



# Nebraska Environmental Literacy Plan:

Supporting Natural Resources,  
Conservation & Stewardship



Developed for Nebraska by Nebraskans  
through the leadership of the  
Nebraska Alliance for  
Conservation & Environment Education



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through funding from the  
U.S. Environmental Protection Agency



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## INTRODUCTION

### What is Environmental Literacy?

Environmental Literacy is achieved when students possess the knowledge, intellectual skills, attitudes, experiences and motivation to make and act upon responsible environmental decisions as individuals and as members of their community. Environmentally literate students understand environmental and physical processes and systems, including human systems. They are able to analyze global, social, cultural, political, physical, economic and environmental relationships, and weigh various sides of environmental issues to make responsible decisions as individuals and as members of their community and citizens of the world.

### Elements of the State Environmental Literacy Plans

The No Child Left Inside Act will provide new federal funding for outdoor learning activities and high-quality environmental education to states that develop a certified Environmental Literacy Plan. The North American Association for Environmental Education (NAAEE) has provided states with guidance in the development of environmental literacy plans, encouraging them to develop standards in six areas:

- 1) Identifying specific content standards, content areas, and courses or subjects where instruction will take place.
- 2) Identifying how state high school graduation requirements can ensure that graduates are environmentally literate.
- 3) Providing professional development for teachers to improve their environmental content knowledge, skill in teaching about environmental issues, and field-based pedagogical skills.
- 4) Identifying how implementation of the plan and its impact on environmental literacy can be measured.
- 5) Identifying how the Department of Education can secure funding and other necessary support to implement the plan.
- 6) Identifying how schools can incorporate environmentally sensitive practices.



### Purpose of the Plan

The purpose of the Nebraska Environmental Literacy Plan is to develop a comprehensive strategy, linked with state educational standards and curricula, to provide youth with structured and unstructured opportunities for play, outdoor recreation, learning and scientific study. The plan recommends steps that the State of Nebraska must take to ensure that Nebraska's children have the opportunity to connect with nature and grow to become informed and responsible stewards of our environment.

### Why is this important?

Our natural resources are unique and precious, providing abundant recreational opportunities and diverse ecological habitats and functions critical to sustaining clean air, soil, and water. The restoration, protection, and long-term sustainability of Nebraska's natural resources is dependent on future generations of citizens who are environmentally literate and fundamentally connected as stewards to those natural resources.

Climate change, depletion of natural resources, air and water pollution, and other environmental challenges are pressing and complex issues that threaten the health and economic well-being of Nebraska's communities. Finding wide-spread agreement about what specific steps we need to take to solve these problems is difficult and will require a fundamental understanding of ecological systems and the impacts of human activity on them. Environmental education will help ensure our nation's children have the knowledge and skills necessary to address these complex issues. Environmental science and related education, rooted in the kind of real-world immersion offered by environmental education is essential to preparing our children to succeed in a 21st century workplace. Their health and economic future—and that of the entire nation—depend on it.

Unfortunately, today's youth are more likely to be inside watching television or playing video games than spending time out of doors in unstructured play. Emerging research shows that this trend contributes to problems such as childhood obesity, attention deficit disorder and depression. Conversely, time spent outdoors has positive impacts on a child's physical, cognitive, and social development.



## Nebraska's Plan for Fostering Environmental Literacy

Recognizing the urgency in ensuring that Nebraska's young people have the opportunity to connect with nature and grow to become informed and responsible stewards of our environment, the Nebraska Alliance for Conservation and Environment Education (NACEE) created a workgroup of stakeholders to develop a plan to provide youth with structured and unstructured opportunities for play, outdoor recreation, learning and scientific study through an environmental literacy plan.

The workgroup's vision was to create a plan that will foster environmental literacy and a culture of conservation and land stewardship for Nebraska residents and their children. The goals, strategies and visions outlined in this report suggest significant changes for Nebraska's schools and communities, children and families. They are changes that, if implemented, will mark a pivotal moment in time for education, environmental stewardship and the ability of Nebraska's young people to personally connect with nature in ways that promote mental, emotional and physical health and well being throughout their lives.

The Environmental Literacy Workgroup held its first meeting in June 2009 at the Lied Lodge in Nebraska City. In addition to the six required elements, the Workgroup identified four additional elements for Nebraska's Environmental Literacy Plan:

- 7) Identifying how local school policies and practices can support environmental literacy.
- 8) Providing resources, programs, partnerships, information and training opportunities for teachers to encourage and support environmental education.
- 9) Providing resources and training to support non-formal environmental educators.
- 10) Developing a plan that creates opportunities to strengthen understanding and appreciation of natural resources and enhances stewardship of our shared environment.

The workgroup identified strategies to address each element. Over the next 12 months, the plan was refined by soliciting feedback from stakeholder groups across the state. Over 110 individuals participated representing: classroom educators; nature centers; government agencies; non-profits; environmental, conservation and agricultural organizations.



## Element 1: Identify Specific Content Standards, Content Areas, and Courses or Subjects where Instruction will take place

Goal: Use the existing Nebraska Department of Education Standards as a basis for further incorporating environmental literacy into school practices.

