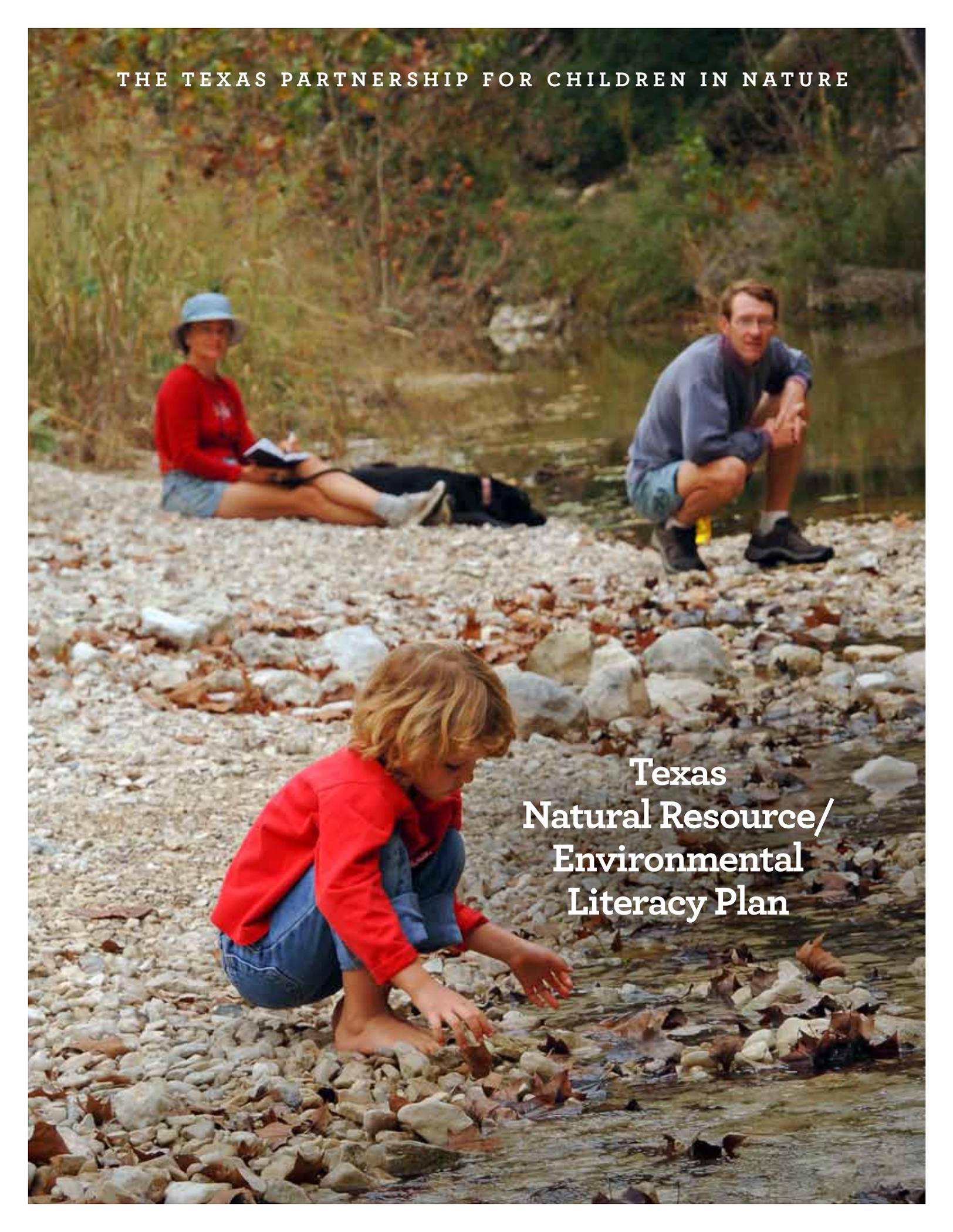


THE TEXAS PARTNERSHIP FOR CHILDREN IN NATURE



Texas
Natural Resource/
Environmental
Literacy Plan

Vision

All Texans value Texas' natural resources, know the principles of natural resources stewardship and live sustainably.

Mission

To provide a framework for ongoing statewide efforts that foster natural resource/environmental literacy as a cornerstone of education, recreation and life-long learning.

Texas Natural Resource/ Environmental Literacy Plan

The core of who we are as Texans lies in the sustenance, history and culture built around our natural world. The future of Texas' natural and cultural resources depends on every one of us having a sense of place and our role in that place.

