionals in environmental and related fields lack the knowledge and training to effectively teach environmental education. Also, many don't understand its importance to environmental protection and conservation and are reluctant to commit time and energy.

**Rationale:** Engaging a greater number of professionals and others, e.g. professionals and volunteers working in natural resource/ environmental protection, scouting, healthcare, and youth camps, in environmental education is essential to advancing environmental and conservation efforts.



## Objective

## 8

Encourage and assist in the development of cross-disciplinary and Nebraska-specific environmental education curricula and materials.



**Issue:** Many environmental education curricula and materials are not specific to Nebraska and the Great Plains and are not well suited for subject areas other than science.

**Rationale:** Learning can be more effective if subject materials are relevant to a student's local environment. More Nebraska-specific curricula and materials would allow teachers to address issues that are most important to Nebraskans and their environment. Environmental education is uniquely suited for interdisciplinary teaching, yet many materials focus only on the science and environmental aspects of issues.

### Action 1

*Encourage the promotion of existing Nebraska-specific curricula and the development of new high quality materials modeled when possible after existing successful programs or curricula.*

Students often identify with an issue best if it can be related to something with which they are familiar. Educators can expect a greater level of success by using regionally specific curricula. Teachers, university faculty, and environmental educators should work collaboratively to better promote existing Nebraska-specific curricula and to develop new curricula with a local or regional focus.

### Action 2

*Encourage and support innovative and cross-disciplinary environmental education programs in Nebraska schools and communities.*

Integrated approaches to environmental education in Nebraska need to be promoted and better supported. Nebraska's environmental education community could benefit from exploring new and innovative programs and philosophies. The Environment as an Integrating Context model ([www.seer.org](http://www.seer.org)) is one successful model that breaks down traditional boundaries between subject areas.

# Objective

# 9

Develop a strong communication system that will allow environmental educators to communicate with each other and to obtain information about new and existing environmental education resources.

## Action 1

*Develop a newsletter for environmental educators.*

Some information in environmental education programs is relatively static (mercury in drinking water is poisonous) while other information may change (the level of mercury that poses a health problem). In addition, there are many programs and training opportunities that are missed because there is no good way to advertise them. A newsletter – whether it be printed, available on-line, or both – would share information, promote greater collaboration, and profile successes within the environmental education community.

## Action 2

*Establish an on-line forum or listserv where participants can exchange ideas, get questions answered, obtain accurate up-to-date scientific information, and hold discussions about current events.*

Online forums (discussion boards, chat rooms, etc.) or listservs have the potential to involve a large percentage of the environmental education community in problem solving or as a means to alert individuals about important events. In addition, feedback could be provided to coordinators about new ideas, teaching methods, materials, or programs.

**Issue:** Educators often find it difficult to obtain all the resources they need to teach efficiently and accurately. Although there are some established communication networks, they are often small and not well connected. Furthermore, many active environmental educators are not part of any network.

**Rationale:** Active environmental educators are typically full-time teachers who incorporate environmental education into their required curriculum, or non-formal educators who are active professionally or as volunteers. The resource needs for each of these groups have both similarities and differences. Efficient communication between the deliverers and the sources of information (biologists, ranchers, public health officials, etc.) is needed to deliver high quality education.



# Objective 10

Encourage monitoring and evaluation of environmental education effectiveness and outcomes.



## Action 1

*Encourage and seek funding for environmental educators to measure the effectiveness of programs using accepted evaluation protocols.*

New programs should include front-end evaluation protocols to measure effectiveness and adapt program implementation if necessary. Current programs should strive to develop evaluation criteria to measure outcomes.

## Action 2

*Publish an annual report of environmental education activities and outcomes.*

An annual report of outcomes will help ensure that stakeholders and the public are informed about the successes and deficiencies of environmental education efforts across Nebraska.

## Action 3

*Advocate for long-term evaluation projects.*

Without long-term evaluation projects (e.g., multi-decade longitudinal studies), it will be difficult to assess the impacts of environmental education and the changes needed to make it more effective.

## Action 4

*Conduct regular surveys of environmental literacy and use results to identify environmental literacy strengths and deficiencies.*

A protocol modeled after the Roper-Starch National Report Card should be developed to assess environmental literacy in Nebraska and compare it to a national benchmark. The survey results could be used to identify and prioritize key issues. Funding sources need to be identified for conducting the survey on a regular basis.

**Issue:** Too often, popular programs that appear to improve the learning process are not evaluated to determine if they are effective and achieve their desired outcomes. Without some form of evaluation, environmental education runs the risk of being ineffective and wasteful of limited resources.

**Rationale:** Environmental education programs can take a long time to develop and put into practice. Therefore, it is important to incorporate criteria monitoring and evaluation methods into programs during the design phase. In addition, existing programs need to be evaluated to determine if they are effective and meet objectives.

