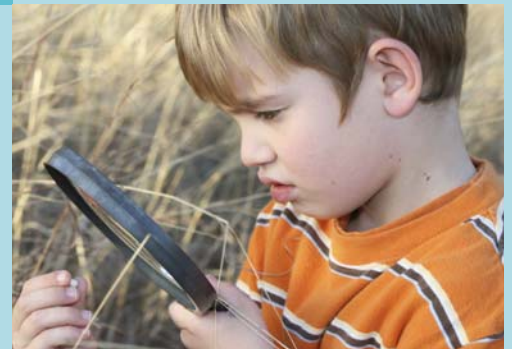




# Environmental Education

2009

## H I G H L I G H T S



Examples of EPA's current efforts to solve our nation's environmental challenges through environmental education

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One of the single most important drivers of environmental change in the future will be the environmental awareness and attitudes of people in this country and abroad. Environmental awareness influences individual behavior, and individual behavior is a fundamental factor affecting environmental conditions.

*-Science Advisory Board*



# Why Focus on Environmental Education?



## What's Inside:

Provided in the following pages are subsections that highlight EE efforts across the Agency. Each subsection includes descriptions of a range of diverse EE activities sorted in alphabetical order. Links to Web sites and references to additional information are provided when available. Additional information can also be obtained by contacting EE staff at EPA headquarters or an EPA Regional EE Coordinator. A list of EPA's EE contacts is provided at the end of this document.

Since its founding in 1970, EPA's mission has been to protect human health and the environment. While primarily regulatory in nature, the Agency also uses a wide variety of non-regulatory tools and strategies including environmental education (EE) to achieve its mission.

This report provides a baseline of the Agency's current EE efforts. A broad definition of EE has been intentionally used and includes an array of activities from information and outreach campaigns, to educator workshops, classroom activities, and community stewardship projects. The report serves as a resource for EPA staff and the public to learn about the range of diverse EE activities conducted by EPA as well as to locate specific EE tools and programs and the specific EPA organizations that are responsible for them.

## Highlights

Climate Change	4
Air	8
Water	11
Reduce, Reuse, & Recycle	17
Healthy & Green Schools	21
Healthy & Green Communities	27
Fellowships, Internships & Careers	32
Sustainability: Green Buildings, Businesses, & Jobs	36
Educator Training, Capacity Building & Student Programs	40
Awards & Recognition	47
Earth Day & Other Events	50
Conclusion	56
EPA HQ and Regional Environmental Education Coordinators	57

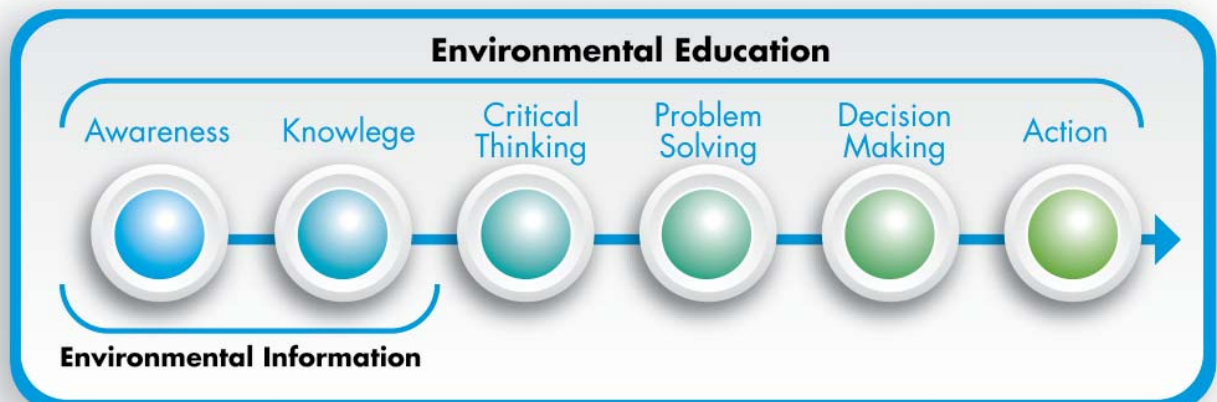
The overarching goal of EE is not only to increase awareness, but to improve people's knowledge of environmental concerns. EE teaches people how to weigh various sides of an environmental issue by building critical thinking, problem-solving, and decision-making skills. In further defining EE, its components include:

- **Awareness and sensitivity** to the environment and environmental problems
- **Knowledge and understanding** of the environment, and how individual behavior affects environmental quality
- **Attitudes** of concern for the environment and motivation to improve or maintain environmental quality
- **Skills** to identify and solve environmental problems
- **Participation** in activities that address environmental problems



Presented below is a continuum that illustrates the connection among environmental information and outreach and environmental education. EE covers the range of steps and activities from awareness to action with an ultimate goal of environmental stewardship.

From students and educators to parents, healthcare providers, small businesses, and broadcast meteorologists, this report highlights the diverse and abundant work the Agency is undertaking to redefine environmentalism by involving more and more people in solving our nation's most pressing environmental problems through environmental education.





Watch for NEEA programs and activities highlighted throughout this report in green sidebars and text boxes

The National Environmental Education Act of 1990 (NEEA) established an Office of Environmental Education in EPA's headquarters and one position in each of EPA's Regional offices to provide leadership and coordination, and to develop and support a variety of programs. Contacts for EPA headquarters and regional offices are provided on page 57. The national EE grant program, President's Environmental Youth Award (PEYA), Environmental Education Training Partnership (EETAP), and National Network for Environmental Management Fellows (NNEMS) are among the better known programs implemented under the legislation. With this report, OEE is reinitiating efforts to better coordinate EE program development and delivery across EPA.

[www.epa.gov/enviroed](http://www.epa.gov/enviroed)

Activities funded by  
**National Environmental  
Education Act**



Watch for highlights of NEEF's programs and activities throughout this report in blue sidebars and text boxes

The National Environmental Education Foundation (NEEF) was established by the National Environmental Education Act and receives a portion of EPA's appropriation each year to leverage support for environmental education from the private sector. The Foundation is a key partner for EPA and greatly increases the number and diversity of people EPA is able to reach with federal investments. In addition to the Office of Environmental Education, NEEF works with many of EPA's National program offices.

[www.neefusa.org](http://www.neefusa.org)

Activities funded by



**National Environmental  
Education Foundation**

# Climate Change

**EPA's climate change education efforts are focused on helping people understand the human health and environmental consequences of climate change, and what people can do to reduce greenhouse gases. For more details about EPA's climate change programs, visit:**

[www.epa.gov/climatechange](http://www.epa.gov/climatechange)



## **Climate Change Wildlife and Wildlands Toolkit for Formal and Informal Educators:**

EPA's Climate Change Division's newest climate change education tool is an updated and expanded version of the award-winning *Climate Change, Wildlife and Wildlands Toolkit for Teachers and Interpreters* first published in 2001. The new kit is designed for classroom teachers and informal educators in parks, refuges, forest lands, nature centers, zoos, aquariums, science centers, etc., and is aimed at the middle school grade levels. Under the auspices of the U.S. Global Change Research Program, EPA worked with six other federal agencies (National Park Service, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, National Aeronautics and Space Administration, USDA/Forest Service, and Bureau of Land Management) to develop the kit that helps educators teach about how climate change is affecting our nation's wildlife and public lands, and how everyone can become a "climate steward."

[www.globalchange.gov/resources/educators/toolkit](http://www.globalchange.gov/resources/educators/toolkit)

**Climate for Action Campaign:** The Office of Children's Health Protection and Environmental Education developed this innovative campaign to teach kids about the relationship between climate change and health, and provide tools and resources to help them calculate carbon footprints, and motivate their friends, schools, parents, and communities to get involved in addressing this environmental issue. The campaign recognizes youth as "climate

ambassadors” with certificates after they have reduced their carbon footprints and demonstrated their work in teaching others.

[www.epa.gov/climateforaction](http://www.epa.gov/climateforaction)

- EPA’s Region 4 used the campaign as part of their Earth Day celebrations and trained more than 65 EPA volunteers to inspire middle and high school students to provide education on climate change and children’s health, and encourage students to take action to reduce their carbon footprint. Region 4 also partnered with Georgia Tech to train 36 student climate change ambassadors. The students are planning a Climate Change Youth Summit to be held in spring 2010. More than 1,100 students and teachers were reached by the training which was conducted at middle schools, high schools, and other venues.

**Cool School Challenge Program:** EPA Region 10 is partnering with this innovative climate change program, modeled after the U.S. Mayor’s Climate Protection Agreement. The Cool School Challenge aims to motivate students, teachers, and school districts to reduce carbon dioxide and other greenhouse gas emissions school wide. At the heart of the Cool School Challenge is the philosophy that big changes start with small steps, and that taken together, simple individual actions create a world of difference. The Cool School Challenge program was developed by Redmond High School environmental science teacher Mike Town, in collaboration with the Puget Sound Clean Air Agency and Puget Sound Energy’s Powerful Choices for the Environment program. EPA is currently working with these partners and recruiting others to promote the program nationally.

[www.coolschoolchallenge.org](http://www.coolschoolchallenge.org)



**ENERGY STAR:** The Office of Atmospheric Programs oversees EPA's award-winning energy conservation program which has a variety of educational tools and partnerships to promote energy conservation. For more information, visit:

[www.energystar.gov](http://www.energystar.gov)

- **Boys and Girls Club & Parent Teacher Organization Partnerships** - As part of a new educational campaign encouraging youth and their families to respond to the challenges of climate change, EPA formed national partnerships with the Boys and Girls Clubs and the Parent Teacher Organization. Both partnerships leverage the ENERGY STAR pledge, which encourages Americans to take individual action to save energy and help reduce greenhouse gas emissions. The Boys and Girls Club partnership is focused on activating our country's youth to engage in community service projects that save energy with ENERGY STAR qualified products and practices. The Boys and Girls Clubs serve 4.8 million kids, ages 7 through 15, via 4,300 clubs nationally. The Parent Teacher Organization Partnership is focused on providing tools to plan, promote and execute events that educate kids and their families about the science of climate change and the steps each of us can take to reduce our carbon foot print. EPA anticipates that more than 7,000 events will be conducted throughout 2009/2010 school-year as a result of this partnership.

