

**A**BBY RUSKEY WAS IN GRADUATE SCHOOL IN 1992 WHEN SHE HELPED INVENT THE WHEEL. RUSKEY WOULD BE QUICK TO INTERJECT THAT THE PROCESS WAS MORE CRYSTALLIZATION THAN INVENTION. INSPIRED BY THE STORIES OF HUNDREDS OF STATE AND LOCAL ENVIRONMENTAL EDUCATION AND POLICY LEADERS, RUSKEY EXPLAINS SHE “ENVISIONED STATE ENVIRONMENTAL EDUCATION PROGRAMS AS A WHEEL IN MOTION.”

Along with a national steering committee, Ruskey and her advisor at the University of Wisconsin–Stevens Point, Dr. Richard Wilke, examined what contributed to the successes of six state-level environmental education (EE) efforts. The result of their research is commonly called “the wheel” (see Figure 1). The wheel describes programming, structure, and funding elements found in some combination in successful state programs.

The wheel model started with 16 components, grew to 22 four years later, and was intended to continue evolving. Ruskey called the wheel “a ‘snapshot in time’ of benchmarks that leaders can use to assess current programs, and then develop the additional infrastructure needed to advance EE. Education is historically the purview of state and local governments, so heeding each state’s specific context is important if we want environmental education to become the norm in schools and communities.”

Between 1995 and 2004, three surveys confirmed the simple idea behind the wheel. Ruskey explained, “The more components that are effectively implemented, the stronger the program.”

Ruskey explained that a strong state program does not need to have every component in place. “Our research,” she noted, “found that the most successful state programs had a broad and interconnected array of these components in place.” Leadership and organizational capacity are also critical to support comprehensive program development. “Without this capacity,” Ruskey observed, “the multi-year effort it takes to integrate EE into state and local educational institutions cannot be sustained.”

### THE EVOLUTION OF STATE EE PROGRAMS

Richard Wilke, Ph.D., is distinguished professor of environmental education at UWSP and project director for the Environmental Education and Training Partnership (EETAP). He observed that the process of building broad capacity for environmental education in the United States started in earnest with the first Earth Day and passage of the first National EE Act in 1970. “When the North American Association for Environmental Education (NAAEE) formed in 1971,” Wilke said, “it really marked the beginning of EE as a profession. And, at the same time as NAAEE and other leaders were building an infrastructure for EE at the national level, similar processes were happening in many states.”

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-Dr. Richard Wilke

In some states, the early infrastructure revolved around state EE legislation that resulted in agency staff commitments to EE and the development of K-12 learning requirements. University programs



FIGURE 1: COMPONENTS OF A STATE-LEVEL COMPREHENSIVE EE PROGRAM (Right)

This graphic, commonly called “the wheel” illustrates what Ruskey and Wilke found to be key aspects of the infrastructure for environmental literacy and stewardship. The original list of 16 components was published in 1994. Research and practice prompted the addition of more components. Today, the wheel consists of 22 components that successful state and provincial EE programs combine in various ways.

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developed to spearhead training and research. Through the 1970s and 1980s, the nonprofit state and provincial professional organizations that began to sprout up during the early years of EE provided professional services to their members. In a piecemeal fashion, they focused their mostly volunteer efforts on the implementation of state and provincial EE programs such as grant programs, teacher-training requirements, learning outcomes, inter-agency committees, and funding mechanisms.

In 1993, Wilke and Ruskey co-founded the National Environmental Education Advancement Project (NEEAP) to support the development and expansion of quality EE programs by building state/provincial and local capacity. NEEAP gave “the wheel” an organizational home, supported state/provincial and local leaders in building effective programs and fostered ongoing research into the development of comprehensive EE programs.<sup>1</sup>

Ruskey said, “We worked with and learned from an incredibly experienced and motivated group of state and provincial leaders from all 50 states and many of the provinces to understand the ‘science’ of building capacity. The wheel model offered a common set of targets for weaving EE into the fabric of state/provincial and local education systems, meeting the pressing needs of teachers and school administrators while also helping push the education reform envelope to steadily improve education through EE.”

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-Abby Ruskey

Over the years, leadership teams from 21 states were partners in NEEAP’s state capacity-building grants and technical support programs. NEEAP supported EE leaders from every state and Puerto Rico—as well as Canadian provinces, Japan, Taiwan, and other countries—with services, resources, referrals, Leadership Clinics, and workshops held in conjunction with NAAEE conferences.



Abby Ruskey (left) and Dr. Richard Wilke (right) with the late Senator Gaylord Nelson from Wisconsin. Nelson, widely known as the “Father of Earth Day” inspired Wilke and Ruskey to create the National Environmental Education Advancement Project.