### Strategies

1. Inclusion in the Revision Process. Stakeholders representing the interests of Environmental Education should be involved in the Nebraska Department of Education's periodic revision of the state standards to ensure that the interests of environmental education have a voice in the revision process.
2. Revision of Content Specific Education Standards. Nebraska's content specific education standards should be revised to:
  - Align with the Excellence in Environmental Education: Guidelines for Learning (Pre K-12).
  - Provide example indicators utilizing environmental education (e.g., teaching the alphabet using words about the environment).
  - Provide examples that demonstrate how environmental education can be a unifying theme across the curriculum (art, writing, math, language arts, physical education, career exploration, history, etc.).
3. Revision to Other Curricular Area Standards. The Department of Education should also explore revisions to other applicable curricular area standards to promote environmental education including:
  - Alignment between the Excellence in Environmental Education: Guidelines for Learning (Pre K-12) and 21st Century School Standards.
  - Revisions to Nebraska Department of Education Rule 24 to either include an endorsement for environmental education or include environmental education as a component to obtaining a science endorsement.



#### 4. Fostering Partnership Related to the Standards.

- The Department of Education should widely disseminate copies of the Education Standards and participate in processes (such as meetings and workshops) to assist non-formal educators with aligning their programs with the standards.
- Non-formal educators should communicate with teachers and schools, explaining how their programs will help them meet specific content standards.
- Institutions of higher education/graduate programs should develop curricula specific to teaching to the specific content standards in the area of environmental education.

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- 1 Revision to the Nebraska Department of Education's Academic Standards occurs every 5 years.
  - 2 See Wisconsin's Model Academic Standards for Environmental Education (available online at: <http://dpi.wi.gov/standards/pdf/envired.pdf>)
  - 3 Teaching endorsements are approved by the Nebraska Teacher Education Counsel. Ninety percent of teachers within a school must teach in their endorsed area.



## Element 2: How State High School Graduation and Other Requirements will ensure that Graduates are Environmentally Literate

Goal: The course requirements for high school graduates make a strong statement about which skills and knowledge are valued to best prepare students to live and work as productive, responsible citizens. Course requirements should reflect a commitment to environmental education.

### Strategies

1. High School Graduation Requirements. Work with school boards to encourage school districts to adopt a one-credit graduation requirement for environmental education.
2. Higher Education Entry Requirements. Require higher education programs to include environmental education for entry requirements (thereby affecting high school graduation requirements).
3. Community Service Requirements. Encourage schools with community service requirements to include environmental service learning hours tied to the curriculum.
4. School Accreditation Requirements. Explore requiring environmental education as part of Rule 10 Regulations and Procedures for the Accreditation of Schools.



## Element 3: Professional Development for Teachers

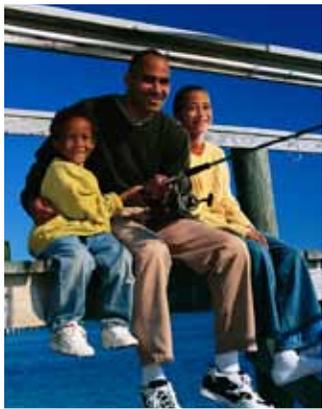
Goal: Provide programs, partnerships, information and opportunities for formal and non-formal educators to improve their environmental content knowledge, skills in teaching about environmental issues, and field-based pedagogical skills.

### Strategies

1. Conduct a Needs Assessment. Input should be solicited from teachers and professional organizations, to determine what professional development resources and opportunities are needed and to determine what, if any, barriers have kept them from providing/participating in environmental education in the past.
2. Develop an Online Searchable Catalog of Professional Development Resources. With input from Nebraska teachers and non-formal educators, develop a well organized, comprehensive, and searchable catalog of professional development resources. Promote the resource guide to schools through professional education networks.
3. Develop Training Opportunities. Develop a plethora of professional development opportunities for educators. In terms of substance:
  - Training opportunities should align with Nebraska education standards and should assist teachers in incorporating environmental education across subject areas.
  - Trainings should teach instructors how to provide environmental education to a variety of populations: gifted, special education, early childhood, people of color, youth in rural and urban areas, etc.
  - Training should emphasize pedagogy/development skills. For example, how to facilitate outdoor education lessons.

### In terms of forum/process:

- Training should apply towards continuing education credits when applicable or offer certification in environmental education.
- In-service training should be offered to promote peer sharing, a support network, and resources.



### Element 3, continued

- Encourage mentorship and should utilize retired teachers as a resource.
- Partner with non-formal educators.
- Be offered off-site and locally in order to incorporate community resources.
- Provide opportunities to utilize environmental technology.
- Be affordable and when appropriate provide stipends and/or cover the costs of substitute teachers.
- Be available online.
- Be incorporated into existing professional development forums.

4. Incorporate Environmental Education into Advanced Degree Programs. Work with higher education to incorporate environmental education into advanced degree programs.