[www.energystar.gov/changetheworld](http://www.energystar.gov/changetheworld)

- **Dr. Seuss's Lorax** - ENERGY STAR partners with Seuss Enterprises to use one of Dr Seuss's most famous characters, the Lorax, to educate children on the science of global warming and steps each of us can take to combat climate change. Using the Lorax, EPA hopes to inspire kids of all ages to be more energy efficient in their homes and schools in order address climate change. EPA has activity books and posters for children. The Lorax is highlighted on [www.energystar.gov](http://www.energystar.gov) and EPA also has a public service announcement featuring the Lorax.

[www.energystar.gov/ia/partners/publications/pubdocs/Lorax%20Activity%20Book%206%20pages.pdf](http://www.energystar.gov/ia/partners/publications/pubdocs/Lorax%20Activity%20Book%206%20pages.pdf)





- **Kids Web site** - Loaded with graphics and interactive features, the ENERGY STAR Kids Web site educates children about global warming and how they can be a part of the solution. The Quickest Ever Slideshow on Global Warming helps explain in kid-friendly terms what global warming is and solutions tailored for kids to do. The highly successful ENERGY STAR @ home tool allows kids to click on different rooms in a house and find out what they can do in that room to save energy. Another part of the Kids Web site brought to life one of EPA's most popular publications: the Horton Activity Book. EPA's partnership with Twentieth Century Fox on their blockbuster movie *Horton Hears a Who* allowed EPA to use the Horton art work in the kid's activity book and on the Web site. Tremendous demand for the Horton Activity Book tripled EPA's annual distribution of ENERGY STAR publications to over 3.5 million.

[www.energystar.gov/kids](http://www.energystar.gov/kids)



- **Schools** - ENERGY STAR works with schools and school communities to teach students, teachers, and administrators about the importance of fighting global warming through energy efficiency. More than 500 school districts across the country have partnered with EPA's ENERGY STAR and made a commitment to address climate change through improved energy performance of their buildings. Through a suite of tools, resources, and technical guidance, EPA helps facility managers optimize the energy efficiency of their district's building systems. In addition to facility-level improvements, successful schools have engaged teachers, students, and administrators in efforts to further

reduce energy usage. For example, one school in Oregon's Gresham Barlow School District enlisted students in its "Watt Watchers" program, tasking them with issuing citations to students and staff members who wasted energy, by, for example, not turning off lights before leaving a room or leaving computers on at the end of the day. A new program at the District's Center for Advanced Learning gets students involved in the day-to-day management of the schools energy consumption. These students learn how to measure and manage the district's energy use under the guidance and supervision of teachers.

[www.energystar.gov/schools](http://www.energystar.gov/schools)

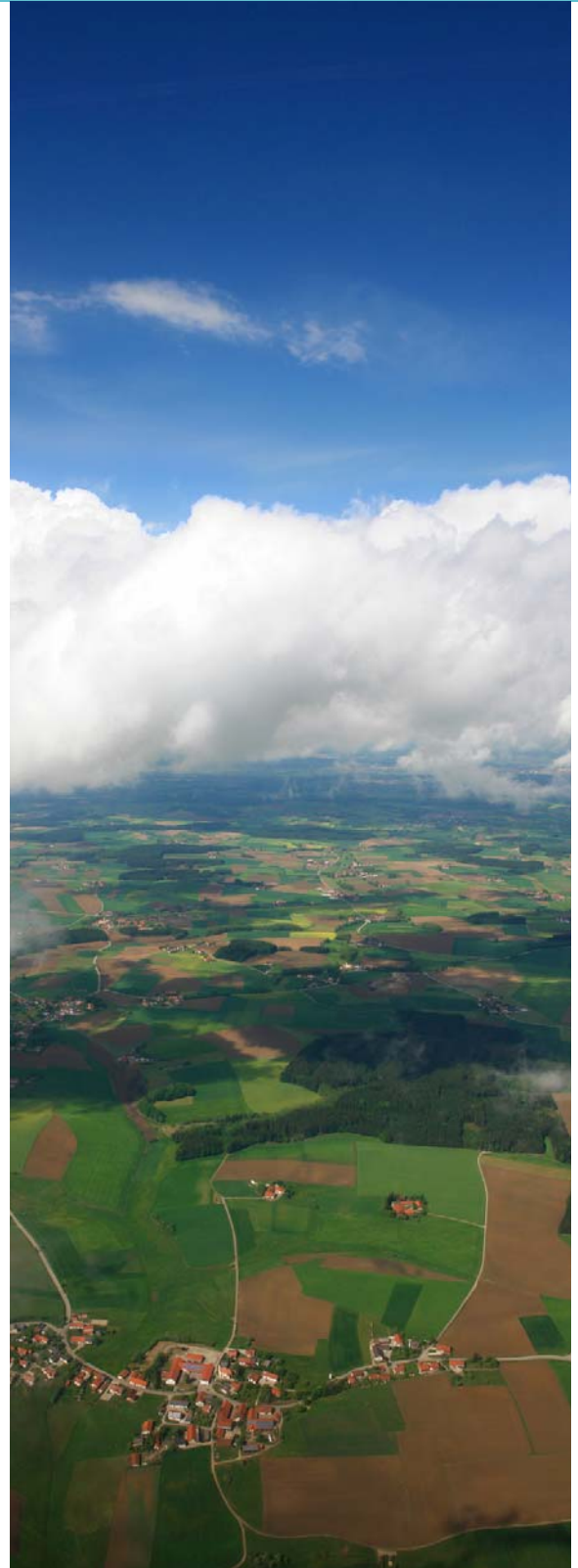
***The average adult breathes more than 3,000 gallons of air everyday, and children breathe even more per pound of body weight, so few issues are more important for human and environmental health than clean air. Air pollution comes from many sources, so EPA's Office of Air and Radiation has developed some innovative programs to help people learn what they can do to improve air quality. Learn more at:***

[www.epa.gov/air](http://www.epa.gov/air)

## **INDOOR AIR**

### **Tribal Indoor Air Quality Summit:**

EPA Region 5 supported the Bois Forte Band of Chippewa in Minnesota to plan and coordinate the first Tribal Indoor Air Quality Summit in Baraboo, Wisconsin. Dozens of tribes from the region participated in the summit which included presentations on asthma, environmental tobacco smoke, *Tools for Schools*, radon, mold, moisture, and tribal housing concerns. The Summit was highly successful and opened the door to new tribal collaborations with the Eastern/Woodlands Office of Native American Programs, Housing and Urban Development, U.S. Department of Agriculture, the Centers for Disease Control, and the American Lung Association of Minnesota. A Post Summit Tribal Workgroup was formed with commitments from Federal, State and local not-for-profits to continue work on the improvement of indoor air quality.





## AIR QUALITY

### EPA's Office of Air Quality Planning and Standards educational highlights include:

**Air Quality Index Kid's Page:** Three colorful chameleons are the stars of this Web site which shows children (ages 7 through 10) how to moderate their activity to safely play outside when air pollution levels are elevated. Interactive games, background information, and a dictionary help build understanding of clean and dirty air. The site includes teachers' materials.

[www.airnow.gov/index.cfm?action=aqikids.index](http://www.airnow.gov/index.cfm?action=aqikids.index)

### Air Quality Index Toolkit for

**Teachers:** The air quality index is an important tool that lets people know when unhealthy air quality is present in their communities and how they can protect themselves. The purpose of the toolkit is to provide teachers with an easy-to-use and engaging online resource that explains air quality and related health and environmental information to students. Each lesson correlates to the National Science Education Standards and can be easily incorporated into classroom instruction. The toolkit is designed for grades kindergarten through 8 and is endorsed by the National Science Teachers Association. It has been downloaded more than 22,000 times to date.

[airnow.gov/index.cfm?action=resources.aqi\\_toolkit](http://airnow.gov/index.cfm?action=resources.aqi_toolkit)

### Air Quality Index Toolkit for

**Weathercasters:** This toolkit was developed for weathercasters who make educational presentations to schools and civic groups. The toolkit contains key materials to help audiences understand how they can use the AQI to find out about local air quality and how they can protect their health when the air is polluted. The toolkit is endorsed by the American Meteorological Society and the National Weather Association. Because of the linkage between weather and air pollution, weathercasters play an important role in raising air quality awareness. Weathercasters often incorporate air pollution alerts and associated health messages into their weathercasts. Presentations by weathercasters offer a powerful venue for educating school children, families, teachers, and civic groups about air quality and health. The toolkit is targeted to grades 3 through 6, and civic groups.

[www.epa.gov/airnow/weathercasters/aqi-toolkit-weathercasters-part1.pdf](http://www.epa.gov/airnow/weathercasters/aqi-toolkit-weathercasters-part1.pdf)

**Clean Air for Kids:** This Web site features Buster Butterfly showing young children (ages 5 through 6) when the air is clean and it's a good day to play outside, and when the air is not clean and they should stay inside to play. Colorful animated characters help kids understand the colors associated with the Air Quality Index.

[www.epa.gov/airnow//k1/k1.html](http://www.epa.gov/airnow//k1/k1.html)