# plan implementation and evaluation

This plan will be widely distributed to organizations, agencies, and individuals who are key to successful implementation in Nebraska. They will be asked to review and implement actions identified in the plan. NACEE will convene an ad hoc evaluation committee that will be responsible for reporting progress on implementation of the master plan on an annual basis. The evaluation committee will develop a progress report form that will be distributed to key stakeholders in the environmental education community. The report forms will be used to create a record of accomplishments and identify barriers to implementation.

The evaluation committee will meet annually to review progress report forms submitted by organizations and individuals and to quantify accomplishments. Every attempt will be made to streamline reporting to create an efficient process to measure accomplishments and identify barriers to implementation. Progress will be reported to the NACEE membership and the broader environmental education community. A more extensive evaluation of the plan will be done at five year intervals and adaptive management will be used to update the plan.

Funding will be sought to measure outcomes from implementation of the master plan. The environmental literacy survey will be repeated to measure changes in attitudes and knowledge related to the environment. Additional surveys, longitudinal studies, and research projects will be encouraged and supported to help evaluate progress in Nebraska.



The following individuals participated in work groups, helped obtain funding, gave input into the document, and participated in numerous other ways in making this project possible.

Irene Alexander	John Harms	Robert Manasek	Greg Schenbeck
Pam Andersen	Polla Hartley	Liz Martin	Kathy Schendry
Kari Andresen	Deb Hauswald	Debbie Martotz	Jay Schneider
Laurel Badura	Machelle Havenridge	Lois Mayo	Stuart Schneider
Betty Balderson	Katy Hawkins	Michelle McCormick	Mindy Schulz
Jackie Barnhardt	Barbara Hayford	Carla McCullough	Susan Seacrest
McKenzie Barry	Harry Heafer	Len McDaniel	Becky Seth
Helen Bartee	John Heaston	Brad McKinney	Vince Shay
Alan Bartels	Jenny Henriksen	Karen Messenger	Natalie Shepard
Buffalo Bruce	Al Herbel	Dawn Metschke	Mel Shockley
Penny Businga	Lois Herbel	Maribeth Moore	Carl Simmons
Chris Carnine	Gary Hergenrader	Steve Moran	Sharon Skipton
Gloria Carstens	Angela Higgs	Elizabeth Mulkerrin	Chad Smith
Donna Christiansen	Rocky Hoffman	David Murphy	Monica Snowden
Barbara Clark	Lynn Houtz	John Murphy	Cindy Sobaski
Jamalee Clark	Mark Humpert	Kate Murphy	Russ Soucek
Mary Ann Closson	Christine Jacobsen	David Nash	Clayton Stalling
Mike Coe	Anne James	Jennifer Nelson	Christine Starr
Jeanene Cordes	Blake Johnson	Doak Nickerson	Kristal Stoner
Lelia Coyne	Ron Johnson	Janet Nielson	Robert Sweetland
Michael Crisco	Tim Johnson	Shirley Niemeyer	Jim Swenson
Cedric DeCory	Scott Josiah	John Niemoth	Laura Tegtmeier
Linda Dennis	Kimberly Kelly	Dave Ostdiek	Chris Thody
Deb Dopheide	Alice Kenitz	Todd Paddock	William Thompkins
Rachel Doherty	Cyndi King	Michelle Parde	Troy Thompson
Jim Douglas	James King	Bernie Petersen	Rosemary Thornton
Dean Edson	Jim King	Leslie Picraux	Dave Titterington
Bechara Embaid	Alan Koebel	Kevin Poague	Sara Toren
Jeff Fields	Kay Kottas	Jane Polson	Bruce Trindle
Dan Fogell	Kelly Krambeck	Hansen Poor Bear	Steve Van Boening
Chuck Francis	Kathy Kropounske	Leander Poor Bear	Rodney Verhoeff
Kathy French	Sara Krug	Dennis Pope	Bill Vodehnal
Mike Fryda	Jeanine Lackey	Joanna Pope	T.J. Walker
Nancy Furman	Roger Lampe	Jay Rasmussen	Ione Werthman
Joe Gabig	Marian Langan	Steve Rasmussen	Scott Wessel
Kathryn Gabig	Amy Leising	Jeff Rawlinson	Vicki Westcott
Amy Garrett	Keanna Leonard	Steve Ress	Jan Whitney
Charles Gildersleeve	Brooke Levey	Steve Riley	Mimi Wickless
Michael Gillen	Sharon Lien	Lindsay Rogers	Harley Winfrey
James Goeke	Mark Lindvall	Barb Ropp	Shannon Witt
Tim Golden	Brandy Lively	Wayne Ruppert	Becky Witulski
Cheryl Griffith	Bernie Lorkovic	Laura Safarik	Carl Wolfe
Clark Haberman	Sarah Ludvik	Tom Samson	Jim Woodland
Heather Haberman	Diana Luscher	Mike Sarchet	Deborah Woracek
Carolyn Hall	Marian Maas	Liz Sarno	Julie Wragge
Mark Hammer	Gene Mack	Dick Saul	
Mary Harding	Jennifer Malfait	Michelle Saulnier-Scribner	

# Participants