- Establish an online Masters Degree program in Environmental Education/Natural Resources.
- Include environmental education as a component to masters degree programs for administrators (public administration, curriculum development, etc.).

5. Incorporate Environmental Education into Teacher Preparation. Work with higher education to incorporate environmental education into the preparation offered to teachers while in college.

- Establish an environmental studies certification program, which requires 12 credit hours (1/3 of masters program) dedicated to environmental studies.
- Encourage state and private colleges and universities in Nebraska to require environmental education for education majors (for example, a one week emersion course).
- Require pre-service teachers to spend time in informal/non-formal settings.
- Establish a scholarship program for environmental educators.
- Offer professional development opportunities related to environmental education during college breaks that are compatible with service learning requirements.
- Establish an environmental education certification program for early childhood teachers (Pre-K).
- Establish internships with environmental related businesses.

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4 Nebraska teachers are required to obtain six credit hours of continuing education every six years.



## Element 4: Measuring environmental literacy and the impact of the Environmental Literacy Plan

Goal: Establish evaluation of all programs in order to assess the benefits of environmental education and to implement ongoing program improvement.

### Strategies

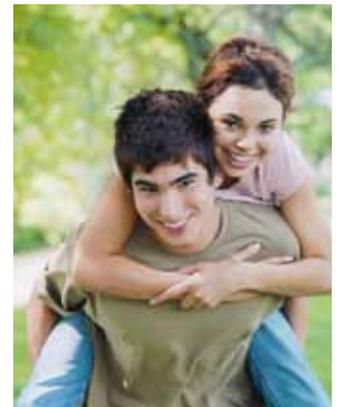
1. Adequate Funding. Secure adequate funding for the Nebraska Department of Education to allow them to evaluate the implementation of all elements of the Nebraska Environmental Literacy Plan.
2. Resources and Training. Provide resources and training to teachers and educational program providers so that they can effectively evaluate their programs.
  - Compile existing resources, measures and research regarding environmental education.
  - Establish partnerships with graduate programs so that doctoral candidates can be recruited for thesis/dissertation projects that evaluate environmental education.
3. Evaluation Components for Department of Education and Teachers. Evaluation should align with state assessment standards for K-12 and should be designed to measure the level at which students are to be held accountable through the standards (e.g., multiple choice vs. problem solving/higher cognition). When appropriate, evaluation should also be used to promote student learning (e.g., Environmental Education Bee by grade level, enviro-thons, etc.).
4. Evaluation Components for Non-formal Educators. Evaluation should include measures of environmental literacy, value and behavior change as well as concrete measures such as: increased use of parks and other outdoor related programs, reduced litter, youth participation in programs, increasing enrollment of students choosing environmental/conservation related courses.
5. Evaluation of Implementation. Implementation of the Environmental Literacy Plan should be evaluated in order to continually improve each element (e.g., evaluation should gauge teacher interest/involvement in environmental education over time and should also be used to identify the types of trainings and resources that would be beneficial to teachers).



## Element 4, continued

### 6. Evaluation Methods

Data collection should take place regularly so that indicators (such as student knowledge, attitudes and behavior) can be tracked over time (the progression through the school career) and should use a variety of appropriate methods (focus groups, journaling, portfolios, results mapping by following up with graduates, service learning projects, pre- and post-tests, tests, etc.). When appropriate, online evaluation tools should be used to reduce paper use.



## Element 5: Nebraska Department of Education Funding & Support

**Goal:** Ensure that the Nebraska Department of Education and other partners in this initiative have the necessary funding, political support and other capacities to implement the elements of the Environmental Literacy Plan.

### Strategies

1. Establish an Advisory Committee. The Nebraska Department of Education should establish an Advisory Committee on Environmental Education to provide guidance on the development, implementation, funding and evaluation of the Environmental Literacy Plan.
2. Identify Funding Needs. The Advisory Committee, in conjunction with the Department of Education, should: 1) identify recommendations that will not require new revenue and proceed with implementation and identify recommendations that will require funding and; 2) strategize about reprioritizing existing funds or obtaining new funds for implementation. Funding needs should be reviewed on an annual basis.
3. Obtain State Funding. The Nebraska Legislature should fund a position for a dedicated Environmental Education Coordinator within the Department of Education, to be responsible for the continued development, implementation and evaluation of the Environmental Literacy Plan (estimated cost \$150-\$200K annually).
4. Human Resources. The Advisory Committee in conjunction with the Department of Education, should explore additional ways to provide staff resources for environmental education:
  - Dedicated environmental education staff could be established on a regional basis through partnerships with entities such as Games and Parks, Natural Resource Districts, etc.
  - The Nebraska Department of Education should partner with graduate students working to obtain their masters degrees in curriculum instruction to develop curriculum strategies identified in the Environmental Literacy Plan.
  - Establish partnerships with graduate programs so that doctoral candidates can be recruited for dissertation projects that evaluate environmental education.



## Element 5, continued

- The Department of Education should seek the assistance of retired teachers with a commitment to environmental education.