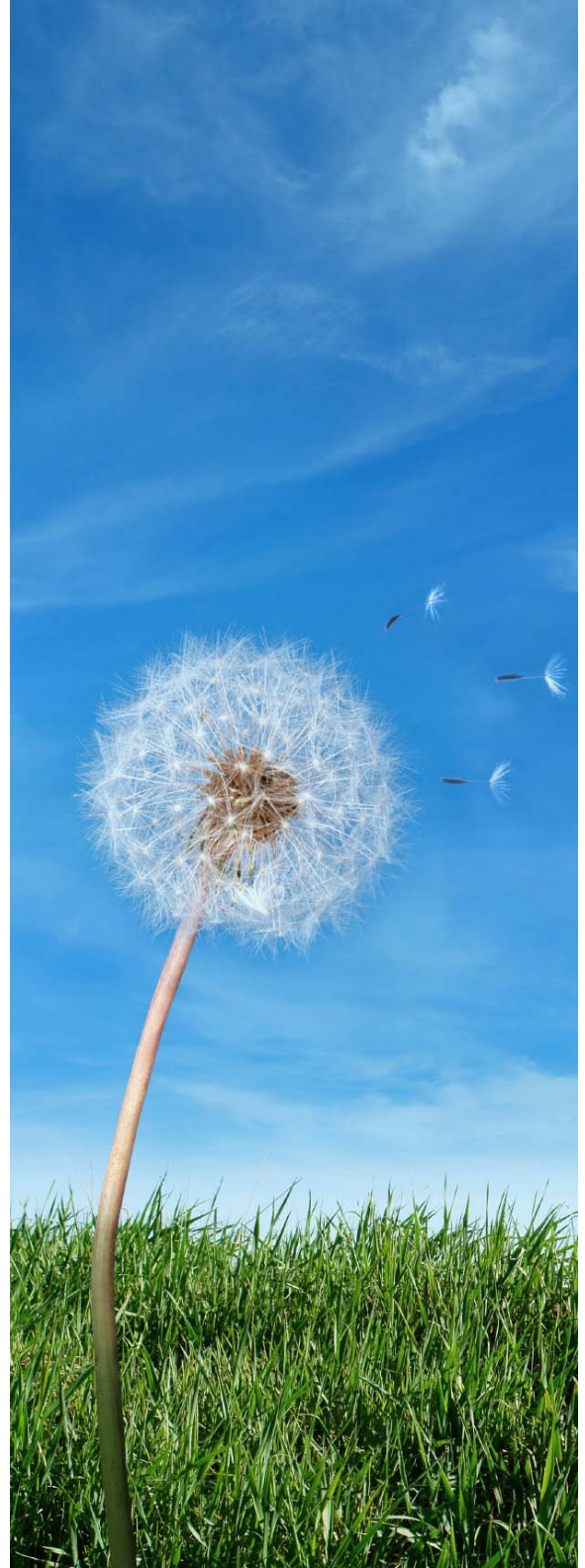


**Environmental Science Institute:**

Each year, EPA hosts the Environmental Science Institute for teachers and other nonformal educators in Research Triangle Park, North Carolina. On average, 35 to 40 kindergarten through 12<sup>th</sup> grade teachers participate to explore the properties of air, learn how EPA manages air quality in the U.S., discuss the environmental health effects and risks of air quality, use geographic information systems to understand ecology, and calculate their carbon footprints and identify sustainable solutions. The teachers benefit by receiving curricula and resources to support classroom instruction. With the knowledge and skills gained, each teacher may reach between 25 to 30 students per class. Teachers typically have four to five classes per day which amounts to as many as 4,500 students a day that are potentially reached with this initiative.

**Smog City 2:** This interactive, online air quality simulator has had over 34,000 visitors per year since its release in March 2007. Smog City 2 was developed for teachers and students in grades 6 through 12. Using a computer game-like interface, students control emission sources, population, and weather to work through various scenarios to better understand the role they play in air pollution. The simulator demonstrates how personal choices, environmental factors, and land use contribute to ozone and particle pollution.

[www.smogcity2.org](http://www.smogcity2.org)





***EPA is working to protect water on the ground, under the ground, and coming out of the tap. The Office of Water's EE programs address an impressive diversity of audiences to improve the quality of our oceans, coasts, wetlands, watersheds, and drinking water. Broadcast meteorologists, Girl Scouts, educators, and municipal officials are a few of the groups working toward cleaner water in our communities. Visit EPA's Office of Water Web site at:***

[www.epa.gov/water](http://www.epa.gov/water)

## **WATER CONSERVATION**

**A Day in the Life of a Drop:** The Office of Wastewater Management developed this set of activities to help students in grades 3 through 5 understand the connections between the source of the water they use and the ways their water-use habits affect the environment and human health. Students also learn how to reduce their impacts and engage family members. Students and families take the Pledge to Filter out Bad Water Habits to demonstrate their commitment to saving water for the future. The curriculum and worksheets teach individuals critical thinking skills, and enhance problem-solving and decision-making skills. The online interactive game features Flow, the water-efficiency hero. Participants guide Flow through water pipes while avoiding water-wasting monsters by answering water-efficiency questions.

[www.epa.gov/watersense/kids](http://www.epa.gov/watersense/kids)



**WaterSense:** The Office of Science and Technology and the Office of Wastewater Management partnered with the National Environmental Education Foundation (NEEF) to provide Green Infrastructure and WaterSense tips to the American public. The tips and messages remind people about the simple practices and steps they can take in their homes and communities to preserve and protect our limited water resources. NEEF has successfully worked with the American Meteorological Society and weathercasters to reach hundreds of thousands of households to help improve the environment, protect nature and improve public health. The tips, used in conjunction with weather reports, are distributed by NEEF to 118 television stations in 101 cities across the country which eventually reaches 160 meteorologists who have the potential of reaching 208 million viewers.

[www.epa.gov/WaterSense/](http://www.epa.gov/WaterSense/)

- **Fix a Leak Week** - WaterSense also includes *Fix a Leak Week* learning resources, a set of activities designed for students in grades 3 through 5 to help them learn about water supplies and the importance of saving water. In addition to helping families find and fix leaks in their homes, the *Fix a Leak Week* curriculum covers a range of subjects (reading, science, math, social studies) and lessons to ensure this work can help meet relevant standards in the various curriculum areas. It can be adapted to different grade levels and class abilities.

[www.epa.gov/watersense/resources/educational\\_materials](http://www.epa.gov/watersense/resources/educational_materials)

## WATERSHEDS

### Adopt Your Watershed/Surf

**Your Watershed:** EPA's Adopt Your Watershed and Surf Your Watershed Web sites allow students and the general public to find watersheds, learn about their health, and get involved in local watershed protection activities in their community. By simply entering a zip code, browsers find watersheds and volunteer monitoring groups that they can join. The Adopt Your Watershed Web site also includes a Watershed Stewardship Toolkit for volunteers, which provides links and information about participating in volunteer monitoring and stream cleanups, building rain gardens, marking storm drains, green scaping and promoting low impact development. Adopt Your Watershed is part of the Obama Administration's United We Serve initiative.

[www.epa.gov/adopt](http://www.epa.gov/adopt)  
[www.epa.gov/surf](http://www.epa.gov/surf)



**After the Storm:** One of the Office of Water's most successful outreach products, *After the Storm*, is used extensively by educators, and has been broadcast on cable TV and The Weather Channel. The video highlights three case studies in Santa Monica Bay, the Mississippi River Basin/ Gulf of Mexico, and New York City where polluted runoff threatens watersheds highly valued for recreation, commercial fisheries and navigation, and drinking water. Key scientists and water quality experts, and citizens involved in local and national watershed protection efforts provide insight into the problems as well as solutions to today's water quality challenges.

[www.epa.gov/weatherchannel](http://www.epa.gov/weatherchannel)

**Earth Gauge®/Watershed Curriculum for Broadcast Meteorologists:** EPA's Office of Wetlands, Oceans, and Watersheds (OWOW) continues to support the National Environmental Education Foundation's (NEEF) innovative efforts to increase awareness and build environmental stewardship through a partnership with the American Meteorological Society (AMS) and broadcast meteorologists. Earth Gauge® ([www.earthgauge.net/](http://www.earthgauge.net/)) is a free information weekly service for meteorologists, designed to make it easy for them to talk about links between weather and environment with simple environmental facts and viewer action tips tied to the 3-day forecast. NEEF also partnered with OWOW and the Cooperative Program for Operational Meteorology, Education & Training (COMET) to produce an online watershed curriculum, *Watersheds: Connecting Weather to the Environment*, for broadcast meteorologists that is part of AMS's continuing education program.

[www.earthgauge.net/courses](http://www.earthgauge.net/courses)

**Reduce Runoff: Slow it Down, Spread it Out, Soak it In:** EPA's Office of Water and the U.S. Botanic Garden produced this 9-minute online video to highlight green techniques in urban areas such as rain gardens, green roofs, and rain barrels to help manage and reduce the effects of storm water runoff. These innovative storm water management techniques are very effective at reducing the volume of storm water runoff, capturing harmful pollutants, improving air quality, mitigating the effects of urban heat islands, and reducing a community's overall carbon footprint.

[www.epa.gov/owow/nps/lid/video.html](http://www.epa.gov/owow/nps/lid/video.html)

**Regional Webinar Series:** EPA's Seattle office is highly successful in the use of webinars to reach and teach a variety of audiences across the northwest about environmental issues. From the regulated community, community watershed groups, to educators, these webinars use case studies and provide scientific experts to teach about watershed protection, storm water management, and how to reach communities with fading interest and/or involvement in environmental issues.

[yosemite.epa.gov/R10/homepage.nsf/information/webinars](http://yosemite.epa.gov/R10/homepage.nsf/information/webinars)





**The Watershed Academy:** EPA's Watershed Academy's Distance Learning Program – Watershed Academy Web – includes more than 50 training modules on various watershed topics. The Web site offers a variety of self-paced training modules that represent a basic and broad introduction to the watershed management field. Modules vary in length, from ½ hour to 2 hours, and fifteen modules constitute the core of the Watershed Academy Certificate Program. To date, more than 3,000 people from every state and more than 45 countries have completed the certificate program. A number of university professors include the certificate program training modules as part of their course curriculum.

[www.epa.gov/owow/watershed/wacademy](http://www.epa.gov/owow/watershed/wacademy)

- EPA's Watershed Academy has sponsored 42 free webcast seminars since 2005 on a variety of watershed topics. Local watershed organizations, municipal leaders, educators and others are invited to sign up for these free, online webcast training sessions. For those that are not able to register for a webcast, a streaming audio version of the training is made available after the live seminar.

[www.epa.gov/watershedwebcasts](http://www.epa.gov/watershedwebcasts)

**Water Drop Patch Project:** EPA's Office of Water partnered with the Girl Scouts of the USA to produce a series of watershed stewardship activities for Girl Scouts of all ages. Once the requisite number of activities is completed, Girl Scouts earn a patch emblazoned with an egret. Activities include stream cleanups, water quality monitoring, stream walks, storm drain marking, and community rain gardens construction. Tens of thousands of Girl Scouts have earned the patch.

[www.epa.gov/adopt/patch](http://www.epa.gov/adopt/patch)



## OCEANS & WETLANDS

### American Wetlands Month (AWM):

AWM was established in 1991 to raise awareness of the vital importance of wetlands to the nation's ecological, economic, and social health. Each year since, EPA has celebrated AWM with other partners in federal, state, tribal, local, non-profit, and private sector organizations with a goal to: 1) increase knowledge among the general public and targeted groups about the important benefits wetlands provide; 2) highlight EPA efforts to conserve and restore wetland resources; and 3) encourage public and targeted groups to explore wetlands and take action to help EPA conserve and restore these aquatic resources. EPA and partner activities are posted on the American Wetlands Month Web site. EPA also cosponsors a National Wetlands Award Ceremony to recognize and honor the achievements of wetland stewards, scientists, and educators who have shown extraordinary commitment to wetland conservation and restoration.