NEEAP also provided a home for ongoing research into the development and implementation of comprehensive state and local EE programs. Ruskey noted that surveys conducted at the beginning of NEEAP and when the project wrapped up in 2005 showed a steady increase in the total number of comprehensive EE program components in place across the country, and a concurrent increase in the number of components under development.

Between 1995 and 2004, NEEAP’s research found that more than 200 additional components were implemented across all 50 states, an 80 percent increase. In 2004, 160 more components were being developed in addition to the 472 already in place. Ruskey attributes this success to the commitment of state level EE leaders; steady support from funders including the U.S. Environmental Protection Agency (EPA), the Environmental Education and Training Partnership (EETAP), and others; and strong organizational partnerships with national education and EE associations and programs.

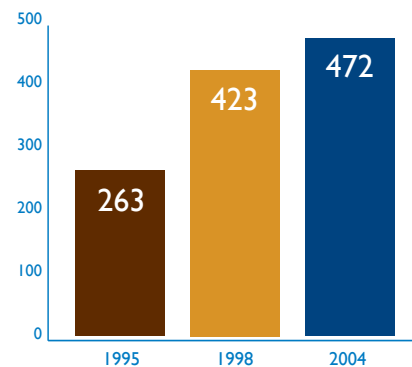


FIGURE 2. TEN YEAR CHANGE IN THE NUMBER OF COMPONENTS “IN PLACE” IN THE 50 STATES  
Between 1995 and 2004, NEEAP research found an 80 percent increase in the number of components of state comprehensive EE programs in place across the United States. An additional 160 components were under development in 2004.

### SUPPORTING STATE EE ASSOCIATIONS

Laura Downey, executive director of the Kansas Association for Conservation and Environmental Education (KACEE), noted that, since NEEAP ended, state associations such as KACEE have collectively taken on more responsibility for supporting ongoing capacity building. “For the last few years,” said Downey, “there has been much less external support for capacity building, so the Affiliate Network has been working to fill those gaps.”

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-Laura Downey

<sup>1</sup> NEEAP ceased operations in 2005.

According to Brian Day, executive director of NAAEE, state and provincial EE organizations affiliated with NAAEE formed the Affiliate Network in 1990. “There are more than 45 state and provincial EE associations that are members of NAAEE, that share NAAEE’s aims, and that collaborate with us to build capacity for EE across the United States, Mexico, and Canada.” The network’s mission: To promote environmental education and support the work of environmental educators through strengthening the capacity of state, territorial, regional, and provincial environmental education associations.

For about a decade, Downey said, the three-day Leadership Clinics hosted by NEEAP and supported by EETAP were a focal point for networking, team planning, professional development, and evaluation among state affiliates focused on capacity building. (See the resources section at the end of this article for more information about Leadership Clinics.) “This was a place for state organizations to connect with each other to share ideas, identify needs, and develop professional skills. We learned so much from each other and the resource people NEEAP brought in. That continues now as the annual affiliates workshop—a day-long event hosted by NAAEE and the Affiliate Network just before the NAAEE conference.”



Photo provided by NEEAP

Participants reflect on what they learned and what they contributed to the 2005 National Leadership Clinic, which was sponsored by NEEAP with funding from EETAP and the U.S. Environmental Protection Agency. The Leadership Clinic model was specifically designed to further state and provincial efforts to build comprehensive EE programs.

According to Abby Ruskey, strong state- and provincial-level organizations are essential to implementing comprehensive EE programs: “It’s impossible to build comprehensive programs without an association or other ‘umbrella’ group to offer programs and services for EE providers, connect educators with resources, conduct quality-assurance initiatives such as nonformal educator certification, and advocate for the field.” Downey concurs: “The best EE outcomes have happened where there was already a strong organization in place, so focusing on building strong EE organizations and sustained leadership everywhere is key.”

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Surveys of NAAEE’s state, provincial, regional, and territorial affiliate organizations suggest that capacity building is an ongoing and critical need. An EETAP capacity building evaluation report published in 2002, reported:

*Respondents generally agreed that they don’t have enough time, staff, or money to accomplish all they have set out for themselves. Consequently, they struggle to...maintain the basic infrastructure of the organization, agency, or initiative...States struggle to secure support from diverse constituencies and funders, and sustainability of that support (and funding) is generally a challenge. (Wells and Fleming, 2002)*

A 2009 survey of its members by the Affiliate Network confirmed that many affiliates are financially challenged, and unable to meet increasing demands for high-quality environmental education.

## OUT OF SURVIVAL MODE

“There are not many state EE organizations that have significant budgets and staff, and a solid range of activities and services to support the profession,” Laura Downey observed from her vantage point at the head of one such organization. Most affiliates rely heavily or exclusively on volunteers whose enthusiasm and dedication are often offset by demands of full-time jobs, families, and other commitments.