The Texas Natural Resource/Environmental Literacy Plan serves as a framework to coordinate statewide efforts of formal and informal educators to provide lifelong opportunities for all Texans, regardless of age, culture, and circumstances, to become stewards of our natural resources.



www.taee.org



What is Natural Resource/Environmental Literacy?

Natural resource/environmental literacy is the knowledge, skills and ability to understand, analyze and address major natural resource opportunities and challenges.

Natural resource/environmental literacy is a lifelong, ongoing process that develops through a variety of experiences, including formal study in schools or outdoor classrooms, informal educational experiences such as visiting a zoo, park, nature center or ranch, and in personal experiences outdoors. Literacy is not a process of indoctrination of any one agenda, but of building knowledge and experiences that help individuals make informed choices.



What is Natural Resource Stewardship?

The principles of natural resource stewardship include basic knowledge about ecological systems and the skills to use them wisely. A good steward:

- Has knowledge of basic ecological concepts
- Feels a personal connection to natural resources and future generations
- Considers the world as a system of interconnected, interacting parts
- Seeks to understand all aspects of a natural resource/environmental issue (e.g., environmental, scientific, social, political, historical, and economic)
- Has confidence that working alone or with others, an individual can influence or bring about desired outcomes through his actions
- Acts in an informed and responsible manner
- Is willing and able to pass stewardship concepts on to peers and others



What is Environmental Education?

Environmental education supports the experiences and educational processes that help individuals acquire the knowledge and skills to make informed decisions and take responsible action on behalf of our natural resources and future generations.

Two international documents recognize environmental education definitions and practices and still remain as the core concepts needed by environmentally literate citizens. The Belgrade Charter provides an initial goal statement for environmental education that was adopted during a 1976 United Nations conference:

The goal of environmental education is to develop a world population that is aware of, and concerned about the environment and its associated problems, and well as the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.

At the world's first intergovernmental conference on environmental education in 1978, the *Tbilisi Declaration* was created to further articulate the goals for environmental education, which are:

- To foster clear awareness of, and concern about, economic, social, political, and ecological interdependence in urban and rural areas;
- To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment;
- To create new patterns of behavior of individuals, groups and society as a whole towards the environment.



Why this plan?

Both state and national initiatives called for the need to specifically address natural resource/environmental literacy.

Through the *2010 Texas Children in Nature Strategic Plan* bi-partisan legislators and over 80 professionals including representatives from state and federal agencies, Non-governmental Organizations (NGO), health, education, natural resources, community organizations and businesses called for opportunities for every child in Texas to be engaged in meaningful outdoor learning experiences and achieve natural resource literacy. The goals integrate formal and informal learning opportunities, quality time in outside natural areas and assessing the effectiveness of natural resource literacy education in Texas. The benefits from this plan to the overall health of Texas' natural world extend to its people as well. A growing body of research indicates the importance of experience with nature to our physical, mental and emotional well-being. Benefits to all ages include stress reduction, improved health and academic performance, and even stronger, more cooperative communities.

Meanwhile, states across the country are developing environmental literacy plans that begin with parents with young children and early childhood educators and progress into K-12 formal and informal education. Many plans involve the whole community and integrate into higher education, technical education, businesses, government services, and organizations. Key principles for most plans include preparing students to understand, analyze, and address major challenges facing their community, the state and the nation; providing field experiences as part of the regular school curriculum and programs that contribute to healthy lifestyles through outdoor recreation; and creating opportunities for enhanced and ongoing professional development for teachers that improve their environmental knowledge and instructional skills.

The *No Child Left Inside Act* (HR 2054) was introduced to the United States Congress in 2009. The proposed NCLI Act promotes the creation of statewide environmental literacy plans. Although NCLI only requires each state's plan to address K-12 students, stakeholders in Texas proposed to develop a state plan for citizens of all ages. By broadening the scope of the literacy plan, it was acknowledged that natural resource/environmental literacy is a lifelong learning process. Natural resource/environmental literacy should begin with parents and early childhood educators with young children and progress into K-12 formal and informal education. It should involve the whole community and be integrated into higher education, technical education, businesses, government services, and organizations.