[www.epa.gov/owow/wetlands/awm](http://www.epa.gov/owow/wetlands/awm)



### Gulf of Mexico Ocean Literacy

**Project:** Using Gulf of Mexico priority issues such as water quality monitoring, wetland conservation and nutrient issues in coastal watersheds, as the context for learning science and building ocean literacy, this EPA Region 4 supported project provided field-based activities for 388 middle school teachers and students in underrepresented middle schools in Florida, Louisiana, and Texas. Pre/post test evaluation results demonstrated increased awareness and stewardship among students and teachers. Teachers strongly believed that the field activities reinforced and enriched existing curriculum and enabled them to teach science more effectively. Students demonstrated excitement for preserving the environment by adopting a train the trainer approach to educate parents and fellow students on environmental preservation and awareness. The project also provided professional development workshops for 10 teachers to enhance their ability to facilitate lectures that pertained to the field exercises.



### Ocean Survey Vessel (OSV) “The Bold”:

The OSV Bold is EPA’s only ocean and coastal monitoring ship. A converted Navy vessel, the OSV Bold is outfitted with an array of sophisticated instruments to collect data on the environmental health of our oceans and coastal waters including laboratories, sonar, underwater cameras, diving, dredging and sampling equipment used to collect and analyze water, biota, and sediments. The OSV Bold reaches many urban areas, holding open house events in cities including New York, Philadelphia, and Baltimore, which increase the public’s knowledge about the challenging issues facing the health of marine waters. In holding these open houses, the Bold is a floating classroom for students of all ages, providing demonstration surveys and tours to educate the public about ocean and coastal environmental issues.

- **Bolds Kids Web site** - The new Web site called Bold Kids educates children about EPA’s work in marine and coastal research. The Web site includes pictures and a video of how the ship operates, interviews with the crew, and pages focused on ship history, onboard equipment, and information on common ocean environmental issues that EPA scientists are currently studying. The site also includes games and other interactive features which promote learning about marine life and downloadable artwork options in addition to information about when kids can attend an on-board event.

[www.epa.gov/region1/boldkids](http://www.epa.gov/region1/boldkids)

**Wetlands Education Program:** For more than 10 years, EPA Region 9 has worked with the Mt. View Sanitary District in Martinez, California to provide a Wetlands Education Program. Approximately 1,500 students annually participate in a 4-hour educational field trip to gain hands-on experiences that reinforce the connection between toxics dumped in sewer and drains, and water pollution in local waterways.

**Wetlands & Wonder: Reconnecting Children with Nearby Nature:** EPA's Region 8 developed this 12-minute video that focuses on urban and suburban wetlands as valuable resources to be restored, protected and enjoyed. These places, often the only remnants of the natural world in developed areas, can play a key role in connecting people to nearby nature thereby improving the health of children and communities. The video features interviews with a number of experts in EE and the movement to reconnect children and adults to nature. The film won a Merit Award for Message and was screened at the 32<sup>nd</sup> Annual International Wildlife Film Festival. The film inspired an EPA Watershed Academy webcast on reconnecting youth with nature that featured speakers from the Children and Nature Network, Environmental Concern, and the Earth Conservation Corps.

[www.epa.gov/owow/wetlands/education/wetlandsvideo](http://www.epa.gov/owow/wetlands/education/wetlandsvideo)



# Reduce, Reuse, & Recycle

**From ordinary household garbage to industrial and manufacturing waste, nearly every activity leaves behind some kind of waste. People generate millions of tons of waste in homes and communities each year, so the Office of Resource Conservation and Recovery's EE programs are challenging all citizens to commit to reduce, reuse, and recycle at home, at work, and in communities. Learn more at:**

[www.epa.gov/epawaste](http://www.epa.gov/epawaste)



**Cell Phone Recycling:** EPA Region 5 recorded public service announcements to encourage people to recycle their old cell phones, provide information about environmental benefits, and provide the link to EPA's cell phone recycling Web site. Chicago radio station WLS AM 890 broadcast the announcements which reach more than 38 states. The announcements complement printed advertisements encouraging cell phone recycling that EPA posts during the holiday season on several Chicago Transit Authority bus and rail lines.

[www.epa.gov/osw/conserves/materials/recycling](http://www.epa.gov/osw/conserves/materials/recycling)

**Recycling Education:** The City of Milwaukee received a grant from EPA Region 5 to evaluate education strategies for increasing participation in recycling programs. The project evaluated three educational strategies implemented in areas with low recycling participation: (a) neighborhood school education; (b) door-to-door outreach by a community group; and (c) block captains. While the block captain strategy did not work as effectively, the other two strategies led to a more than 60 percent increase in the amounts of recyclables collected during the education program, and between 30 to 50 percent increase 3 months after the education program ended. Overall, this project diverted more than 47,000 pounds of waste from disposal in the targeted areas.





**Zero Waste Zone:** EPA's Region 4 participates in the Atlanta Downtown Zero Waste Zone project which was launched in 2009 at the Georgia World Congress Center to educate businesses in recycling common recyclables (plastic, cardboard, etc.), fats, oils, greases, and food residuals. The number of partners and participants continues to grow along with the amount of material being diverted from landfills. Recycled waste will now become the raw material for new industries focused on creating environmentally friendly products such as soil amendments. Participants are required to report on their progress to remain a partner in compliance with the rules of each zone.

**EPA's Office of Resource Conservation and Recovery Educational Tools has many innovative education tools. These tools include:**

**"Keep Your Paws Off Mercury"**

**Campaign:** Clancy the Mercury Detecting Dog, EPA, and the Minnesota Pollution Control Agency teamed up to create the "Keep Your Paws Off Mercury" campaign to teach students across the country about mercury and its dangers. The cornerstone of the "Keep Your Paws Off Mercury" campaign is an educational video that shows students where mercury can be found in schools and what to do if they see it.

[www.epa.gov/epawaste/hazard/tsd/mercury/videos.htm](http://www.epa.gov/epawaste/hazard/tsd/mercury/videos.htm)

**School Administration and Teacher Training:**

The Office of Resource Conservation and Recovery's *Tools to Reduce Waste in Schools* is an easy-to-use guide to help schools and school districts implement new, or expand upon existing, waste reduction programs. The guide shows how a waste reduction program benefits schools, communities, and the environment by reducing, reusing, and recycling waste. The appendices provide forms to track results, lists of recyclable materials, links to additional resources, and questions to ask potential waste and recycling haulers.

[www.epa.gov/epawaste/education/toolkit.htm](http://www.epa.gov/epawaste/education/toolkit.htm)



## Teaching English as a Second

**Language:** *Teach English, Teach about the Environment: A Resource for Teachers of Adult English for Speakers of Other Languages (ESOL)* is a curriculum for teaching English to adult students while introducing basic concepts about the environment and individual environmental responsibility. These concepts can help the newly-arrived be part of cleaner and healthier communities by understanding and practicing the “3Rs” of solid waste management – reduce, reuse, recycle.

[www.epa.gov/epawaste/education/pdfs/tesol.pdf](http://www.epa.gov/epawaste/education/pdfs/tesol.pdf)

## The “Make a Difference” Campaign:

This campaign aims to educate and engage students in grades 6 through 8 in resource conservation and environmental protection in their day-to-day lives through informed decision making. As part of the campaign, EPA’s Office of Resource Conservation and Recovery developed *Your Life, Your World, Your Choices*, a resource kit for teachers that inspires youth to “make a difference” by reducing, reusing, and recycling at home, at school, and in their communities. Materials in the kit include extensive information resources on the management of hazardous and solid waste, waste management how-to guides focused on engaging students, developing school programs, and service learning; and a series of posters depicting the life cycles of CD/DVDs, cell phones, and soccer balls, and packing waste-free lunches. The kit includes materials for students on composting lawn and garden, green shopping, electronics recycling, science fairs, and careers in waste management.

[www.epa.gov/epawaste/education/mad.htm](http://www.epa.gov/epawaste/education/mad.htm)

## The Planet Protectors Club (PPC):

This interactive Web site teaches kids in grades kindergarten through 5 how to reduce, reuse, and recycle waste. The site takes kids on a learning adventure with challenging activity books, educational games, and fun stories. A free, hard copy *Planet Protectors Club Kit* is also available for teachers, parents, and after school leaders. This kit provides samples of the activity booklets and other materials that can be ordered in quantity for elementary school students. This kit can be used as a classroom supplement, as part of a larger environmental or Earth Day unit, or as an after-school, extra credit, or at-home project. *The Planet Protectors Club Kit* also includes fact sheets on how to start a Planet Protector Club and recognition certificates and badges. The activity booklets, the PPC Certificate and the PPC Badge are also available in Spanish.

[www.epa.gov/epawaste/education/kids/planetprotectors](http://www.epa.gov/epawaste/education/kids/planetprotectors)



**The Quest for Less—Activities and Resources for Teaching K-8:** This teacher’s guide provides hands-on lessons and activities, enrichment ideas, journal writing assignments and other educational tools and skills relating to reusing, reducing, and recycling waste. In sequence, *The Quest for Less* introduces the concept of natural resources as a source for many products that become solid waste, explains the life cycle of products and the quantity and type of waste they produce, and reviews the common methods of managing waste, including composting, landfilling, incinerating and preventing waste in the first place. Teachers can use *The Quest for Less* in development of, or as a supplement to, lesson plans, as special week-long units on the environment and solid waste, or to commemorate Earth Day. Each chapter includes one or more fact sheets providing background information on each topic; each activity provides the suggested duration, materials needed and other helpful information for teachers. A glossary of terms and a glossary on skill are also included.

[www.epa.gov/epawaste/education/quest](http://www.epa.gov/epawaste/education/quest)

**Your Environment, Your Choice:** This innovative Web site encourages high school students to make environmentally sound choices about the products and natural resources they use, the waste they create, and the environment in which they live. Students learn how their personal decisions affect the environment by browsing informational resources, tips, teens in the news, information on environmental careers, and online games. “How Green Are You?” offers teens the opportunity to tell us what they are doing to “be green.”

