Proposed Idaho Environmental Literacy Plan

Developed for Idahoans by Idahoans through the leadership of the Idaho Environmental Education Association
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Background and Purpose

The Environment—It’s Where We Live

As Idahoans, we know our state is a special place, home to a multitude of lakes, rivers, forests, deserts, and rangelands that provide a bountiful home for us and a rich diversity of plants and wildlife. Our environment supports vibrant communities, farms and ranches, and beckons with recreational opportunities. Whether a rancher or city dweller, newcomer or from native or pioneer stock, Idahoans understand that the well being of their community, economy, and environment are woven together.

Addressing today’s complex environmental issues requires strong leaders and a knowledgeable citizenry who can make responsible decisions and develop innovative solutions. Idaho students who gain a good understanding of Idaho’s natural and cultural heritages and environmental systems and processes will be prepared to fulfill 21st-century jobs and make sustainable decisions for the future.

What is Environmental Literacy?

For the purposes of this document, environmental literacy is defined as the ability to recognize essential natural, physical, and social systems and take actions to sustain them. Within educational systems, environmental education is described as a balanced, science-based, interdisciplinary approach, ensuring that students appreciate our diverse natural and cultural heritage. They should understand the interactions of living and non-living systems and think critically and imaginatively about their environment and the resources it provides. Environmental literacy involves learners actively investigating their environment, participating in challenging academic pursuits, and engaging in healthy outdoor activities.

Call for Action

In comprehensive testing conducted by the National Math and Science Initiative in 2010, US students finished 15th in reading, 19th in math, and 14th in science in a ranking of 31 countries. Yet, of the 20 fastest growing occupations projected for 2014, 15 require significant math or science preparation to successfully compete for the job.¹ In addition, today’s digitally wired children get outside less. Youth ages 8 to 18 use electronic devices—TV, computers, video games, and cell phones—an average of 7.5 hours in a typical day.² One of the consequences is the disturbing increase in childhood obesity. A 2008–2009 assessment of Idaho students found that 30.5 percent of the sample was classified as overweight or obese.³

¹ National Science Teachers Association
² Rideout, Foehr, and Roberts
³ Idaho Coordinated School Health Program
In 2005, journalist and child advocate Richard Louv described the staggering divide between children and the out of doors in his groundbreaking work *Last Child in the Woods*. He directly linked the absence of nature in the lives of today’s generation to disturbing childhood trends: the rise in obesity, attention disorders, and depression. This new understanding, plus ongoing concerns about student achievement, precipitated national interest in fostering environmental literacy among our students.

Research shows that math, science, social studies, and language arts linked to the natural world improve student achievement and environmental literacy. In one national study of 40 schools, 92 percent of students taught this way “academically outperformed peers in traditional programs.”

Other encouraging results include reduced childhood obesity, childhood stress, and attention disorders. In addition, teachers report reduced discipline and classroom management problems and increased engagement and enthusiasm for learning.

**A National Response**

Government officials, medical and educational professionals, and others have responded to the crisis by launching a host of national initiatives, including the following:

- President Bush announces the “American Competitiveness Initiative” [2006].

- President Obama launches “Educate to Innovate” Campaign for Excellence in Science, Technology, Engineering and Math (STEM) Education in 2009. For the first time, the 2010 budget and US DOE’s Blueprint for Reform Education encourage education about the environment.

- American Academy of Pediatric Expert Committee encourages free play in young children as well as environments that allow children to play indoors and outdoors [2010].

- Congressman John Sarbanes and Senator Jack Reed introduce No Child Left Inside Act of 2009 (NCLI), legislation intended to amend the Elementary and Secondary Education Act (i.e., No Child Left Behind) to include environmental education and teacher training.

- In response to congressional support for NCLI, 46 states and the District of Columbia actively revise or develop new Environmental Literacy Plans (ELP) (2009–2010).