The *No Child Left Inside Act* specifies three major objectives for state plans:

- Show how the states' PreK-12 educational system will prepare students to understand, analyze, and address major environmental challenges facing the state and the nation.
- Provide field experiences as part of the regular school curriculum and create programs that contribute to healthy lifestyles through outdoor recreation.
- Create opportunities for enhanced and ongoing professional development for teachers that improve their environmental knowledge and skills in teaching students about environmental issues, including the use of interdisciplinary, field-based and research-based learning, as well as innovative technology in the classroom.



The Plan

The Texas Natural Resource/Environmental Literacy Plan is structured into six main components that will enable the state to meet the objectives in the *No Child Left Inside Act* and the *Texas Children and Nature Strategic Plan*:

Lifelong Learning and Community Connections

that develop a culture of appreciation and life-long learning in natural resource/environmental literacy.

Formal Education

that incorporates natural resource/environmental literacy into learning relevant content, teaching practices, the use of learning environments in schools, and student outcomes.

Informal Education

that incorporates natural resource/environmental literacy into teaching practices and learning environments in informal educational settings.

Professional Development

that improves natural resource/environmental content knowledge and skills in teaching about environmental issues.

Assessment

of natural resource literacy/environmental strategies and programs.

Funding and Support

strategies needed to implement the plan.

Goals and Objectives



Lifelong Learning and Community

To support a network of community connections that provide opportunities through resources, programs, and places for all individuals, groups, and organizations in Texas in order to develop a culture of appreciation and lifelong learning in natural resource/environmental literacy.

As Texans have fewer direct experiences in the natural world, it becomes increasingly important to educate all citizens about our natural resources through accessible, safe, and enjoyable outdoor experiences. The environment provides an excellent context for this learning. Community connections to these natural resources and environmental literacy are as diverse as the people of Texas. They extend from the youngest child to the oldest senior. They can be cultural, recreational, and intellectual. They range from general awareness, to knowledge, to action. It is in the community that all the other aspects of literacy come together.

*The North American Association for Environmental Education (NAAEE) has developed the **Excellence in Environmental Education: Guidelines for Learning for (K-12)**. This document guides the development of learning programs in schools and informal and community environmental education programs for life-long learning.*

OBJECTIVE 1: Promote collaboration between environmental education and natural resource organizations.

- Identify, establish, and support a collaborative network of local organizations and businesses to share resources and increase program participation.
- Continually promote the development of partnerships between families, schools, park departments, nonprofits, private landowners, and others to provide training for play leaders and educators.
- Encourage regional organizations to understand, promote, and complement each other's offerings in order to reinforce the lifelong learning.
- Utilize tools and strategies from national organizations to facilitate community engagement, such as Children & Nature Network (C&NN), Natural Leaders and Natural Teachers, and the U.S. Department of Interior's *Let's Move Outside!*

OBJECTIVE 2: Support access to and engagement in appropriate natural resource/environmental education for all Texans; regardless of age, occupation, or situation.

- Identify key audiences and policy makers for each of the Texas Natural Resource/Environmental Literacy Plan goals.
- Develop a strategy for reaching each audience.

CONNECTIONS

No Child Left Inside:

Describe how school facilities and grounds will incorporate environmentally sensitive practices and provide opportunities for students to get outdoors and connect with the natural world.

Texas Children in Nature Plan:

Education Goal 1: Increase the understanding, appreciation, and use of experiential learning outdoors within the formal education system.

Objective 5: Engage families in the understanding and appreciation for outdoor learning experiences.

Community Goal 2: Create community-based regional partnerships throughout Texas to increase children in nature activities.

Objective 1: Engage, recruit, and educate new and diverse partnerships to support children in nature activities in communities. Create opportunities for new connections with community groups not formerly engaged.



Formal Education

To provide a framework to incorporate natural resource/environmental literacy knowledge and skills into teaching practices, the use of outdoor learning environments in schools, and student outcomes and graduation requirements.

Education is an essential element for the development of a natural resource/environmentally literate populace and a healthy environment that will provide for future generations. Effective education for natural resource/environmental literacy is integrated throughout the curriculum in every classroom in Texas including opportunities for students to participate in outdoor learning experiences.

OBJECTIVE 1: Ensure that all members of a school community have access to engaging learning experiences that include using appropriate outdoor learning environments.

- Identify design guidelines for outdoor classrooms, wildlife habitats, and integrated natural play/learning environments.
- Promote training in best practices for use of outdoor classrooms and natural areas throughout all content areas (English/Language Arts, Mathematics, Social Studies and Science).
- Build and train a network of volunteers to help with the implementation, use, and maintenance of the outdoor classrooms.
- Promote awareness and training in the NAAEE's *Excellence in Environmental Education: Guidelines for Learning (Pre K-12)*.