[www.epa.gov/teensgogreen](http://www.epa.gov/teensgogreen)



# Healthy & Green Schools

***Improving children's health, using energy and water wisely, establishing chemical free school yards and gardens, and training teachers how to educate their students to practice environmental stewardship at school are the key benefits of healthy and green schools. By integrating the efforts of school administrators, facility managers, teachers, and students, green schools are improving not only student test scores, but the environment too. EPA works with schools in many different ways to improve the environment and student learning.***

## **SCHOOL CHEMICAL CLEANOUT CAMPAIGN (SC3)**

EPA's Office of Resource Conservation and Recovery developed the Schools Chemical Cleanout Campaign (SC3) to ensure that all schools are free from hazards associated with mismanaged chemicals. SC3 gives kindergarten through grade 12 schools information and tools to responsibly manage chemicals. From elementary school maintenance closets to high school chemistry labs, schools use a variety of chemicals. If chemicals are not managed properly, they can put students and school personnel at potential risk from spills, fires, and other accidental exposures. Using the tools provided through this program, schools, parents, and local organizations partner with EPA to create chemical management programs that protect people through inventorying chemicals at the schools, removing large unneeded quantities of dangerous chemicals, and training those responsible in proper chemical management. Highlights include:

[www.epa.gov/osw/partnerships/sc3](http://www.epa.gov/osw/partnerships/sc3)







**Chemical Management Training for Science Teachers:** In partnership with College of Menominee Nation (CMN) and Wisconsin Department of Public Instruction (WDPI), EPA Region 5 provided training on improving chemical management in school science laboratories to middle and high school science teachers at CMN, in Keshena, WI. Twenty-nine middle and high school science teachers received training in the principles of safe chemical handling including purchasing, storage, labeling and disposal. Teachers also heard an overview of school environmental health issues and EPA's school resources and tools to address these issues, including Indoor Air Quality Tools for Schools and integrated pest management. The teachers identified and prioritized the short- and long-term actions they will take as a result of their participation in the workshops. The CMN/WDPI/EPA partnership also held a chemical collection weekend in which an estimated 250 pounds of mercury and mercury-containing compounds were removed from 22 schools that participated in a three-phase training, site visit and collection process.

### **SC3 in the Grandview, Missouri School**

**District:** Held as part of the President's *United We Serve* summer service initiative, EPA Region 7 recognized Grandview, MO middle and high school's students and teachers, Tradebe Pollution Control Industries, Inc, Ash Grove Cement Company, and the Missouri Center for Safe Schools for their efforts to inventory, pack, and safely dispose of chemicals from their schools and train school staff about responsible chemical management, at no cost to the school district. Grandview students demonstrated ecology projects at the event, and were also recognized for their volunteer efforts in the school and their community.

### **School Chemical Cleanout Campaign and Children's Health:**

EPA's Region 4 SC3 program has removed nearly 163,584 pounds of lab waste from 575 schools since the beginning of the program in 2004. This included 1,080 pounds of mercury and 2,506 pounds of formaldehyde. Over 144,407 children have been protected from harmful chemicals and 821 teachers trained. SC3 in Region 4 reaches teachers, faculty, school nurses, industry, and others via conferences and workshops. Teachers also learn from professional hazardous waste crews as cleanouts are occurring in their respective schools.

### **School Chemical Cleanout of Mercury:**

Wyandotte High School in Kansas City, KS in partnership with EPA's Region 7 removed 155 thermometers and one barometer which amount to five pounds of mercury from the school. Wyandotte also signed on to the Mercury Challenge, a pledge to identify mercury in the school, replace mercury containing equipment with non mercury alternatives, dispose of mercury containing equipment safely and help staff members learn about mercury issues and non-mercury alternatives.

## TOOLS FOR SCHOOLS

The Office of Indoor Air's Tools for Schools program has helped school districts for more than a decade improve their indoor air by providing technical tools; resources, such as the Indoor Air Quality (IAQ) Tools for Schools Action Kit; and a framework for holistic, sustainable IAQ management practices. EPA has assisted more than 60,000 schools establish and sustain IAQ management programs that have led to improved student, teacher and staff comfort, performance, and satisfaction while reducing IAQ complaints.

[www.epa.gov/iaq/schools](http://www.epa.gov/iaq/schools)

**Healthy School Training:** Region 4's *Tools for Schools* program added 86 new schools recently benefiting 65,000 students and staff. The region anticipates that an additional 38 schools will adopt the program prior to the end of the fiscal year. Additionally, the Asthma Outreach effort in Chattanooga, Tennessee, resulted in over 200 parents and kids being trained on environmental asthma triggers at the 21st Century Child Development and Learning Center.

**Nurse Training:** EPA's Region 5 has supported the School Nurse Leadership Training since November 2007 by providing training in the use of the Tools for Schools materials. The three-part training series is co-sponsored by the Illinois Healthy Schools Campaign, the National-Louis University and the University of Illinois at Chicago. EPA first introduced the *Walkthrough Checklist* and the *School Health Officials Checklist* of the *Tools for Schools* kit. As a follow-up, EPA staff then hosted discussions on addressing the findings of the walkthroughs conducted by the nurses. A team of approximately 27 school nurses participating in the training series is working to improve indoor air quality in school districts across Illinois. EPA will continue to support the training by providing information and technical assistance as needed.



## ***INTEGRATED PEST MANAGEMENT (IPM) IN SCHOOLS***

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Millions of children, teachers, support staff and parents spend substantial amounts of time in schools and on school grounds. EPA's Office of Prevention, Pesticides, and Toxic Substances established the IPM in Schools program to reduce the use of and exposure to pesticides. IPM uses common sense strategies to reduce sources of food, water, and shelter for pests, and encourage careful use of pesticides. Currently 20 percent of the nation's schools are using IPM reducing pest complaints and pesticide use by 71 to 93 percent, with no long-term increase in costs. EPA's goal is to have all schools using IPM by 2015. IPM offers an impressive opportunity for school administrators, teachers, and students to work together to reduce exposure to pesticides.

[www.epa.gov/pesticides/ipm](http://www.epa.gov/pesticides/ipm)



## ***CLEAN SCHOOL BUS USA***

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School buses are the safest way for children to get to school, and everyday, 450,000 school buses transport 25 million students. However, pollution from older diesel vehicles has health implications for everyone, especially children. EPA's Office of Transportation and Air Quality has initiated clean school bus projects for over 40,000 school buses, resulting in a healthier ride for approximately 3,000,000 children. Two environmental education highlights from the Clean School Bus USA Partnership include the Magic School Bus Initiative, and the Key to a Healthier Ride Campaign.

[www.epa.gov/cleanschoolbus](http://www.epa.gov/cleanschoolbus)



**Key to a Healthier Ride:** Clean School Bus USA's National Idle-Reduction Campaign, Key to a Healthier Ride, is a public information campaign that recognizes the important role of the school bus driver as a professional, who is responsible for the safety and security of children. The campaign offers a collection of materials that school districts and others can order to customize Idle-Reduction programs. A variety of resources are available free of charge, including an idle-reduction brochure, poster, teacher's guide, driver video or CD, driver key chains, and other educational materials that can be used to launch or enhance a successful Clean School Bus Idle-Reduction Campaign. To date, Clean School Bus USA National Idle Reduction Campaign materials have been distributed to more than 400 school districts nationwide, reaching over 74,000 school buses and over 83,000 school bus drivers.

### **The Magic School Bus Gets Cleaned**

**Up:** In 2007, Clean School Bus USA released a children's book, *The Magic School Bus Gets Cleaned Up*, written in partnership with Scholastic, Inc. In this special book, children travel through a diesel engine via their magical bus, and learn about pollution from school buses and what is being done to reduce diesel emissions, including idle reduction and other ways the community can help reduce the risks from diesel exhaust. This special edition book is intended to be used by libraries, schools, state and local air programs, non-profit education and outreach campaigns, and for other targeted opportunities to increase awareness of the importance of reducing diesel emissions. To date, over 135,000 copies have been distributed.

## **SERVICE LEARNING**

Service learning, an educational experience that combines knowledge with service and personal reflection is being used increasingly as a way to involve kids in community environmental stewardship projects. For example, if school students collect trash out of an urban streambed, they are providing a service to the community as volunteers; a service that is highly valued and important. On the other hand, when school students collect trash from an urban streambed, then analyze what they found and possible sources so they can share the results with residents of the neighborhood along with suggestions for reducing pollution, they are engaging in service-learning.





**Citizen Schools:** Researchers at EPA's National Environmental Research Laboratory support the *Citizen Schools* program at Lowes Grove Middle School in Durham, North Carolina by teaching two 10-class sessions on Environmental Awareness. *Citizen Schools* is a national program that partners with middle schools to expand the learning day for low-income children through after-school activities including apprenticeships with citizens in the community. EPA's Environmental Awareness Apprenticeships provided 10 to 15 students in each class the opportunity to conduct energy audits, identify energy conservation measures, and present their results and recommendations to the school principal and at a staff meeting. The students also presented their recommendations to over 200 attendees at the *Citizen Schools* final program including not only the principal, but the Superintendent of Schools, and a state senator.

[www.citizenschools.org/NorthCarolina](http://www.citizenschools.org/NorthCarolina)

**Service-Learning: Education Beyond the Classroom:** EPA's Office of Resource Conservation and Recovery developed this guide to describe how students across the country are gaining hands-on awareness of waste reduction, recycling, and composting, through solid waste service-learning projects such as reducing household hazardous waste and buying recycled-content products. This booklet contains 17 profiles of school-based and community projects. Contacts and additional resources are also included to provide information on how to start a solid waste service-learning program.

[www.epa.gov/epawaste/education/pdfs/svcllearn.pdf](http://www.epa.gov/epawaste/education/pdfs/svcllearn.pdf)

# Healthy & Green Communities

**Improving the ability of communities to address environmental problems and reduce the risk of exposure to environmental hazards are important goals for many of EPA's EE programs and activities. Asthma, lead, pesticides, radon, radiation, safe fish, and community planning are among the many issues that EPA addresses through EE programs that make communities healthier and greener. For more details, visit:**

[www.epa.gov/greenkit](http://www.epa.gov/greenkit)



## **ASTHMA & LEAD**

**Asthma Program:** EPA's asthma program and its partners provide educational material about environmental factors that trigger asthma through outreach and education for families and health care providers. Through 2008, an estimated 4.5 million people have taken all essential actions to reduce exposure to indoor asthma triggers, a significant step toward reaching the Agency's goal of reducing exposure to asthma triggers for 6.5 million people by 2012. Additionally, the Goldfish Public Service Campaign has increased national awareness of asthma triggers to an all-time high of 33 percent, and more than 4,500 health professionals have been trained annually on asthma and environmental trigger management.