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4 Lieberman and Hoody
5 Centers For Disease Control and Prevention
6 Council on Sports Medicine and Fitness and Council on School Health
7 Wells and Evans
Idaho’s Response

A sustainable future depends upon people who understand the complex relationships between the natural, social, and economic systems that support us. To achieve this, Idahoans need the following:

- Fundamental understanding of Idaho’s history, cultures, and economies
- Knowledge and understanding of natural, physical, and social processes and systems
- Opportunities to develop a strong sense of place through outdoor experiences and engagement with their local community
- Opportunities to develop critical and imaginative thinking
- Opportunities to build the knowledge, skills, and attitudes of capable problem solvers and decision makers
- Commitment to lifelong learning and involvement in their communities
- Opportunities to engage in activities that promote healthy lifestyles

This type of education can take place anywhere students and teachers observe and investigate the world around them. Public schools, organizations, businesses, and a variety of local, state, and federal agencies have already implemented many high quality educational efforts supporting environmental literacy. Coordinating these efforts would make these opportunities accessible to more students.

Idaho joins 45 other states in developing an Environmental Literacy Plan (ELP) that provides guidelines for implementing environmental education into academic settings to increase environmental literacy. In 2009, the Idaho Environmental Education Association (IdEEA) received a grant from the Environmental Protection Agency (EPA) to spearhead development of a draft plan tailored to meet Idaho’s educational needs. A diverse group of stakeholders, including staff from the Idaho State Department of Education, worked together to ensure broad-based input into the plan (see Appendix A).
Required Elements for Environmental Literacy Plans

To qualify for potential funding, state ELPs must address the following five key elements, following guidelines established by the North American Association for Environmental Education (NAAEE):

1. State Standards, Content Areas, and Courses or Subjects
2. High School Graduation Requirements
3. Professional Development
4. Assessment of Environmental Literacy
5. Implementation and Support

Benefits of the Idaho Environmental Literacy Plan

An effective ELP will do the following:

- Increase student achievement through proven, effective environmental education experiences
- Increase student engagement by providing classroom connections to meaningful, real-world situations resulting in higher student retention and graduation rates
- Ensure environmental education activities are fully, efficiently, and appropriately integrated into formal education systems and aligned with student graduation requirements
- Motivate students to pursue higher education and careers in science, technology, engineering, mathematics, and natural resources
• Encourage children and youth to be outdoors, resulting in improved mental and physical well-being

• Promote educators’ understanding and application of best practices for environmental education\(^8\) through effective professional development and classroom support

• Encourage collaboration among the Idaho State Department of Education, formal and non-formal educators, administrators, natural resource agencies, business and industry, and other Idaho citizens

• Support Idaho’s environment and economy by preparing its citizens with the knowledge and skills to make responsible decisions

• Foster a coalition of partners and stakeholders working together toward environmental literacy

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\(^8\) North American Association for Environmental Education (NAAEE) *Excellence in Environmental Education: Guidelines for Learning (PreK–12)*
Core Elements of the Idaho Environmental Literacy Plan

Element 1: State Standards, Content Areas, and Courses or Subjects—Incorporating Environmental Literacy into School Practices

Goal

Incorporate environmental education into school practices based on Idaho education standards and course offerings

Strategies

1. Correlate Idaho Content Standards to the NAAEE Excellence in Environmental Education: Guidelines for Learning (PreK–12)9

2. Include environmental literacy stakeholders in any revisions of the Idaho Content Standards to ensure that the interests of environmental literacy have a voice in the process

3. Demonstrate how environmental education is a unifying theme across the curriculum
   • Create, develop, and deliver science-based, interdisciplinary programs and resources that promote inquiry, critical thinking, problem solving, and active learning
   • Incorporate and strengthen students’ STEM (Science, Technology, Engineering and Mathematics) skills
   • Encourage place-based learning experiences

4. Ensure non-formal environmental education programs are aligned with state standards and made available to schools

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9 North American Association for Environmental Education Excellence in Environmental Education: Guidelines for Learning (PreK–12)
Element 2: High School Graduation Requirements—Knowing that Students Know

Goal

Incorporate environmental literacy into high school graduation requirements.

