



Environmental Literacy for Idaho

A proven strategy for the future

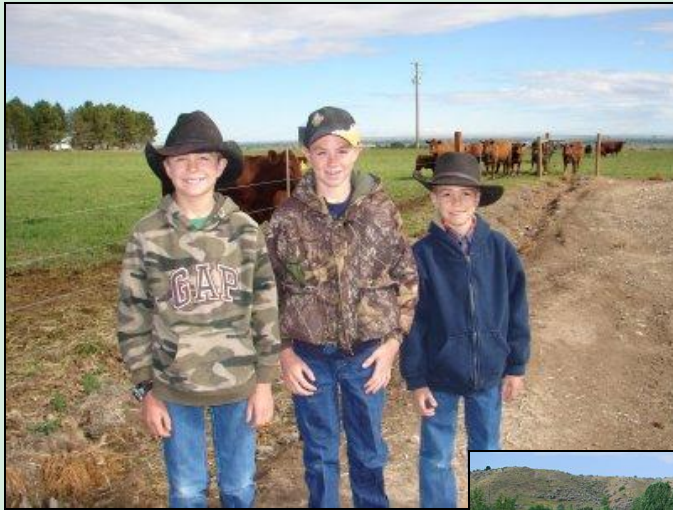


IDAHO DROUGHT RESOURCES

Today's complex environmental problems require strong leaders and an environmentally literate citizenry who can make responsible decisions and develop innovative solutions.



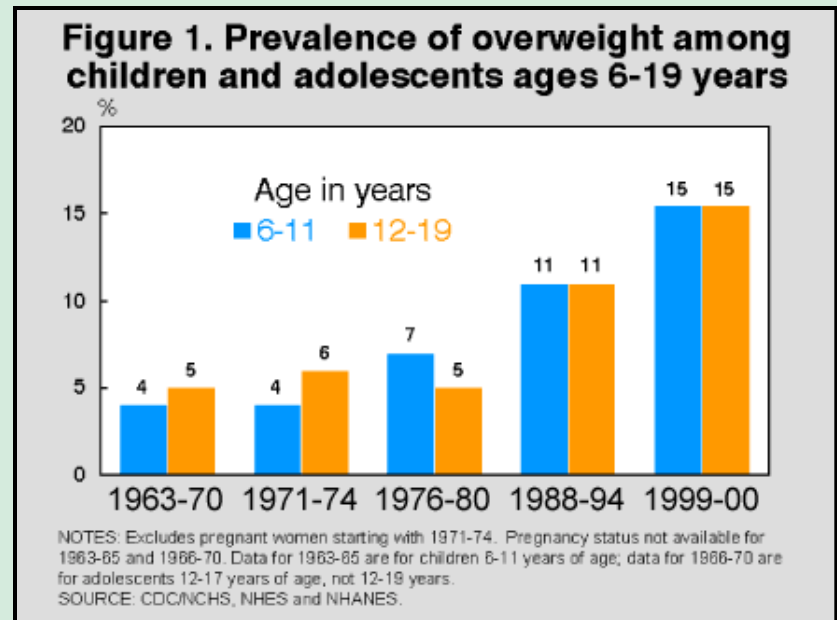
Yet, many students lack the ability to recognize the components of essential natural, physical and social systems and take actions necessary to sustain them.



However, 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

A Call for Action

- U.S. students finished 15th in reading, 19th in math, and 14th in science in the ranking of 31 countries [National Math and Science Initiative, 2010]
- Of the 20 fastest growing occupations projected for 2014, 15 require significant math or science preparation to successfully compete for the job. [NSTA, 2006]
- 8 to 18 year-olds use electronic devices - TV, computers, video games, cell phones and movies - an average of 7.5 hours in a typical day.
- A 2008- 2009 BMI assessment of Idaho students in all odd grades 1 through 11 found that overall, 30.5% of the Idaho school children in the sample were classified as overweight or obese.



Richard Louv, Last Child in the Woods

Research showing that math, science, social studies and language arts linked to the natural world improve student achievement and environmental literacy.

- In one national study, 92% of students taught using an integrative environmental education framework “academically outperformed peers in traditional programs” including



- Teachers reported reduced discipline and classroom management problems, greater pride and ownership in accomplishments, and increased engagement and enthusiasm for learning ¹
- Reduced childhood obesity ^{2,3}
- Reduced childhood stress and attention disorders ⁴

¹ Lieberman G.A. and Hoody L.L., *Closing the Achievement Gap: Using the Environment as an Integrating Context for Learning*, 1998

² Centers for Disease Control and Prevention, 2002

³ Council for Sports Medicine and Fitness Council on School Health, *Pediatrics*, 2006

⁴ Wells, NM and Evans, GW, Nearby Nature: A Buffer of Life Stress among Rural Children, *Environment and Behavior*, 2003

The National Response

- President Bush announces the “American Competitiveness Initiative” [2006]
- President Obama launches "Educate to Innovate" Campaign for Excellence in Science, Technology, Engineering & Math (STEM) Education [2009]
- President Obama’s budget and U.S. DOE’s Blueprint for Reform Education encourage education about the environment for the first time [2010]
- U.S. Secretary of Education Duncan states DOE “will be a committed partner in the national effort to build a more environmentally literate and responsible society.” [Sustainability Summit, 2010]



- American Academy of Pediatric Expert Committee encourages free play in young children and provide environments that allow children to play indoors and outdoors [2010]
- Introduction of the No Child Left Inside Act of 2009, intended to amend the Elementary and Secondary Education Act (aka No Child Left Behind) to include environmental education

and teacher training. Result: 47 States and the District of Columbia actively developing new or revised Environmental Literacy Plans

Idaho's Response

A sustainable future depends upon people who understand the complex relationships between the natural, social and economic systems that support us. Ongoing efforts include...