5. Obtain Additional Funding. Establish mechanisms by which individuals, organizations or businesses can financially support environmental education in schools by “adopting a classroom.” Explore additional funding options for both state and local level (see Appendix C for list of potential sources). Prepare boiler plate language for grant applications for use by teachers and non-formal educators that explains the benefits of environmental education.

6. Government Relations. Strengthen policymakers’ engagement of and support for environmental education and issues:

- Create a press package for government stakeholders regarding the benefits of environmental education (health, economic development, quality of life, etc.)



## Element 6: Environmentally Sensitive Practices for School Facilities and Grounds

Goal: All Nebraska schools and their grounds serve as community models for green landscape design and operation, energy efficiency and sustainability.

### Strategies

1. Explain Benefits of Green Schools. Develop materials to be disseminated to school boards, administrators, teachers, students, parents and communities, explaining the benefits of green schools:

- How green practices are economically advantageous for school systems.
- The health benefits for students (including mental health and suicide prevention).
- How green space can be used to enhance environmental education (e.g., native prairie, outdoor labs, etc.).

2. Provide Resources. Provide a source book for schools and students with ideas for how to make their schools green and a list of partners that can assist them with accomplishing the goal. (See Appendix C for a preliminary list of strategies). Foster school engagement by including teachers and administrators in the development of plans for school facilities and grounds.

3. Provide Recognition. Recognize Schools that “Go Green” by offering Green School Certification and Awards for green practices (e.g., Leadership in Energy and Environmental Design Program (LEED)).

4. Suggest Cost Saving Partnerships. Explore partnerships that make green practices for schools more affordable.

- Work with schools to ensure green projects comply with insurance coverage. Or establish public/private partnerships to cover the costs. For example, asking insurance companies to sponsor projects/activities.
- Provide schools with the equipment related to environmental education (e.g., water testing, watt use meters, etc.).



## Element 6, continued

- Work with volunteer and other organizations to improve school facilities and grounds through service learning projects.
- Partner with college and graduate students in related areas on projects (green training, architecture).
- Partner with existing spaces to provide year round opportunities for schools/students.
- Encourage businesses and other organizations to develop green spaces which could be made available for student activities.

### 5. Support Political Mechanisms/Decisions in Support of Green Schools

- Engage communities to require green design for new buildings including schools through their municipal codes (LEED Certified, U.S. Green Builders Council, etc.).
- Support and utilize the expertise being developed for Environmental/Natural Resources Focused Schools.



## Element 7: How Other School Policies and Practices can Support Environmental Literacy

Goal: Beyond graduation requirements and state education standards, identify additional school policies and practices to support environmental literacy.

### Strategies

1. **School Activities.** Demonstrate how environmental education can be incorporated into sanctioned school activities and athletics (archery, fishing, Environmental Bees, Enviro-Thon, etc.).
2. **Include Pre-schools.** Encourage pre-k programs to adopt environmental education into their curriculums and guidelines for early childhood environmental education.
3. **Include Private and Parochial Schools.** Encourage private and parochial schools to adopt environmental education into their curriculums.
4. **Environmentally Literate Faculty and Staff.** Encourage school districts to give hiring preference for teachers and administrators who are certified in environmental education.
5. **Additional Strategies for Schools.** Encourage schools to employ additional strategies regarding electives:
  - Offering job-shadowing and career exploration related to the environment.
  - Offering electives and/or independent studies in environmental education.
  - When appropriate, allow environmental education classes to count for multiple credits (e.g., math, English composition, etc.).
  - Encourage schools with vocational tech programs to emphasize environmental education (e.g., work study, class projects, water sampling, etc.).
6. **Support After School Programs.** Support and encourage involvement in outdoor clubs, activities, after school programs, and organizations that promote environmental education, nature, and/or stewardship.
  - Access Title II Funds for these opportunities.
7. **Develop awards program** to recognize the efforts of teachers, students, and community partners.



## Element 8: Resources for Teachers

Goal: Provide resources, programs, partnerships, information and training opportunities to encourage and support environmental education in schools.

### Strategies

1. Conduct a Needs Assessment. Input should be solicited from teachers and professional organizations, to determine what resources would be helpful in supporting their efforts to provide environmental education.
2. Develop an Online Searchable Catalog of Resources. With input from Nebraska teachers and environmental education providers, develop a well organized, comprehensive and searchable catalog of teacher resources. Promote the resource guide to schools through professional education networks.

### Guidelines/Existing Curricula

- NAAEE Environmental Education Guidelines.
- Master Naturalist Curriculum.
- State Education and Environment Roundtable (SEER) Program.

### Teacher Resources

- Training opportunities for teachers.
- Sample lesson plans by grade level and subject.
- Books, hands on learning activities, residential programs, inexpensive labs, and assignments appropriate by age level (e.g., computer based environmental education tools, essay projects, journals, group projects, video projects, etc.).
- Examples of outdoor classrooms.
- Service learning programs tied to environmental education.
- Environmental educators (see Speakers Bureau below).
- Examples of how environmental education can be incorporated across disciplines. For example:
  - How chemistry, physics and math tie into the carbon sequestration cycle.