Strategies

1. Identify and support high school courses that include environmental education
   - Encourage school districts to increase the number of courses that consider the local culture, history, and environment
   - Promote student participation in courses that include environmental education

2. Increase the number of high school service learning opportunities that incorporate environmental literacy
   - Encourage more school districts to adopt service learning programs
   - Convene community leaders and stakeholders to identify community service projects with an environmental focus

3. Increase the number of senior projects that incorporate environmental literacy
   - Encourage educators to promote environmentally focused research topics
Element 3: Professional Development—Helping Educators Succeed

Goal

Support opportunities for formal and non-formal professional development that enhance environmental literacy

Strategies

1. Conduct a needs assessment
   - Solicit input from teachers, administrators, partners, professional organizations, and school boards to determine current resources and opportunities that meet professional development guidelines
   - Identify barriers that restrict participation
   - Identify new professional development needs

2. Develop and foster statewide partnerships
   - Partner with stakeholders to provide and support curriculum development, professional development and program funding

3. Support professional development opportunities
   - Encourage colleges and universities in Idaho to incorporate environmental education experiences for pre-service teachers
   - Foster networks that provide mentoring, collaboration, and resource support (e.g., with scientists, fieldworkers, professionals, etc.)
   - Work with higher education to incorporate environmental education into degree programs
Element 4: Assessment—Monitoring the Effectiveness of Idaho’s Environmental Literacy Efforts

Goal

Develop systems to document and track effective Idaho ELP activities for ongoing improvement

Strategies

1. Establish meaningful evaluation by developing valid baseline measures and the use of multiple methods that provide meaningful data for documenting the effects of ELP activities over time

2. Coordinate assessment activities with relevant administrative agencies, as well as critical stakeholders

3. Analyze existing assessment data (e.g., Idaho Standards Achievement Tests [ISAT]) to document student learning consistent with state standards and correlated to the NAAEE’s Guidelines for Excellence
   - As appropriate, develop and implement additional measures

4. Measure the effectiveness of teacher education and professional development opportunities and make improvements as necessary

Element 5: Implementation—Making It Happen

Goal

Build statewide capacity and infrastructure to advance Idaho’s ELP

Strategies

1. Develop an Idaho environmental literacy coalition comprised of key stakeholders, including the Idaho State Department of Education, to guide ELP approval and implementation

2. Provide outreach about Idaho's ELP to diverse audiences and seek their input

3. Partner with organizations and groups who have shared goals

4. Identify and secure adequate funding and support to implement and maintain the Idaho ELP
Final Thoughts

The Proposed Idaho Environmental Literacy Plan provides Idahoans with a common road map that enhances environmental literacy. It is intended to act as a framework to assist educators, agencies, and organizations in establishing a cohesive approach to environmental literacy by encouraging the development of knowledge and skills necessary to recognize essential natural, physical, and social systems, and take actions to sustain them.

IdEEA and the ELP Advisory Committee accept responsibility for forming an Idaho environmental literacy coalition, including key stakeholders and the Idaho State Department of Education. The coalition will shepherd the ELP through approval and implementation. The Advisory Committee sees the ELP as a living document that will evolve and change as time and experience dictate.

In the years ahead, we expect that the experiences and lessons learned through successful implementation of Idaho's ELP will stay with students throughout their lifetimes, preparing them to take active roles and engage with their communities to address the complex environmental and economic challenges facing our world.
Appendices

Appendix A: Idaho ELP—History, Participants, and Process

In the fall of 2009, the non-profit Idaho Environmental Education Association (IdEEA) invited several key stakeholders to join in a discussion on the development of an environmental literacy plan for Idaho in preparation for federal funding proposed in the “No Child Left Inside” suggested revision to the Elementary and Secondary Education Act. Receipt of federal monies is tied to having a statewide environmental literacy plan in place.

Gary Heath, retired Assistant Superintendent of the Maryland State Department of Education and Education Policy Director for the national No Child Left Inside Coalition, provided an overview of the No Child Left Inside Act of 2009 and key points, including funding, to the development of state Environmental Literacy Plans (ELP).