According to Downey, the No Child Left Inside campaign has done a lot to re-energize state organizations that, in many places, had fallen into “survival mode.” No Child Left Inside is a response to the negative effect that No Child Left Behind (the federal act that ties K-12 school funding to performance on standardized tests) has had on education in schools. “Many schools have responded by spending more time on reading and math—the subjects for the high-stakes tests—sacrificing other subjects,” explained Sarah Bodor, who coordinates the No Child Left Inside Coalition. “The Center on Education Policy’s

2008 study confirmed that many school districts are spending less time on social studies and science. And teachers and parents report that field trips and outdoor learning activities have been cut to give more time to tested subjects.”

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—Laura Downey





*Students from Goddard (KS) High School head down a nature trail for one of teacher Denise Scribner's regular outdoor lessons. Scribner does her part to "leave no child inside," using the outdoor site as a place to explore biological concepts and investigate prairie ecosystems. Students also conduct a controlled burn, an important part of maintaining a healthy prairie.*

A national coalition in the United States is supporting Congressional passage of the No Child Left Inside Act. This act would provide state educational agencies with incentives and funding to implement environmental literacy plans. Required elements would include working with environmental education organizations to integrate EE across core subject areas, training teachers to deliver high quality EE, using the local environment as an extension of the classroom and assessment strategies to guide student success. Several states have created their own No Child Left Inside programs. Some examples: In 2009, then-Governor Kathleen Sebelius created Kansans for Children in Nature by executive order; Colorado's environmental literacy plan is on the fast track after Governor Bill Ritter signed the Colorado Kids Outdoors Grant Program Act; and recently, the Maryland Board of Education unanimously approved a proposal to require the state's high schools to incorporate EE into their curricula.

"The coalition-building around this has been really compelling," Downey said. "It's opened a lot of eyes to see how many people really care. Affiliates are seeing that they can do something bolder and not just survive." On a practical level, these No Child Left Inside initiatives may spell financial support for state EE associations, which could be in line to receive ongoing funding to help implement the plans and programs.



*Student intern Kristin Moore holds up the first draft of the Washington Environmental Literacy Plan based on the E3 Washington Plan for sustainability education. When it is completed in summer 2011, the plan will position Washington along with other states to benefit from the No Child Left Inside program, should it become law.*

### ADVANCING THE MODEL FOR IMPLEMENTING COMPREHENSIVE EE PROGRAMS

Abby Ruskey, who now heads the Environmental Education Association of Washington (EEAW), is seeing renewed interest in building strong state EE programs, and in the "wheel" of comprehensive state EE program components. "I'm getting asked a lot these days about the wheel," Ruskey observed. "As interest builds again around state capacity building and reenergizing state EE organizations, this is a perfect time to update the wheel to provide a current guidepost that reflects changes in the EE field, education, and society. Green career and technical education programs are a great example of a new focal point for environmental education that could be added to the list of components. Early childhood programs that incorporate EE in curriculum and site design are another."



*Comprehensive EE programs rely on diverse partnerships. E3 Washington co-chair congratulates Denny Hurtado, Director of Indian Education at the Washington Office of Superintendent of Public Instruction at the 2007 statewide E3 Washington Summit.*

In Washington state, EEAW has been integral to developing and now implementing the statewide E3 Washington Plan (Education, Environment, and Economy). Thousands of education, business, tribal, governmental, environmental, community, military, and faith leaders contributed to the plan, which melds the three "E"s: education, environment, and economy into what Ruskey calls "Washington's version of a comprehensive EE program."

With grant funding from the U.S. EPA, EEA is now embarking on a project aimed at updating the “wheel” model of comprehensive EE programs for statewide capacity building, and creating a model for dramatically and rapidly increasing the capacity to deliver, track, measure, and sustain a statewide comprehensive EE program.

Washington already has a slate of program components in place including a comprehensive state EE plan, a state EE association, K-12 environmental and sustainability education standards, a tribal sovereignty education requirement and curriculum, a pre-service teacher training requirement, and an EE specialty endorsement for teachers. Ruskey said this platform will facilitate putting other components in place, but is keenly aware of the need to track and measure the implementation of each component and its relationship to other components. Applying adaptive management techniques, network analysis and systems thinking tools, said Ruskey, “are key next steps in building our understanding of the ‘science’ of EE capacity building.”

Ruskey’s intention is that other states will benefit from these next steps to expand the environmental education program in Washington. “We’ll involve a national steering committee from the outset, which will both bring outside expertise to our efforts and make it easier to adapt the Washington model elsewhere.”