## Element 8, continued

### Teachers Resources, continued

- Competing ethics (utilitarian vs. preservation).
- Incorporating outdoor activity into physical education (e.g., Amazing Race, Orienteering Team).

### Natural Resources

- Outdoor areas
- Water resources.
- City, State and National Parks.

### Engagement Resources

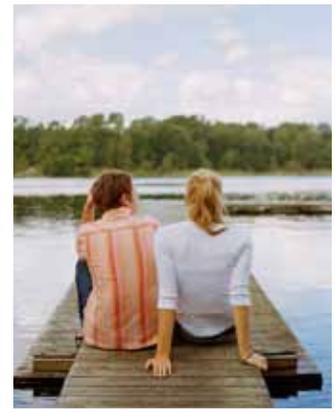
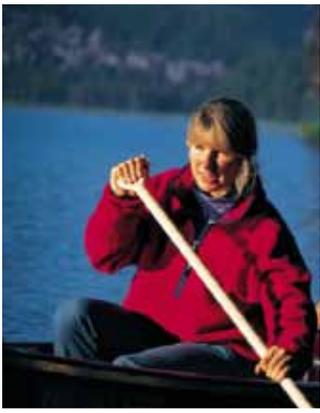
- Resources for administrators on how to establish/support environmental education efforts within a school.
- Resources for teachers on how to engage administrators and school boards in supporting environmental education.
- Listings of funding opportunities for schools, teachers and environmental education programs.

3. Establish a Statewide Speakers Bureau. Coordinate a Speakers Bureau as a resource for formal and non-formal educators on a variety of environmental/conservancy/natural resources topics.

- Coordinate the Speakers Bureau utilizing the existing network of environmental educators.
- Promote the Speakers Bureau to local schools (utilizing professional education networks).

4. Develop Training Opportunities. Develop a plethora of environmental training opportunities for teachers. In terms of substance:

- Training opportunities should align with Nebraska education standards and should assist teachers in incorporating environmental education across subject areas.
- Trainings should teach instructors how to provide environmental education to a variety of populations: gifted, special education, early childhood, minority students, youth in rural and urban areas.



## Element 8, continued

### Develop Training Opportunities, continued

- Training should emphasize pedagogy/development skills. For example, how to facilitate outdoor education lessons.
- Trainings should emphasize the importance of and effective ways in which teachers can evaluate the impact of environmental education.

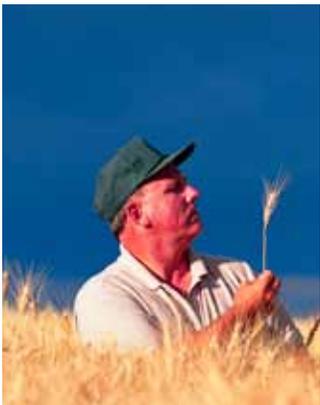
### In terms of forum/process, trainings should:

- Training should apply towards continuing education credits when applicable or offer certification in environmental education.
- In-service training should be offered to promote peer sharing, a support network, and resources.
- Encourage mentorship and should utilize retired teachers as a resource.
- Partner with non-formal educators.
- Be offered locally in order to incorporate community resources.
- Allow for off-site opportunities and opportunities to utilize environmental technology.
- Be affordable, and when appropriate, should provide stipends and/or cover the cost of substitute teachers.
- Be available online.
- Include service learning programs/partnerships.
- Be incorporated into existing forums.

5. Expose Teachers to Nebraska's Natural Resources. Develop a "Teachers as Ambassadors" partnership with Nebraska tourism to expose teachers to Nebraska's natural resources and outdoor learning opportunities.

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5 Nebraska teachers are required to obtain six credit hours of continuing education every six years.



## Element 9: Resources for Non-Formal Educators

Goal: Provide resources and training opportunities to support non-formal environmental educators.

### Strategies

1. Conduct a Needs Assessment. Input should be solicited from teachers and non-formal educators to determine what resources would be helpful in supporting partnership and non-formal educators' efforts to provide environmental education.
2. Develop an Online Catalog of Resources. With input from Nebraska teachers and non-formal educators, develop a well organized, comprehensive and searchable catalog of resources including:
  - NAAEE Environmental Education Guidelines.
  - Nebraska Education Standards.
  - Listings of funding opportunities for environmental education programs.
  - Resources for non-formal educators on how to align their programs with education standards.
  - Resources for non-formal educators on how to engage teachers and administrators in environmental education.
  - Resources for non-formal educators on how to evaluate their programs.
3. Develop Training Opportunities. Develop training opportunities for non-formal educators:
  - Training opportunities should include an overview of Nebraska education standards with an emphasis on encouraging non-formal educators to align their programs with the standards.
  - Trainings should teach non-formal educators how to provide environmental education to a variety of populations: gifted, special education, early childhood, minorities, youth in rural and urban areas.
  - Training should emphasize pedagogy/teaching skills.
  - Trainings should instruct non-formal educators on the importance of and effective ways in which they can evaluate their programs.
4. Develop a Certification Program for Non-Formal Educators. The Nebraska Department of Education should create a certification program by which they can ensure that local environmental education programs align with state standards.