- Be Outside, Idaho!
- Informal venues
- Outreach programs
- Higher Education
- i-STEM – Science Technology Engineering Mathematics
- State, federal and tribal sites
- Idaho Projects WET, WILD, PLT - correlated standards at <http://www.sde.idaho.gov/csa/>
- 2011 – The Year of Idaho Food

But, a more coordinated and comprehensive approach is needed



Today's Opportunity



September 2009

- ✓ IdEEA hosts environmental literacy strategic planning meeting
- ✓ Resources, opportunities and concerns identified

July 2010

- ✓ IdEEA secures EPA funds to spearhead development of Idaho Environmental Literacy Plan (ELP)

August – May

- ✓ Advisory Committee formed & work begun
- ✓ Public Dialogue meetings held

June 2011

- ✓ Proposed Idaho Environmental Literacy Plan completed
- ✓ Formation of an Idaho Environmental Literacy Coalition begun to facilitate implementation of Idaho ELP
- ✓ Public comments on IELP at www.idahoeel.org

Idaho ELP Advisory Committee Members



Idaho Rangeland Resource Commission

- Coeur d'Alene Tribe
- Idaho Botanical Garden
- Idaho Council on Industry & the Environment
- Idaho Department of Education
- Idaho Department of Fish and Game
- Idaho Forest Products Commission
- Idaho Education Association
- Idaho Environmental Education Association
- Idaho National Laboratory/ STEM
- Idaho Power Company
- Idaho Rangeland Resource Commission
- Idaho State University
- Idaho Water Resource Research Institute, Idaho Water Center
- Mountain View High School (Meridian)
- University of Idaho/ STEM

To qualify for federal funding in proposed legislation, Idaho's ELP must address 5 key elements:



1) Identify specific **content standards**, content areas, and courses or subjects where instruction will take place.

Examples:

- Outdoor and service learning opportunities
- STEM programs
- Advance Placement environmental science and others
- Magnet Schools and Schools Within A School programs

2) Describe if and how state **high school graduation requirements** will ensure that graduates are environmentally literate.

Examples:

- Completion of a required course or series of courses throughout a student's career
- "Proficiency Credit"
- Required part of a high school science class



3) Describe programs for **professional development** of teachers to improve their environmental content knowledge, skill in teaching about environmental issues, and field-based pedagogical skills.



Examples:

- Pre-Service and In-Service training
- Work with universities and colleges and teacher prep programs
- CEUs and best-practice offerings, e.g. Project WILD, PLT, WET

4) Describe how the state educational agency will **measure the environmental literacy** of students.

Examples:

- Standardized testing
- Student participation
- Student performance
- Portfolios



5) Describe how the state education agency will **implement the plan, including securing funding** and other necessary support.



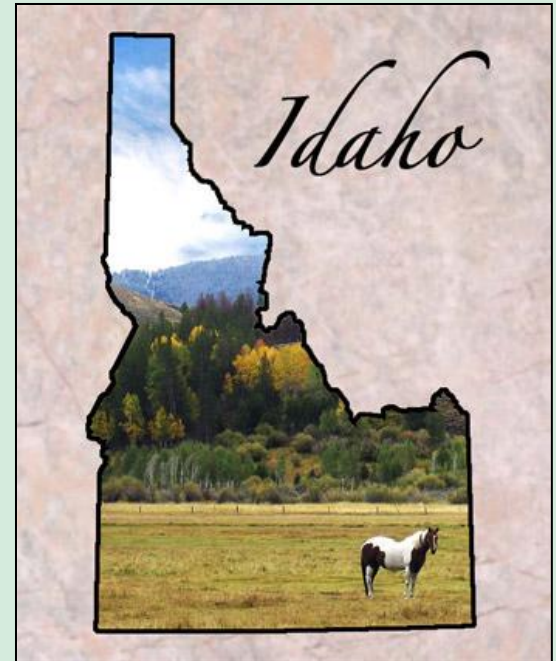
Examples:

- Existing state laws and funding streams
- Identify model programs and replicate
- Existing federal education funding
- Title II
- Title V
- Perkins grants
- STEM
- Buy-in from business leaders, community leaders, federal and state agencies, non-profit organizations, agriculture
- Create Investment or Advisory Councils to engage stakeholders
- Leadership role of IdEEA and other non-profits to develop and implement the plan

Benefits of the Idaho ELP

An effective ELP will:

- Increase student achievement through proven, effective environmental education (EE) experiences
- Increase student engagement by providing classroom connections to meaningful, real-world applications resulting in higher student retention and graduation rates
- Ensure EE activities are fully, efficiently and appropriately integrated into formal education systems and aligned with student graduation requirements
- Motivate high school graduates to pursue higher education and careers in science, technology, engineering, mathematics, and natural resources



More Benefits of an Idaho ELP

- Promote educator's understanding and application of best practices for EE through effective professional development and classroom support
- Encourage collaboration among the Idaho Department of Education, formal and non-formal educators, administrators, natural resource agencies and business and industry
- 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





On behalf of the
Idaho Environmental Education Association and
the Idaho ELP Advisory Committee

Thank You!