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*-Abby Ruskey*

## STRENGTHENING THE AFFILIATE NETWORK

Another EPA-funded grant is supporting a collaborative effort between NAAEE and the Affiliate Network to strengthen state and provincial EE organizations by focusing first on building

capacity within the network itself. Laura Downey explained, “When we looked at the Affiliate Network as its own comprehensive EE program, the biggest gap that stood out was the lack of a strategic plan.” Grant funding will enable NAAEE to partner with the network to develop a clear strategy for increasing the capacity of the network and its members to promote environmental literacy. “This has generated a wave of excitement among affiliates,” Downey observed. “Many of them are eager to align their own strategic plans with the network’s plan, and parse out the work to the local, state, or national level, or joint projects where they make sense.”

In addition, a new business plan will help ensure the long-term sustainability of the network and its constituent state, provincial, regional, and territorial EE associations. As with the strategic planning process, individual affiliates will benefit as the skills for replicating the process are made available throughout the network.

An Affiliate Leadership Summit, a series of follow-up webinars, and a project manager will all provide additional support for the affiliate organizations. This level of consistent support will provide resources that are typically not available to affiliates run largely by volunteers or small staffs. In the end, business plans and strategic plans will increase capacity for both the Affiliate Network and individual organizational members to put more aspects of comprehensive EE programs in place, and to track their progress.

NAAEE executive director Brian Day calls the accomplishments of the Affiliate Network and the affiliate organizations “an impressive contribution to the advancement of EE in the United States.” Still, he sees these organizations as having “huge untapped potential for leadership in the EE field.” Abby Ruskey agrees, saying that with the multiplier effect built into the current capacity-building projects in Washington and across the country, she expects to see “a notable increase in comprehensive EE program elements and leadership and organizational capacity to sustain them.” That, she says, would be a fitting way to thank all of the EE leaders whose dedication over the last 40 years has made so much progress possible.



Photo provided by Laurie Gray, Sierra Nevada Journeys

*A group of Nevada environmental educators gather in front of an ore-hauling truck after a tour of the Newmont Mine and reclamation areas in Carlin, Nevada. The tour was part of Lamoille Institute for Educators (LIFE) Conference, supported by funding from NAAEE’s state capacity building grant program. This program, supported by EETAP and the U.S. Environmental Protection Agency, provided assistance for four state EE organizations and one Canadian group to expand their environmental education training programs.*

“The accomplishments of the Affiliate Network and the affiliate organizations are an impressive contribution to the advancement of EE in the United States.”

-Brian Day

## RESOURCES

### USE THESE RESOURCES TO LEARN MORE ABOUT THE DEVELOPMENT OF COMPREHENSIVE EE PROGRAMS:

Definition of elements of comprehensive EE program:  
<http://www.uwsp.edu/cnr/neeap/research/StatusofEE/componentdef98.htm>

Results of 2004-2005 NEEAP survey state EE programs:  
<http://www.naaee.org/about-naaee/affiliates/the-neeap-states-survey/>

Results of 1998 NEEAP survey of state EE programs  
[http://www.uwsp.edu/cnr/neeap/research/StatusofEE/1998\\_results.htm](http://www.uwsp.edu/cnr/neeap/research/StatusofEE/1998_results.htm)

Results of 1995 NEEAP survey state EE programs  
[http://www.uwsp.edu/cnr/neeap/research/StatusofEE/1995\\_results.htm](http://www.uwsp.edu/cnr/neeap/research/StatusofEE/1995_results.htm)

Ruskey, A. and R. Wilke. 1994. Promoting Environmental Education: How to Strengthen EE in Your State and Community

Ruskey, Abby. 1995. State Profiles in Environmental Education: The Trend is Towards Comprehensive Programs  
<http://heionline.org/HOL/LandingPage?collection=journals&handle=hein.journals/epajrnl21&div=27&id=&page=>

Learn more about Leadership Clinics:  
[http://www.eetap.org/pages/dynamic/web.page.php?page\\_id=70&topology\\_id=18&eod=1](http://www.eetap.org/pages/dynamic/web.page.php?page_id=70&topology_id=18&eod=1)

Find resources for building comprehensive EE programs:  
[http://www.eetap.org/pages/dynamic/landing.page.php?topology\\_id=31](http://www.eetap.org/pages/dynamic/landing.page.php?topology_id=31)

### LEARN ABOUT OTHER EFFORTS AND ORGANIZATIONS MENTIONED IN THIS ARTICLE:

No Child Left Inside Coalition:  
<http://www.cbf.org/page.aspx?pid=687>

Kansans for Children in Nature:  
<http://www.kansasgreenschools.org/kansans-children-nature>

Colorado Kids Outdoors:  
<http://www.coloradokidsoutdoors.org/>

E3 Washington:  
<http://www.e3washington.org/>

NAAEE Affiliate Network:  
<http://www.naaee.org/about-naaee/affiliates>

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