## Element 10: Public Campaign to Enhance Stewardship

**Goal:** Develop a plan that creates opportunities to strengthen understanding and appreciation of natural resources and enhances stewardship of our shared environment.

### Strategies

1. **Highlight Existing Opportunities.** Provide greater coordination for children and families to experience a seamless network of environmental opportunities in local, private, county, state and national parks.
  - Highlight the value of parks and offer promotional free weekends at local, state and federal parks.
  - Highlight the value of cultural sites that focus on the environment and/or agriculture.
  - Highlight play-based experiences for youth.
  - Promote existing educational opportunities that connect students with nature.
  - Promote existing local outdoor opportunities that connect families with nature.
  - Promote agri-tourism.
2. **Marketing Campaign.** Creation of a statewide marketing campaign focused on inspiring a cultural shift to connect children to nature and appreciation of natural resources. The campaign should include creative strategies such as:
  - Getting celebrity endorsements to promote environmental literacy
  - Showcasing a link between the arts and the environment (writers, artists, and photographers).
  - Hosting a statewide Environmental Literacy Fair or a traveling exhibit or community carnival related to environmental literacy.
  - Using a variety of media outlets to promote stewardship including radio, television, websites, electronic media and social networking websites (e.g., Facebook, Twitter).
  - Establishing a partnership with the media for a constant message in support of environmental literacy, from a variety of angles (e.g., farmers, hunters, etc.).
  - Establishing partnerships with community groups and private partners like utility companies and green companies to convey green messages (e.g., environmental information distributed with mailings, links on partnering organization's websites, volunteer service day partnerships, etc.).



## Element 10, continued

- Connecting with parents via parent teacher organizations, school newsletters, etc.
- Recognizing and publicizing efforts to protect and celebrate the environment.
- Partnering with college and university marketing classes for assistance with the campaign.

The messaging regarding the campaign should:

- Explain how the environment is inter-dependent with the other major social benefits: social/cultural, technology, health, economy, public policy.
- Be directed at families and inclusive all of all ages, abilities, and racial/cultural groups.
- Encourage the public to vote to support the environment (e.g., restore funding for lost programs and ensure that outdoor opportunities are affordable to the public).
- Focus on the small things that people can accomplish in Nebraska.
- Emphasize how environmental stewardship enhances quality of life and reduces outmigration of population.
- Teach people how they impact the environment (e.g., ecological footprint).
- Discuss how to become an environmentally conscious consumer.

3. Establish a Network of Volunteers and Educators. Create a statewide network of volunteers and educators that can:

- Provide service learning opportunities.
- Serve as speakers on topics related to conservation, stewardship, and environmental education.
- Recruit young people to become involved and to work with youth.
- Recruit retired residents to become involved and to work with youth/serve as mentors.
- Create/promote volunteer opportunities for families.

4. Support Outdoor Education for Adult Learners. Create/promote outdoor education opportunities for adult learners (e.g., classes through the University Extension Offices or Community College courses on outdoor skills, etc.).

5. Government Relations. Strengthen policymakers' engagement of and support for environmental education, natural resources, conservation and stewardship.

- Create a press package for government stakeholders regarding the benefits of environmental education (health, economic development, quality of life, etc.).



## APPENDICES

### Appendix A: Environmental Literacy Plan Workgroup Members

Co-Chair – Harry Heafer, Lincoln-Lancaster County Health Department

Co-Chair – Kathy Kropuenske, Keep Scottsbluff-Gering Beautiful

Ron Bonstetter, University of Nebraska- Science Education

Andrea Faas, Ak-Sar-Ben Aquarium

Kenneth Finch, Green Hearts Institute for Nature in Childhood

Kay Grote, North Platte Natural Resources District

Heather Haberman, Scottsbluff High School

Ken Mabery, National Park Service

Brad Mellema, Nebraska Nature and Visitor Center

Larry Starr, Nebraska Department of Education/Ag in the Classroom

Jim Woodland, Nebraska Department of Education

Sara Yendra, University of Nebraska- Environmental Studies



## Appendix B: Environmental Literacy Plan Workgroup Memembers

We would like to thank the following individuals for their participation in the stakeholder meetings Nebraska and for their contributions to the Environmental Literacy Plan:

### SCOTTSBLUFF — AUGUST 19, 2009

|                   |  |
|-------------------|--|
| Beverly Atkins    | Farmer/Rancher/Farm Bureau                       |
| Kyle Beach        | Trails West YMCA, Gering, NE                     |
| Steph Black       | Scottsbluff/Gering Chamber of Commerce           |
| Penny Businga     | Educational Service Unit 13                      |
| Chuck Butterfield | Chadron State College                            |
| Mark Davison      | Chief Ranger, Scotts Bluff National Monument     |
| Amanda Filipi     | Nebraska Prairie Partners                        |
| Lois Herbel       | Retired Educator/ Learn and Serve America        |
| Connie McDonnough | Retired Educator, Western Nebraska Comm. College |
| Ron Moore         | Panhandle Resource Conservation & Development    |
| Doak Nickerson    | Nebraska Forest Service                          |
| Bob Pedulla       | Educator, Scottsbluff High School                |
| Bruce Rolls       | Platte River Basin Environment, Inc.             |
| Dan Thorton       | Nebraska Game and Parks Commission               |
| Kathy Welfl       | Riverside Zoo, Scottsbluff, NE                   |
| Susan Wiedeman    | Mayor, Gering, NE                                |