Meeting participants engaged in a gap analysis of components of a state environmental literacy plan (available resources and areas of challenge or concern) and agreed that two working groups would be needed, one to draft the vision and ELP components and a second to advance the plan.

Participants agreed to move forward; in 2010, IdEEA received grant funding from the US Environmental Protection Agency (EPA) to spearhead development of a draft Idaho ELP. An advisory committee was gathered in the summer of 2010 and regular planning meetings were begun.

Additional input and support was gathered through town-hall style stakeholder meetings held in Boise, Hailey, Twin Falls, Pocatello, Idaho Falls, Moscow, Coeur d’Alene, and McCall.

Participants

Idaho Environmental Literacy Plan Exploratory Meeting, September 2009

Patti Best, Idaho Power
Karla Bradley, University of Idaho/McCall Outdoor Science School
Cindy Busche, Boise WaterShed
Brian Cronin, Idaho Legislative Representative
Elizabeth Dickey, Idaho Botanical Garden
Adare Evans, Idaho Department of Fish & Game
Kristin Fletcher, Center for Children and Nature
Bonnie Jakubos, Seventh Principal Interpretation, LLC
Joe Kelly, Meridian School District
Gina Lockwood, Mountain View High School
Amy Pike, Idaho Environmental Education Association
Edna Rey-Vizgirdas, Boise National Forest/Idaho Children & Nature Network (now called Be Outside, Idaho!)
Helen Rigg, Idaho Department of Environmental Quality
Matt Sanger, Idaho State University
Julie Scanlin, University of Idaho
Scott Smith, Idaho State Department of Education
Chris Gertschen, Founder, Sawtooth Science Institute, Past Director, IdEEA
Laurel York Odell, facilitator
Michelle Youngquist, Project Learning Tree/Idaho Forest Products Commission

**Idaho Environmental Literacy Plan Advisory Committee (serving some or all of the duration)**
**September 2010–June 2011**

Tiffany Allgood, Environmental Action Plan Coordinator, Coeur d’Alene Tribe
Pat Barclay, Executive Director, Idaho Council on Industry and the Environment
Gina Baughn, Natural Resources Education Specialist, Coeur d’Alene Tribe
Elizabeth Dickey, Education Director, Idaho Botanical Garden
Adare Evans, Wildlife Educator, Idaho Department of Fish and Game
Kristin Fletcher, Executive Director, Idaho Environmental Education Association
Dr. James Gregson, Professor and Associate Dean, College of Education, University of Idaho
Denise Humphreys, Program Specialist, Energy Efficiency Education, Idaho Power Company
Gretchen Hyde, Executive Director, Idaho Rangeland Resource Commission; Idaho Ag in the Classroom Board of Directors
Dick Jordan, representative, Idaho Education Association; Chair, Timberline High School (Boise) Science Department
Gina Lockwood, Biology/AP Environmental Science teacher, Mountain View High School (Meridian)
Dr. Brant Miller, Assistant Professor of Elementary Science Education and Technology, University of Idaho
Dr. Matt Sanger, Associate Professor, College of Education, Idaho State University
Julie Scanlin, Coordinator, Project WET, University of Idaho—Idaho Water Resources Research Institute
Anne Seifert, STEM Coordinator, Idaho National Laboratory
Scott Smith, Science Coordinator, Idaho State Department of Education
Bobbie White, Natural Resources Education Specialist, Coeur d’Alene Tribe
Laurel York Odell, facilitator
Michelle Youngquist, Education Coordinator, Idaho Forest Products Commission

**ELP Public Stakeholder Meeting Attendees**

ELP public stakeholder meetings were held in Hailey, Twin Falls, Idaho Falls, Pocatello, Coeur d’Alene, Moscow, McCall, and Boise. Approximately 140 individuals participated, including the following who signed in:

Laura Abbott, Timberline High School (Boise)
Brett Adler, Idaho Recreation Connection
Carl Breidenbach, Timberline High School (Boise)
Dick Jordan, Science Chair, Timberline High School (Boise)
Clay Lee, Parks and Recreation—City of Boise
Kerry McClay, Bogus Basin Ski Area
Edna Rey-Vizgirdas, USDA, Boise National Forest
Nancy Rush, Office of Community Health Promotion and Education
Kendra Witt, Blue Cross of Idaho Foundation for Health
Michael Breen, Carey Middle School
Carol Cole, USDA, Sawtooth National Recreation Area
Chris Gertschen, Environmental and outdoor education provider
Carol Blackburn, Sawtooth Botanical Garden
Sarah Harris, College of Southern Idaho
Dr. JoAnn Robbins, University of Idaho, Jerome County Extension Educator
Julie Thomas, USDA, Sawtooth National Forest
Heather Tiel-Nelson, Bureau of Land Management
Eric Whittekiend, Idaho Department of Parks and Recreation
Jerry Jayne, citizen
Kerry Thomas, Rigby Jr. High School
Gregg Losinski, Idaho Department of Fish and Game
Flint Hall, Idaho Department of Environmental Quality
Sunny Katseanes, US Department of Energy
Mark Delwiche, Snake River Valley Audubon Society
Anne Seifert, Idaho National Laboratory
Laron Johnson, Rigby Jr. High School
Alana Jensen, Gonzales-Stoller Surveillance, LLC, INL ESER Program
Karen Vaughn, Early Learning Center- Idaho State University
Grace Dotson, Idaho State University
Muriel Roberts, citizen
Grant Thomas, Portneuf Valley Audubon Society; Idaho Native Plant Society
Dawn Blevins, Monsanto
Barb North, Portneuf Valley Audubon Society; Master Naturalist
Dr. Jeff Hill, Idaho State University
Bonnie Frantz, citizen
Sue Skinner, Environmental Protection Agency
Anne Robison, Pocatello High School
Jim Workman, citizen
Hannah Sanger, City of Pocatello
Greg Helm, citizen
George Loyd, citizen
Hazel Loyd, citizen
Dr. Joshua Pak, Idaho State University
Amy Pike, citizen
Liana Litzinger, New Horizon High School
Cara Sonnemann, Pocatello Community Charter School
Linda Engle, Pocatello High School
Dr. Karl Holte, Idaho State University; Idaho Museum of Natural History; Idaho Native Plant Society; Portneuf Valley Audubon Society
Ardys Holte, Idaho Museum of Natural History; Idaho Native Plant Society; Portneuf Valley Audubon Society
Chris Schnepf, extension forester—University of Idaho
Clay Larkin, Mayor—Post Falls
Beti Becker, Idaho Forest Group
Bobbie White, Coeur d’Alene Tribal Natural Resources
Pam Gomes, Lake City High School
Gina Baughn, Coeur d’Alene Tribal Natural Resources
Gail Ballard, i-STEM regional resource center—North Idaho College
Will Black, University of Idaho
Rhia Pulizzi, University of Idaho
Tara Ball, University of Idaho
Ben Paradis, University of Idaho
Fred Rabe, Friends of the Clearwater
Jane Thornes, Idaho Environmental Education Association
Tamara Graber, Latah Soil and Water Conservation District
Brad Parkinson, University of Idaho
Jake Ossowski, University of Idaho
Heidi Waisanen, Genesee School
Nolin Page, University of Idaho
Dr. Steve Hollenhorst, University of Idaho
Ryan Moran, University of Idaho
Kevin Hake, University of Idaho
Matt Rice, University of Idaho
Charlie Moore, University of Idaho
Turner Binkley, Palouse–Clearwater Environmental Institute
Nikki Stusick, Palouse–Clearwater Environmental Institute
Dr. James Gregson, University of Idaho
Dr. R. Justin Hougham, University of Idaho
Louise E. Ashmun, Commission on Sustainable Environment—City of Moscow
Nancy Chaney, Mayor—City of Moscow
Dr. Paul Allan, University of Idaho
Dr. Brant Miller, University of Idaho
Kim Wright, University of Idaho
Mitch Rusain, University of Idaho
Heather Alkire, University of Idaho
Nichole Baker, City of Moscow
Jim Thornes, Pettis Peak Tree Farms
Kari Schwendiman, Latah Soil and Water Conservation District
Tom Lamar, Palouse-Clearwater Environmental Institute
Jenica Wood-Beauchamp, Palouse-Clearwater Environmental Institute
Becky Johnstone, Idaho Council on Industry and the Environment
Karla Miller, citizen
Heather Scheel Denning, The River Company, IdEEA
Dr. Karla Eitel, McCall Outdoor Science School
Todd Hatfield, rancher & logger
Lindsey Truxel, Environmental Advisory Committee—City of McCall
John Rygh, Environmental Advisory Committee—City of McCall
Melissa Newell, McCall-Donnelly High School
Judy Anderson, McCall-Donnelly High School
Sara Wolf, Barbara R. Morgan Elementary School
Debbie Fereday, McCall-Donnelly High School
Tim Merrick, US Geological Service
Sandy Stringer, Boise School District
Adare Evans, Idaho Department of Fish and Game
Vicky Runnoe, Idaho Department of Fish and Game
John Weber, citizen
Michelle Youngquist, Project Learning Tree/Idaho Forest Products Commission
Zack Morris, citizen
Susan Hawke, Boise School District
Appendix B: Glossary of Terms