OBJECTIVE 2: Support the Texas Essential Knowledge and Skills (TEKS) in K-12 Science and Social Studies standards that reflect the inclusion of natural resource/environmental literacy knowledge and skills in a way that they are consistent and identifiable across all grade levels.

- Develop reference materials for TEKS revision teams to use when the subject area standards are due for review.
- Develop resources and materials to support strategic incorporation of natural resource/environmental literacy concepts in subject areas after the TEKS are revised.

OBJECTIVE 3: Support the inclusion of natural resource/environmental literacy in high school graduation requirements.

- Perform a gap analysis of existing requirements.
- Develop reference materials to support incorporation of natural resource/environmental literacy in future graduation requirement review

CONNECTIONS

No Child Left Inside:

Describe how relevant state academic content standards and content areas regarding environmental education and courses or subjects where environmental education instruction will be integrated throughout the prekindergarten to grade 12 curriculums.

Texas Children in Nature Plan:

Education Goal 1: Increase the understanding, appreciation and use of experiential learning outdoors within the formal education system.

Objective 4: Provide students outdoor learning opportunities aligned with TEKS standards for natural resource literacy.

Education Goal 2: Develop quality outdoor classrooms, wildlife habitats and integrated natural play/learning environments on every Texas schoolyard.

Objective 1: Encourage, design, and planning of natural areas on school grounds.

Objective 2: Partner with existing programs promoting school habitats and outdoor classrooms.



Informal Education

To provide a framework to support natural resource/environmental literacy knowledge, skills and outcomes through teaching practices and learning environments in informal and nontraditional educational settings.

While natural resource/environmental literacy is developed within the formal classroom, informal programs across Texas provide unique opportunities to engage, encourage and inspire learners to become natural resource/environmentally literate. From museum experiences and zoo or aquarium encounters, trips to ranches, farms and private lands, to park programs and utility presentations, Texans continue to learn ways to become better stewards of the environment outside the classroom.

OBJECTIVE 1: Support best practices and critical content for natural resource/environmental literacy in informal education settings.

- Define best practices and critical content needed for successful informal education programs.
- Promote awareness and training in NAAEE's *Nonformal Environmental Education Programs: Guidelines for Excellence*.
- Promote awareness and training in NAAEE's *Environmental Education Materials: Guidelines for Excellence*.
- Develop criteria to identify and recognize existing high quality informal education programs.
- Implement outdoor, nature-based education via well-trained volunteers and parents.
- Explore and incorporate effective technology as a tool for learning.

OBJECTIVE 2: Facilitate collaboration among formal and informal education resources.

- Increase awareness of and improve access to resources; including sites, materials, professional development, and expertise.
- Identify and promote understanding between formal and informal educators of the issues relevant to them both.

- Identify “case studies” of successful formal-informal partnerships and communicate to others the traits that made them successful.
- Identify and share resources and best practices through related networks and organizations.
- Utilize technology as a tool for collaboration.

CONNECTIONS

Texas Children in Nature Plan:

Education Goal 3: Develop integrated and collaborative partnerships between the formal education and informal systems and resources to benefit Texas youth

Objective 1: Assess informal education providers for relevant programming to meet the needs of formal education.

Objective 2: Identify at least five strategies to link formal and informal educators in order to increase communication and clarity of alignment with the TEKS.

Objective 4: Encourage non-public education such as private schools, home schools and after-school programs to address natural resource literacy.

Objective 5: Develop partnerships between schools, park departments and parents to provide training for playleaders or playworkers to staff park and/or school play and learning environments after school and during holidays.



Professional Development

To support programs, partnerships and resources for all stakeholders in natural resource/environmental literacy to improve content knowledge and skills in teaching about natural resource/environmental issues.

Just as natural resource/environmental literacy can affect all aspects of life, including education, community, culture, and economics, it can also find a place in a wide range of professional development.

OBJECTIVE 1: Increase the natural resource/environmental literacy of community leaders and decision makers so that they can motivate their spheres of influence for natural resource/environmental stewardship.

- Identify key stakeholders and decision makers.
- Determine appropriate means to reach each audience.

OBJECTIVE 2: Support empowerment of formal educators through professional development to motivate their schools, administrators, and students to value their natural resources, foster natural resource/environmental stewardship, and to implement a plan for campus and district sustainability.