### NORTH PLATTE — OCTOBER 19, 2009

|                   |                                    |
|-------------------|------------------------------------|
| Ben Bartholomew   | College Student                    |
| Julie Baumgartner | Nebraska Game and Parks Commission |
| Faith Colburn     | UNL Research and Extension         |
| Linda Deeds       | North Platte Comm. College         |
| Anne James        | Nebraska Game and Parks Commission |
| Ken Mabery        | Scotts Bluff National Monument     |
| April Thraen      | Keep Keith County Beautiful        |
| Rick Windham      | Outdoor Writer                     |



Appendix B, continued

GRAND ISLAND — NOVEMBER 16, 2009

|                         |   |
|-------------------------|---|
| John Anderson           | Central Community College                                 |
| Linda Ard               | Burchell's White Hill Farmhouse Inn                       |
| Dave Berens             | Hastings Public Schools                                   |
| Kent Boughton           | National Wild Turkey Federation                           |
| Christy Burnett         | UNL Extension Hall County                                 |
| Dan Glomski             | Nebraska Nature & Visitor Ctr.                            |
| Kerri Farnsworth-Hoback | University of Nebraska-Kearney                            |
| Keith Koupal            | Nebraska Game and Parks Commission                        |
| Brad Mellema            | Nebraska Nature Center                                    |
| Amy Sandeen             | Prairie Loft Center for Outdoor and Agricultural Learning |
| Betty Soyers            | Chicken Dance Trail                                       |
| Paul Walkowi            | Grand Island Public Schools                               |

LINCOLN — JANUARY 12, 2010

|                  |  |
|------------------|--|
| McKenzie Barry   | Environmental Educator, Lower Platte South Natural Resource District |
| Dina Barta       | Nebraska Game and Parks Commission                                   |
| Lorene Bartos    | UNL Extension Lancaster County                                       |
| Brett Bogenrief  | Student, UNL — Environmental Issues Representative                   |
| Ron Bonnstetter  | University of Nebraska - Lincoln, Teachers College                   |
| Dick Boyd        | Retired Educator   |
| Mark Brohman     | Nebraska Environmental Trust   |
| Katie Cole       | National Fly Fishing School Program                                  |
| Ken Finch        | Green Hearts Institute for Nature in Childhood                       |
| Kathy French     | University of Nebraska State Museum                                  |
| Tim Golden       | Retired Educator   |
| Mike Groenewold  | Nebraska Game and Parks Commission                                   |
| Ken Haar         | Nebraska State Senator   |
| Deb Hauswald     | Spring Creek Prairie Audubon   |
| Larry Hutchinson | Nebraska Game and Parks Commission-Fisheries                         |
| Jan Hygnstrom    | UNL Extension  |



Appendix B, continued

LINCOLN — JANUARY 12, 2010, continued

|                  |  |
|------------------|--|
| Dan King         | Lincoln-Lancaster Co. Health Department  |
| Marian Langan    | Spring Creek Prairie Audubon   |
| Keanna Leonard   | Rowe Audubon Sanctuary   |
| Rich Lodes       | Forester, Lower Platte South Natural Resource District                             |
| Diana Luscher    | Nebraska Public Power District Educator  |
| Jamie Oltman     | The Groundwater Foundation   |
| Rosina Paolini   |  |
| Larry Pape       | Nebraska Game and Parks Commission   |
| David Peters     | Lincoln Public Schools   |
| Julia Plugge     | Nebraska Game and Parks Commission   |
| Lindsay Rogers   | Environmental Educator, Lower Platte South Natural Resource District               |
| Becky Seth       | Pioneers Park Nature Center  |
| Alyssa Smola     | Nebraska Association of Resources Districts  |
| Jesse Starita    | University of Nebraska-Lincoln   |
| W. Cecil Steward | Joslyn Institute for Sustainable Communities                                       |
| Chris Thody      | Tern & Plover Conservation Partnership   |
| Julie Torquati   | University of Nebraska - Lincoln, Department of Children, Youth and Family Studies |
| Nicole Wall      | National Drought Mitigation Center   |
| Susie Wirth      | Arbor Day Foundation & Dimensions Ed. Res. Foundation                              |
| Donna Woudenberg | National Drought Mitigation Center   |
| Sara Yendra      | University of Nebraska - Lincoln, Advisor-Environmental Studies Program            |