[www.epa.gov/asthma/](http://www.epa.gov/asthma/)  
[www.epa.gov/lead/](http://www.epa.gov/lead/)

**Childhood Lead Poisoning:** In partnership health departments and other organizations such as Hawaii Women, Infants and Children and California Head Start, EPA's Region 9 office has reached over 50,000 individuals about the prevention of childhood lead poisoning through dozens of outreach events, workshops, conferences, and community meetings. Focused primarily on parents, EPA is also educating the regulated community (contractors, painters, etc.) and the general public about the Renovation, Repair & Painting (RRP) rule, which requires that qualifying projects be completed by certified professionals using safe work practices.



**Communities in Action for Asthma-friendly Environments:** The Office of Radiation and Indoor Air's Communities in Action program is focused on mobilizing and equipping communities to deliver quality asthma care that incorporates environmental management. In June 2009, EPA hosted the fourth Communities in Action for Asthma-Friendly Environments National Asthma Forum, bringing together more than 250 community leaders and national program partners to build action plans, collaborations, and commitments to achieve asthma health outcomes.

[www.asthmacommunitynetwork.org](http://www.asthmacommunitynetwork.org)

**Health Care Outreach:** This EPA Region 4 grant helps the American Lung Association of Mississippi and the Duval (Florida) County Health Department to implement a program that is expected to train more than 200 healthcare providers, 1,200 school staff, 25 childcare centers, and 1,000 children on asthma triggers and other related asthma information. Mission Healthcare of Asheville, North Carolina, whose goal is to provide better outcomes for children with asthma and provide an overall reduction in the exposure of all children, affected 8,745 children and 686 adults through this effort. There are 585 adults committed to an improvement in indoor air quality and 539 adults committed



to being smoke free. Mission Healthcare is the only children's hospital in Western North Carolina. The grant covers 21 county service areas and includes the Eastern Band of Cherokee Indian Reservation.

## **RADON & RADIATION**

**Green Sox Campaign:** EPA's Office of Radiation and Indoor Air successfully launched the Living Healthy & Green Media Campaign – dubbed “Green Sox” – to educate the public on how easy it is to kick radon out of the house for safer, healthier indoor air. The effort to protect families from exposure to the cancer-causing gas has gained the campaign more than \$20 million in donated media value. The public service announcements have aired on television nearly 29,000 times and on radio broadcasts nearly 90,000 times; and featured in magazines and newspapers nearly 444,000 times.

[www.epa.gov/radon](http://www.epa.gov/radon)

**Radiation in Your World Kit:** The Radiation in Your World Kit was developed by the National Safety Council under a cooperative agreement and in consultation with EPA. Its information materials describe what radiation is, the history of its discovery and use, its health risks and benefits to society, how it is managed, and the role it plays in our daily lives. The kit contains a variety of educational materials including a DVD; high school and middle school guidebooks; a Companion Guide for Teachers; a supplemental text for high school science teachers; classroom activities, handouts, and overheads; a color poster; and The Nuclear Science Wall Chart which highlights key nuclear science issues. The Kit has been a best seller, with more than 13,000 kits distributed to teachers in response to online requests and at conferences such as the National Science Teachers Association national meeting.

[downloads.nsc.org/PDF/063105\\_Radiation.pdf](http://downloads.nsc.org/PDF/063105_Radiation.pdf)

**RadTown USA:** RadTown USA is a virtual community on EPA's Web site showing a wide variety of radiation sources and uses people may encounter in everyday life. The goal of RadTown is to educate students about where they might encounter radiation or items that have been treated with radiation in their everyday lives. Through a series of fact sheets linked to locations in the virtual community, it explains the issue, lists government and other organizations that protect them from the source, how they can help protect themselves, and where they can learn more. The site also offers games and activities for testing what site visitors have learned.

[www.epa.gov/radtown](http://www.epa.gov/radtown)

## SAFE FISH

**Eat Safe Fish:** EPA Region 5 is providing funding and collaboration to the Michigan Department of Community Health (MDCH) to conduct an environmental education project focused on safe fish and wild game for people that live near Michigan's Saginaw River, an area where dioxins and Polychlorinated biphenyls (PCBs) have accumulated to unsafe human-consumption levels in fish and wildlife. The project is reaching a wide-range of fish consumers (children, pregnant mothers, underserved populations, and low-income residents) through a variety of methods including: a hands-on short-course curriculum (2,000 students in fourth or sixth grade); interactive museum exhibits at the local environmental center (about 40,000 visitors); distribution of fact sheets, brochures, and river signage (120 signs), and radio public service announcements. This environmental education effort is establishing lasting and sustainable communication networks for people who frequently eat fish or wild game from the Saginaw River.



## The Fish Contamination Education

**Collaborative:** At the Long Beach, California Aquarium Pacific Earth Day Event, EPA Region 9 educated over 200 adults and approximately 600 children on Palos Verdes Shelf fish contamination issues. This event reached fishermen, families and communities with information and materials on safer fish choices, safety tips for eating fish and protecting their health by creating awareness of contaminated fish from the Los Angeles and Orange County Coasts. Materials were provided in English, Spanish, Chinese, and Vietnamese. Parents and children participated in a fishing game in which they caught fish from a man-made ocean tank, identified the species from pictures, returned them to the ocean tank, and learned which species were safe to eat.

## COMMUNITY PLANNING

**Breaking the Cycle:** EPA's Region 4 supported an environmental education symposium for three Atlanta area colleges called "Breaking the Cycle of Environmental Disparities of Children's Health in At-Risk Communities." This collaborative interdisciplinary research and training program provided opportunities for professors to mentor 30 graduate students in children's environmental health. Students researched environmental hazards in at risk communities and developed projects to reduce or prevent environmental health-related illnesses. The students presented their projects, findings and solutions in a symposium attended by 300 people and Emory University produced a monograph on the projects and a CD of the symposium for distribution and posting on their Web site. In addition, all papers were published in the International Journal on Child and Adolescent Health.

**Northeast Indiana Initiative:** EPA Region 5 is supporting local officials and citizens in Fort Wayne, Indiana to develop and implement a regional community-based environmental initiative in Fort Wayne, and the surrounding counties in Northeastern Indiana. The principal goals of the Northeast Indiana Initiative are to bolster local efforts to protect the community from risks posed by air pollution and toxic materials in the ambient and indoor environment, and support and expand pollution prevention, energy efficiency, and greenhouse gas reduction activities. Meetings are held with multiple stakeholders to discuss and build consensus regarding priority environmental issues and the best strategies for addressing them. Environmental education is emerging as a key strategy for addressing



some of the key priorities. A final project strategy will be developed based on the outcomes of the discussions and meetings to guide and coordinate stakeholder environmental protection and education efforts.

**Smart Growth:** EPA's Office of Policy Economics and Innovation developed the Smart Growth program to help communities develop and improve in ways that expand economic opportunity, protect public health and the environment, and create and enhance the places that people love. This work includes a variety of outreach and educational efforts.

[www.epa.gov/smartgrowth](http://www.epa.gov/smartgrowth)

- **The New Partners for Smart Growth Conference** - The Smart Growth Conference is an EPA co-sponsored annual event that provides more than 1,000 local elected officials, planners, developers, public health professionals and environmentalists, with the latest information, tools, skills, and educational programs for building safe, healthy, and livable communities.
- **Smart Growth Speaker Series** - Now in its 12<sup>th</sup> year, the monthly *Smart Growth Speaker Series*, invites experts to explore cutting edge development practices, foster dialogue, and identify opportunities for positive change in growth and development patterns. Nearly 12,000



people have attended over the years, and a new partnership between EPA, the National Building Museum, and Public Radio International's *Living on Earth* program will bring many of these speakers and their ideas to national and international audiences through interviews on public radio.

## PESTICIDES

### Bilingual Pesticide Reduction

**Program:** EPA Region 4 is supporting Toxic Free North Carolina to implement a bilingual integrated pest management program (IPM) in child care centers serving migrant farm worker families in North Carolina to reduce children's pesticide exposure. The project will develop and field test bilingual educational materials and training modules; train all staff from at least two child care centers to run effective IPM programs; educate farm worker parents and two child care centers about pesticide hazards and alternatives; and develop new leadership for IPM and children's environmental health among child care providers serving migrant farm workers in North Carolina.

### Pesticide Environmental Stewardship Program (PESP):

The Office of Prevention, Pesticides, and Toxic Substances developed this partnership program to help pesticide users implement pollution prevention strategies and reduce the potential health and environmental risks associated with pesticide use and exposure. PESP's 150 members' interests include food processing, landscape/turf management, and pest control in schools, commercial, and residential settings. The partners use a variety of educational activities and programs to educate thousands of people about topics as diverse as reduction of pesticide use, sustainable agriculture, limiting pesticide and sediment runoff, and health-related topics such as the prevention of Lyme disease.

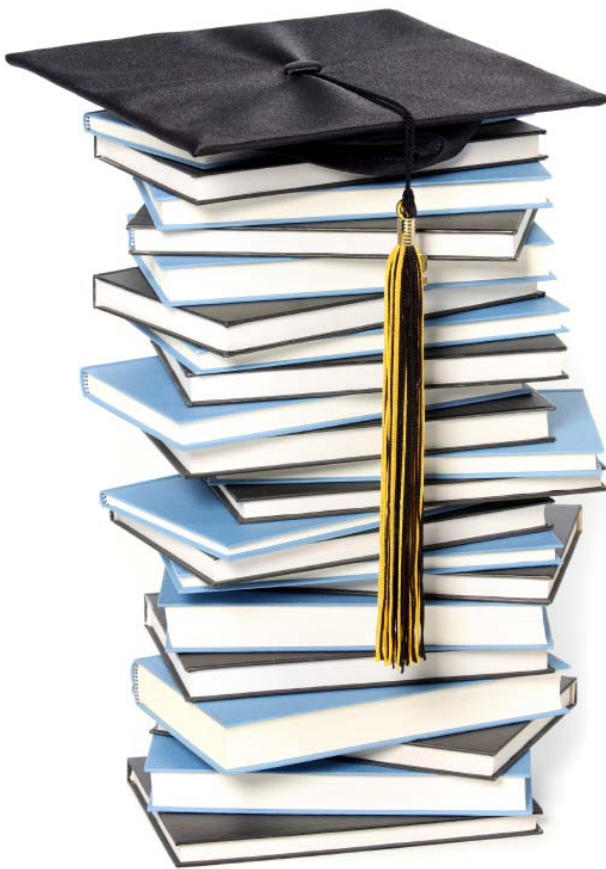
- The Lyme Disease Association (LDA) joined PESP in 2009, and is currently working with EPA and the University of Medicine and Dentistry for New Jersey to implement an education program for fourth- to eight-grade students to increase knowledge of ticks and tick habitats, behaviors and the diseases they may spread; tick avoidance; and the appropriate response to tick bite/attachments and the signs and symptoms of tick-borne diseases.