- Develop methods that encourage and support experienced teachers to engage in effective student learning outdoors.
- Provide professional development to inservice and preservice teachers about the benefits of outdoor learning, the opportunity for interdisciplinary teaching and how outdoor learning supports structured learning in the classroom.
- Provide professional development to administrators about outdoor learning; free, outdoor spontaneous play and its benefits for fitness, health, brain development, and learning; the importance of training educators to use outdoor learning; and, how outdoor learning supports structured learning in the classroom.
- Work with partners such as, but not limited to, the Texas Association of School Administrators (TASA), Texas Association of School Boards (TASB), and Local Educational Agencies (LEAs) to host, plan, implement, and evaluate learning opportunities for school administrators.

- Promote awareness and training in NAAEE's Excellence in Environmental Education: Guidelines for the Preparation and Professional Development of Environmental Educators.

OBJECTIVE 3: Support the knowledge and skills of informal educators to provide high quality programs for their communities and schools through professional development for both indoor and field-based education.

- Endorse and promote existing training that meets the needs of informal educators.
- Promote awareness and training in NAAEE's *Nonformal Environmental Education Programs: Guidelines for Excellence*.

CONNECTIONS

No Child Left Inside:

Describe how programs for professional development for teachers to improve their environmental subject matter knowledge and pedagogical skills in teaching about environmental issues, including the use of interdisciplinary, field-based, and research-based learning and innovative technology in the classroom will be developed and implemented.

Texas Children in Nature Plan:

Education Goal 1: Increase the understanding, appreciation, and use of experiential learning outdoors within the formal education system.

Objective 1: Provide professional development training for formal education administrators.

Objective 2: Provide professional development training for teachers that encourages continuing education and a community of learners, and provides training opportunities over time.

Objective 3: Provide professional development training opportunities to pre-service teachers.



Assessment of Natural Resource/ Environmental Literacy

To develop systems for the evaluation of the overall Texas Natural Resource/Environmental Literacy Plan; including assessment of effective strategies and programs for ongoing improvement.

Assessment on the effectiveness of natural resource/environmental education programs is critical to ongoing success. The same is true for the need of assessment regarding the delivery and implementation of the plan itself. Established program evaluation methodologies and guidelines should be used to report on the status of natural resource/environmental literacy in Texas.

OBJECTIVE 1: Continuously assess the effectiveness of the Texas Natural Resource/Environmental Literacy Plan.

- Create an assessment system to evaluate the Plan as a whole.
- Identify assessments within each section of the plan.

OBJECTIVE 2: Promote awareness and training in NAAEE's Excellence in Environmental Education: Guidelines for Learning (Pre K-12) Executive Summary & Self-Assessment Tool.

CONNECTIONS

No Child Left Inside:

Describe how the environmental literacy of students will be measured.

Texas Children in Nature Plan:

Education Goal 4: Assess the effectiveness of natural resource literacy education in Texas.

Objective 1: Assess the quality of experience and knowledge of Texas students on natural resource topics.

Objective 2: Assess the effectiveness of the overall literacy strategy.



Funding and Support

The Plan will ensure that the partners in this initiative have the necessary funding and support to implement the elements of the Texas Natural Resource/Environmental Literacy Plan.

Education and community partners need to develop strategies to implement the Texas Natural Resource/Environmental Literacy Plan. Funding is needed to support natural resource/environmental education efforts at the local, regional and state levels.

OBJECTIVE 1: Support implementation of the Texas Natural Resource/Environmental Literacy Plan through collaboration and partnerships among Texas organizations receiving funding for natural resource/environmental education.

- Coordinate existing networks of organizations that provide natural resource/environmental education.
- Create an incentive to collaborate between organizations seeking funding.

OBJECTIVE 2: Broaden the variety of funding sources.

Identify or create a clearinghouse of sources for funding.

CONNECTIONS

No Child Left Inside:

Describe how the plan will be implemented; include securing funding and other necessary support.