**Alignment**—The effort to ensure that what teachers teach is in accord with what the curriculum says will be taught and what is assessed on official tests (adapted from Association for Supervision and Curriculum Development).

**Assessment**—Measurement of a learner’s performance (adapted from Association for Supervision and Curriculum Development).

**Environmental Education**—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 actions (UNESCO, Tbilisi Declaration, 1978).

**Environmental Literacy**—The ability to recognize essential natural, physical, and social systems and take actions to sustain them.

**Formal Education/Learning**—The hierarchically structured, chronologically graded education system, running from primary school through the university and including, in addition to general academic studies, a variety of specialized programs and institutions for full-time technical and professional training (adapted from The Encyclopedia of Informal Education, 2006).

**Informal Education/Learning**—The truly lifelong process whereby every individual acquires attitudes, values, skills, and knowledge from daily experience and the educative influences and resources in his or her environment—from family and neighbors, from work and play, from the marketplace, the library, and the mass media (adapted from The Encyclopedia of Informal Education, 2006).

**Interdisciplinary**—A philosophy of teaching in which content and methods are drawn from several subject areas to examine a central theme, issue, problem, or topic.

**Inquiry Learning**—A dynamic approach to learning that involves exploring the world, asking questions, making discoveries, and rigorously testing those discoveries in the search for new understanding (adapted from The Inquiry Learning Forum).

**Needs Assessment**—A systematic process for determining the needs of a defined population; the process of researching needs, available services, and service gaps by population and geographic area.

**Non-Formal Education/Learning**—Any organized educational activity outside the established formal system—whether operating separately or as an important feature of some broader activity—that is intended to serve identifiable learning clienteles and learning objectives (adapted from The Encyclopedia of Informal Education, 2006).
**Outdoor Education**—Education in, for, and about the outdoors (adapted from Donaldson & Donaldson, 1958, Outdoor Education: A definition. JOPER, 29 (17), (63)).

**Place-Based Education/Learning**—An interdisciplinary instructional strategy that uses the local environment and community as the context for teaching and learning.

**Professional Development**—A process of learning and keeping up to date in one’s area of expertise. The process of progressing in one’s chosen career through continuing education and training.

**Service Learning**—A teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities (adapted from National Service Learning Clearing House).
**Appendix C: References and Resources**

**Accessed between July 2010–June 2011**

State Environmental Literacy Plans Reviewed

**Colorado**


**Illinois**


**Maine**


**Maryland**


**Minnesota**


**Nebraska**


**Oregon**

Additional References and Resources