# Fellowships, Internships & Careers

***EPA offers numerous opportunities for students from high school to post doctoral levels to gain vital career experience while contributing to the mission of protecting human health and safeguarding the environment. Assignments may be in EPA headquarters in Washington, DC, in any of EPA's 10 regions, 39 labs, or administrative centers nationwide and may include geographic rotations. Learn more at:***

[www.epa.gov/careers](http://www.epa.gov/careers)



## **Black Employment High School Internship Program:**

EPA Region 3 hosted two high school students for 6 weeks in summer 2009. The purpose of the program is to provide opportunities for local high school students to develop professional skills and encourage environmental careers. The students worked as outreach coordinators for the Overbrook Environmental Education Center, conducted research, developed a presentation on Louisiana's Cancer Alley, and wrote an information brochure on pesticides. The final project required that they work collectively with other interns from EPA Special Emphasis Programs to research, develop, and present a Green Jobs strategy to Regional leadership.

**EPA Fellowship Opportunities:** EPA's Office of Research and Development provides multiple fellowship opportunities. Highlights include:

- **Greater Research Opportunity (GRO) Undergraduate Fellowships** – GRO Fellowships are for bachelor level students in environmentally related fields of study. Eligible students receive support for their junior and senior years of undergraduate study and for an internship at an EPA facility during the summer between their junior and senior years. The fellowship provides up to \$17,000 per year of academic support and up to \$7,500 of internship support for the 3-month summer period.

[www.epa.gov/ncer/fellow](http://www.epa.gov/ncer/fellow)

- **People, Prosperity and the Planet (P3) Fellowships** – These fellowships support student-led, interdisciplinary undergraduate and graduate teams to work on projects that will benefit society, the economy and the environment. The P3 program consists of two phases: Phase I is a grant of \$10,000 to develop a solution to a sustainability challenge. In the spring, student teams come to Washington, DC for the National Sustainable Design Expo to compete for a Phase II grant of \$75,000 that provides an opportunity to implement the solutions and/or move them to the marketplace. The P3 program promotes collaboration between students with different backgrounds and provides valuable research and hands-on learning. The teams have raised awareness of sustainability principles on their campuses. Many P3 projects whether they received a Phase II grant or not, have gone on to be a springboard of further research, a draw for additional funding and installation in communities, and seeds for successful small businesses.
- **Science to Achieve Results (STAR) Fellowships (STAR)** – The STAR fellowships support masters and doctoral candidates in environmental studies. Each year, students in the United States compete for STAR fellowships through a rigorous review process. Students can pursue degrees in traditionally recognized environmental disciplines as well as other fields such as social anthropology, urban and regional planning, and decision sciences. Since the program began in 1995, EPA has awarded approximately 1,500 STAR fellowships to students in every state and most territories. Fellowships have helped educate new academic researchers, government scientists, science teachers, and environmental engineers. STAR fellowships are intended to help defray the costs associated with studies leading to advanced degrees in the environmental sciences.

[www.epa.gov/ncer/p3](http://www.epa.gov/ncer/p3)

[www.epa.gov/ncer/fellow](http://www.epa.gov/ncer/fellow)





## National Network for Environmental Management Studies Fellowship (NNEMS)



EPA established NNEMS in 1986 to foster a growing interest among higher education students in environmental careers. The NNEMS program is a comprehensive fellowship program that provides undergraduate and graduate students an opportunity to participate in research and training directly linked to their studies. NNEMS fellows conduct research projects to augment their academic studies, which EPA supports with financial assistance. EPA has awarded more than 1,400 fellowships under this program including 25 fellowships in 2009. Evaluation results indicate that most participants cite the fellowship experience as a significant factor in their decision to pursue environmental careers.

[www.epa.gov/enviroed/students.html](http://www.epa.gov/enviroed/students.html)

Activities funded by  
National Environmental  
Education Act

### EPA Region 2 Edison Labs Student Programs:

- Edison Laboratory's Applied Science Academy** - The Applied Science Academy is an educational program with Edison High School students in Edison, NJ. It provides senior level students with an understanding of scientific concepts and their application in various career fields. Students are paired with EPA scientists and learn about laboratory procedures and the regional programs they support. Each year 30 students shadow EPA scientists for a 2-hour afternoon session. They learn about how the scientist's work is related to their school curriculum in organic and inorganic chemistry, microbiology, and biology.
- Science Lecture and Field Trips** - EPA scientists also give lectures and presentations at area schools on various topics and provide field trips aboard the region's monitoring/assessment vessel, Clean Waters. This enables students and teachers to get first hand experiences with water monitoring and studying living organisms that dwell on the sea floor.



**Research Apprenticeship Program (RAP) for High School Students:** The RAP was established in 1990 by the Office of Research and Development at the Research Triangle Park campus in North Carolina to encourage high school students from Wake County to pursue advanced degrees in environmental science. The program enriches the scientific and mathematic concepts students study in school; provides the opportunity to interact with scientists; develops effective scientific research and technical skills; and enhances students' motivation, self-confidence, and desire to achieve. Students participate in the program throughout their 4 years of high school and must maintain high academic performance and strict attendance standards to remain in the program. This intensive experience immerses the students in scientific research and culminates in a research forum at EPA during which each student presents their project. Ninety-five percent of former participants are majoring in environmental science, and graduates have gone on to become valedictorians, recipients of prestigious scholarships, as well as Ph.D.s and MDs.

**Summer of Service: Youth in the Environment:** In a program spearheaded by an EPA engineer from EPA's Region 2 office, 40 inner city high school youth and college student mentors participate in a summer work program at various New York City Department of Environmental Protection water treatment worksites. The program develops awareness of water pollution control, health protection, and the drinking water system of the city through a hands-on real-world work experience. The participating high school students are mentored by college students and facility personnel to encourage them to stay in school, pursue higher education, and potentially seek employment within New York City upon graduation.

**Tribal Environmental Education and Outreach Program (EEOP):** Through a cooperative agreement with Northern Arizona University's (NAU) Institute for Tribal Environmental Professionals, EPA's Office of Atmospheric Programs supports EEOP to attract Native American students to environmental careers and assist schools in improving environmental science literacy. Key activities include: student mentoring, on-campus experiences for students/educators, student internships at EPA, teacher training, extracurricular programming in environmental studies, and coordinating efforts with other environmental education providers. In the past 4 years, the program has provided off-site outreach to 7,144 adults, 1,109 college students, 6,713 high school students, and 16,353 K-8 students. In addition, thousands of adults and kindergarten through grade 12 students have participated in on-campus activities at NAU.

[www4.nau.edu/eeop/about.asp](http://www4.nau.edu/eeop/about.asp)

# Sustainability: Green Buildings, Businesses & Jobs

***Providing information and financial resources, technical assistance and educational programs for home owners, builders, renovators, local planners, and human resource departments are among the many ways EPA is helping to green our nation's buildings, businesses, and jobs.***

## **GREEN BUILDINGS**

Buildings and development are responsible for a broad range of impacts on human health and the environment, including nearly 40 percent of the United States' energy use and 40 percent of carbon dioxide emissions. EPA is working in many ways to reduce the negative environmental impacts buildings have. Highlights include:



**EPA Buildings:** In addition to providing information and resources on green building, EPA's Office of Administration and Resources Management is actively greening our own Agency facilities. Here are some examples of how two of our regional offices use the building itself to educate the public about environmental issues.

[www.epa.gov/greeningepa](http://www.epa.gov/greeningepa)

- In Denver, Colorado EPA offers public tours of its green office building. Younger students are provided a scaled down tour, in addition to a book reading in the Environmental Education area the library. EPA supplements the tour with a green building Web site for kids and a tour booklet. As a follow-up to a visit to the building, students and teachers are given a worksheet to complete so they better understand what they've seen.

[www.epa.gov/region8/building/kids](http://www.epa.gov/region8/building/kids)

- EPA New England relocated to the McCormack Federal Building which has undergone a complete restoration and renovation aiming to attain the "Gold LEED" rating through its green design, energy efficiency and environmental sustainability. A comprehensive educational program showcases the building to employees, staff of other federal agencies and visitors including tours, brochures, signs, static and interactive displays.



**Green Building Web Site:** The Office of Policy, Economics, and Innovation's green building program is designed in part to raise public awareness about the environmental impact of designing, building, and maintaining buildings, and focuses specifically on greening America's homes. The lack of readily accessible and easy to understand information for the typical homeowner is a key barrier to the widespread adoption of green residential practices. EPA's new green building Web site provides an engaging and user-friendly introduction to green building for homeowners and homebuyers, and helps them to successfully navigate green product selection, interface with construction professionals (e.g., architects, designers, and contractors), and make greener lifestyle choices.

[www.epa.gov/greenbuilding](http://www.epa.gov/greenbuilding)

**Green Vacation Homes Demonstration at State Parks:** EPA Region 4 funded the Tennessee Department of Environment and Conservation to increase awareness of the environmental footprint people create and the steps individuals can take to reduce their environmental impact. The project focuses on an area of green building not yet explored - green vacation cabin-homes. The project will build 10 to 20 new cabin-homes at two state parks using green building practices, Tennessee Valley Authority (TVA) Energy-Right technologies, LEED certified techniques, and other practices to protect and preserve air, water, and land. The buildings will then be used to educate renters and the public about benefits of green single-family dwellings, environmentally friendly building techniques, and indoor air health issues.

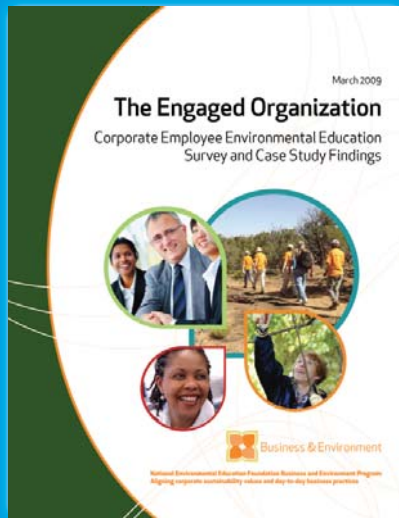
## **GREEN BUSINESSES**

**Green Vehicle Guide:** EPA's Office of Transportation and Air Quality developed this searchable online database that gives air pollution and greenhouse gas scores for cars and trucks based on their emission levels and fuel economy values. The Green Vehicle Guide was developed to help consumers choose the cleanest and most fuel-efficient vehicle that meets their needs. It also raises awareness about the environmental performance of different vehicles. Consumers can perform side-by-side comparisons of up to three vehicles and searches can be customized based on user choices by using the Advanced Search function. Photos of models are displayed (if available) for basic searches and side-by-side comparisons.