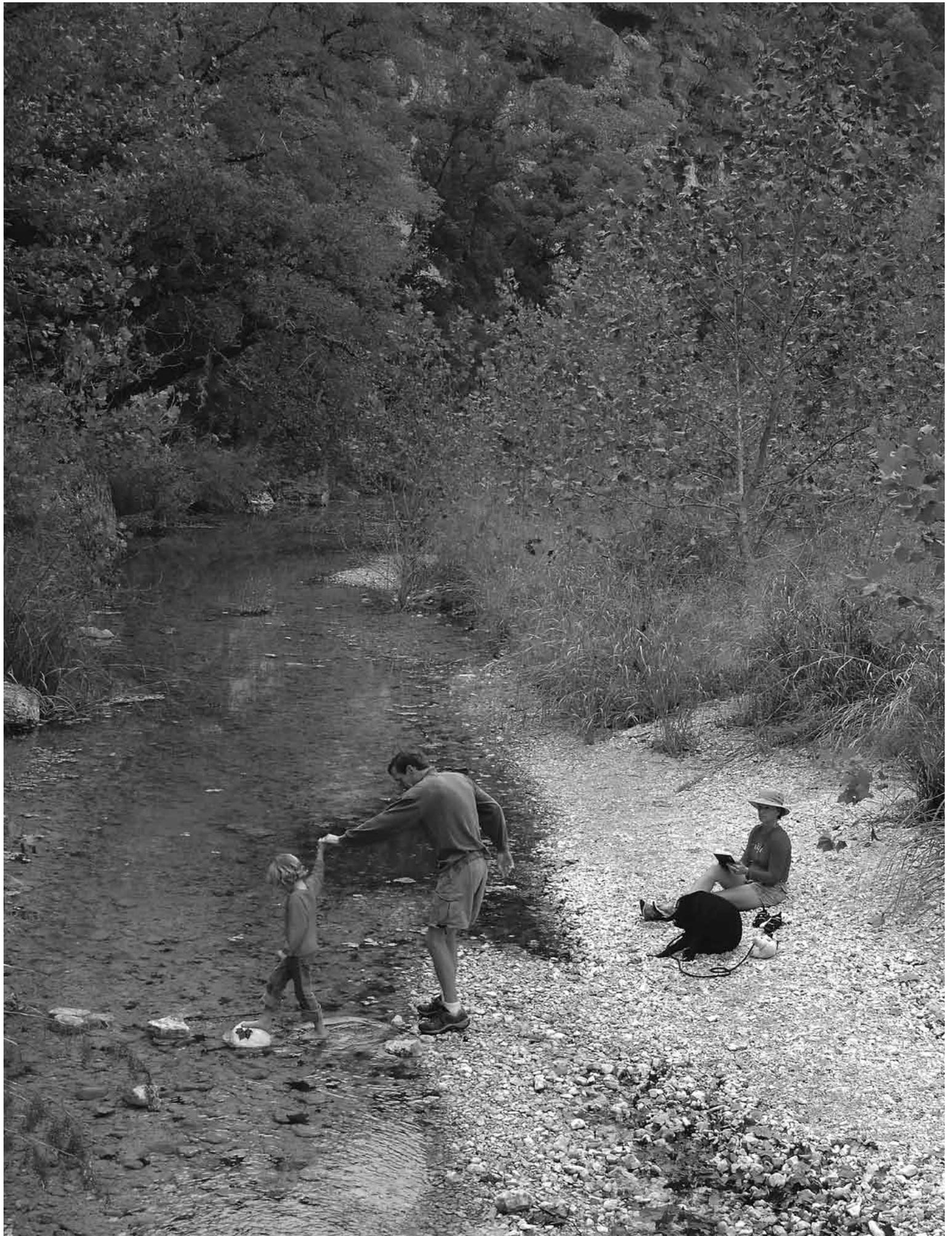
In January 2012, members of the Texas Children in Nature Education team called together a leadership team to guide development of the Natural Resource/Environmental Literacy Plan. After identifying major content areas and stakeholders in the plan, a diverse team of writers was convened for two writing meetings. The Texas Natural Resource/Environmental Literacy Plan is the product of their work.

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As of January 2, 2013 the following organizations endorse the Texas Natural Resource/Environmental Literacy Plan; indicating overall agreement with the content and strategy and its alignment with their mission:

Audubon Texas Trinity River - Audubon Center	Bayou Preservation Association in Harris County
Energy Corridor District - Houston Texas	Lubbock Lake National Historic Landmark - Museum of Texas Tech University
Taking Care of Texas	Texas Association for Environmental Education
Texas Brigades	Texas Parks and Wildlife Department
Texas Tech University Llano River Field Station	



Current and future generations of
Texans have **healthy air** to breathe,
clean water to drink
and **green spaces** to explore.

*Vision Statement
Texas Association for
Environmental Education*



Life's better outside.®



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