OMAHA — FEBRUARY 11, 2010

|                    |                                    |
|--------------------|------------------------------------|
| MaryLou Alfieri    | Marrs Magnet Middle School, Omaha  |
| Julie Anderson     | Omaha Henry Doorly Zoo             |
| Ann Danner         | Papillion La Vista Schools         |
| Andrea Faas        | Nebraska Game and Parks Commission |
| Ken Finch          | Green Hearts Institute             |
| Christine Jacobsen | Papio-Missouri River NRD           |
| Annabel Major      | Nebraska Master Naturalist         |
| John Niemoth       | Outdoor Educator                   |



Appendix B, continued

NORFOLK — FEBRUARY 15, 2010

|                |                                     |
|----------------|-------------------------------------|
| Jamie Bachmann | Nebraska Game and Parks Commission  |
| Shirley Hugher | Keep Norfolk Beautiful Board Member |
| Dawn Miller    | Keep Norfolk Beautiful              |
| Gary Schurmans | Norfolk Senior High                 |

VALENTINE — MARCH 22, 2010

|                  |  |
|------------------|--|
| Sandy Benson     | Northern Prairies Land Trust                         |
| Adrienne Johnson | Niobrara Natural Scenic River, National Park Service |
| Kalli Kieborz    | Niobrara Council                                     |
| Sandi Kinzer     | Niobrara Natural Scenic River, National Park Service |
| Mike Murphy      | Middle Niobrara Natural Resource District            |
| Tim Storm        | Middle Niobrara Natural Resource District            |
| Jessica Yahnke   | Nebraska Forest Service                              |

WAYNE STATE COLLEGE — APRIL 28, 2010

|                 |  |
|-----------------|--|
| Frank Adams     | Wayne State College                                    |
| Mark Hammer     | Wayne State College                                    |
| Sally Harms     | Wayne State College                                    |
| Barbara Hayford | Wayne State College                                    |
| Charles Shapiro | University of Nebraska-Haskell Agricultural Laboratory |

OMAHA HENRY DOORLY ZOO — MAY 8, 2010

|                 |                                  |
|-----------------|----------------------------------|
| Peg Alexander   | Papillion-LaVista Public Schools |
| Julie Anderson  | Omaha Henry Doorly Zoo           |
| Karen Humphrey  | Omaha Public Schools             |
| Julie McKeone   | Papillion-LaVista Public Schools |
| John Niemoth    | Mead Public Schools              |
| Brian Ogle      | Omaha Henry Doorly Zoo           |
| Christina Perry | Omaha Public Schools             |
| Cindy Skarda    | Papillion-LaVista Public Schools |
| Jim Woodland    | Nebraska Department of Education |
| Leah Woodland   | Omaha Henry Doorly Zoo           |



Appendix B, continued

SCOTTSBLUFF — MAY 24, 2010

Debbie Leffers

Ken Mabery

Banner County School

National Park Service



## Appendix C: Element 5 Potential Funding Sources

### Partnerships

- Americorps
- Business/Corporate Partnerships
- Colleges and Universities
- Department of Tourism
- Nebraska Game and Parks Commission

### Foundations/Private Contributions

- Arbor Day Foundation
- Audubon
- Donations/Grants
- Estate Planning
- Independent School District Contributions
- Pheasants Forever
- Recreational Fishing and Boating Foundation
- Turkey Federation
- Zoo Conservation Grants

### Government

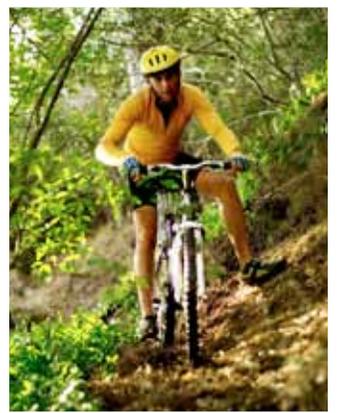
- Check-off programs (Beef Board, Corn Board, Wheat Board, etc.)
- Department of Environmental Quality
- Environmental Protection Agency
- Environmental Remediation
- Keno Funds (local municipalities)
- Landfill tipping fee
- License Plate funds
- Littering fines percentage
- National Park Service
- Nebraska Environmental Trust
- Nebraska Legislative Appropriation
- No Child Left Inside
- Stamp sales (Missouri)
- Stimulus Funds
- U.S. Fish and Wildlife Service



## Appendix D: Element 6 Ideas for Green Schools

- Classroom conservation practices (using both sides of the paper, shutting off computers)
- Composting kitchen waste
- Demonstrate alternative energy (e.g. use of wood chips, wind energy or bio-fuels for energy production)
- Encourage schools to restore a percentage of school grounds to the native ecosystem
- Encourage schools to utilize green spaces for after school opportunities
- Green Cleaning Supplies
- Green design and conservation landscaping
- Naturalizing school grounds (public playgrounds)
- Outdoor classrooms (arboretum, butterfly gardens, native prairie)
- Recycling Programs
- School/Community shared space (e.g., allow school grounds to be used for a community garden (fund raising benefit, tie back to the community))
- School gardens
- Service learning (students assist with making schools greener)
- Students work with the Department of Energy to survey schools
- Trayless cafeterias
- Use of bio-degradable materials
- “Walking” school bus





 **NACEE**  
Nebraska Alliance for  
Conservation and  
Environment Education