[www.epa.gov/greenvehicles/Index.do](http://www.epa.gov/greenvehicles/Index.do)

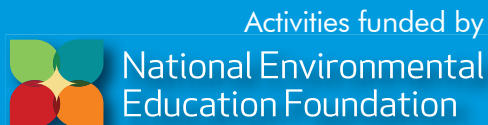
**SmartWay Certified Cars:** These cars are the cleanest and most fuel-efficient available in today's market. In order to receive the SmartWay mark, automobiles and light trucks are evaluated and scored using EPA air pollution standards and criteria. Scores are based on emission levels (the Air Pollution score) and fuel economy values (the Greenhouse Gas score). To promote the program, EPA's Office of Transportation and Air Quality launched the national SmartWay Leaf advertising campaign (radio, television, and print public service announcements) to educate consumers about the SmartWay brand and the availability of clean and fuel efficient SmartWay cars. To date, the television public service announcements (PSAs) have reached an estimated audience of over 3 billion people in 99 markets and 177 stations, with 26,227 airings. The radio

## The Engaged Organization



NEEF recently published *The Engaged Organization*, a report on employee education programs that highlights best practices, strategies, process, lessons learned, metrics and organizational culture. *The Engaged Organization* provides survey results and case studies which demonstrate that environmental education is already standard practice at many companies. The report is part of NEEF's Business and Environment program which helps companies use employee education and engagement to align corporate environmental values and day-to-day operations while also improving their bottom line.

[www.neefusa.org/business/report\\_2009.htm](http://www.neefusa.org/business/report_2009.htm)



Activities funded by  
National Environmental  
Education Foundation

PSAs have played on 289 stations with 50,847 airings. It is estimated that the print PSAs have been seen by a circulation of over five million people. EPA has also provided materials and presented information about SmartWay certified cars to approximately 5,500 consumers at several regional auto-related events including Union Square SmartWay Auto Show; the Washington, DC and Philadelphia auto shows, and three NASCAR events in Richmond, Homestead, and Kansas City.

[www.epa.gov/otaq/smartway](http://www.epa.gov/otaq/smartway)

## GREEN JOBS

### Brownfields Job Training Grants

**Program:** EPA's Office of Solid Waste and Emergency Response oversees the Brownfields Job Training Grant Program to help residents get the jobs that are created when the brownfields in their communities are cleaned up. These grants truly help put both people and places back to work.

[www.epa.gov/brownfields/job](http://www.epa.gov/brownfields/job)

- The Los Angeles Conservation Corps (LACC) used EPA funding to team up with the local college district to develop a 240-hour environmental curriculum with instruction in Hazardous Waste Operations and Emergency Response (HAZWOPER), lead and asbestos abatement, forklift certification, and other environmental cleanup technologies. With five training sessions now complete, the LACC has graduated more than 175 students of whom approximately 85 percent have found employment.

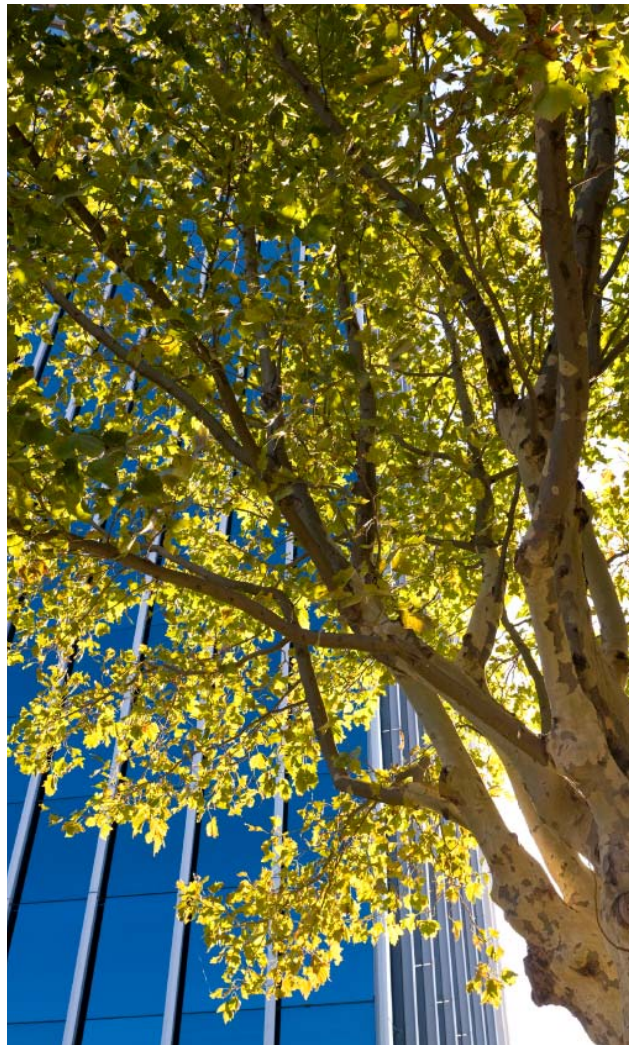
- The King County, Washington Work Training Program provides an advanced, 238-hour curriculum in topics such as HAZWOPER, soil vapor extraction, bioremediation, wastewater treatment, lead and asbestos abatement, and confined space. Graduates also receive Occupational Safety and Health Administration (OSHA) and/or construction readiness certifications upon completion. So far the program has graduated over 260 students, of whom 183 have been placed in jobs with wages ranging from \$12 to \$35 per hour.

**Federal Employee Environmental Awareness Program:** EPA New England and the General Services Administration are working together to build the environmental awareness of federal employees. Each month a topic is selected and tools and information provided to employees so they can be better environmental stewards at home and work. Vendor exhibits, Web sites, and brochures are among the tools used to educate the audience. To date 5,000 to 10,000 federal staff and public have benefited.

**Green Jobs Education:** EPA's New England office is assisting the Department of Labor (DOL) in the development of a Sustainability 101 Education Component for their Job Corps Centers in New England. DOL trains underserved youth in skilled career options, and DOL will incorporate a sustainability module that includes a history of the environmental movement, climate change, green practices for everyday living, and green business practices.

**Green Jobs Initiative:** EPA's National Center for Environmental Innovation (NCEI) launched the Green Jobs Initiative to accelerate the creation of green jobs in the U.S. An emphasis on Federal partnering led to the development of a Web site as well as an interactive EPA Intra-agency Workgroup. In April 2009, NCEI formed a dedicated Green Jobs Team to add more momentum to EPA's role in being an active proponent for green jobs and a green economy. The team of six members recently created an EPA draft Green Jobs work plan for management review, and presents at national meetings and conferences regarding green jobs partnership opportunities with EPA.

[americangreenjobs.net](http://americangreenjobs.net)





# Educator Training, Capacity Building & Student Programs

***Improving the ability of educators to teach about environmental issues, strengthening the organizations that provide EE services, and directly offering student programs are all key strategies that EPA uses to ensure that EE is an effectively used tool in all of our environmental protection work.***



## **EDUCATOR TRAINING**

### **Best Practices in Field Days Workshop:**

EPA Region 5 supported the Environmental Education Associations of Illinois and Indiana to provide formal and non-formal educators from IL, IN, MI, and OH tools to host effective community events where children learn about the environment. The workshop was presented by staff from the University of Minnesota Extension Service.

**Child Care Provider Education:** EPA's Office of Prevention, Pesticides, and Toxic Substances (OPPTS) educates child care providers and parents about how to ensure that child care facilities and homes are healthy and safe. In a series of webinars, EPA staff presentations covered lead

exposure, integrated pest management to lessen pesticide exposure, hazards of secondhand smoke, and how to promote healthy and green child care environments. OPPTS also develops extensive educational and informational materials in print and online on ways to prevent pesticide poisonings and control pests, in addition to presenting at numerous conferences including the National Head Start Association, the Association of State and Territory Child Care Administrators, and Migrant and Seasonal Worker Advocates.

### **Columbia River: Headwaters to the Coast:**

EPA's Region 10 supports this innovative educator workshop which brought teachers and community leaders together to travel the length of the Columbia River from the headwaters to the coast in a first-ever educator training experience of its kind. Networking with other educators and community leaders was a key component of this unique event. During the course of the journey, participants paddled canoes in remote areas of the watershed; visited First Nation cultural centers, hydropower projects and fish hatcheries; toured a nuclear reactor; tested water quality; met the diverse peoples of the watershed; and saw incredible wildlife and scenery. Leadership methods developed by the National Environmental Education Advancement Project were shared and modeled, helping the teams strengthen skills and gain ground in expanding watershed awareness. After the tour, the participants were ready to implement community engagement and educational projects in their community and schools.

### **North Carolina Summer Science Leadership Institute:**

EPA-RTP's EE Outreach Program led three hands-on teacher workshops during the 2008 Summer Science Institute in New Bern, North Carolina. The Institute offers science teachers an opportunity to learn new skills that they can apply in their classrooms. EE activities typically used for middle school students were shared and linked to science topics in the North Carolina Standard Course of Study (for teachers). These included understanding and reducing energy usage, air quality and measuring lung capacity, and water conservation/watershed pollution. For more information on this workshop visit:

[blog.epa.gov/blog/2009/02/02](http://blog.epa.gov/blog/2009/02/02)

### **Precertification Teacher Training:**

EPA-RTP's Memorandum of Understanding with North Carolina Central University, provides lesson plans and hands-on activities with precertification teachers in the Historically Black College/University's Education Program. The 2009 educator workshop on the EPA-RTP campus included college students in all disciplines – Language Arts, Science, Social Studies, Math, and Music – and demonstrated how environmental science can be linked to the North Carolina Standard Course of Study in all subjects.

### **Senior Environmental Training**

**Program (SETP):** EPA Region 3's SETP trains Retired and Senior Volunteer Program (RSVP) Members to establish and educate community groups throughout the mid-Atlantic to address community environmental issues. The program partners with the regional RSVP chapters under the direction and management of the Corporation of National Service, the federal agency that oversees RSVP and

VISTA volunteers. RSVP volunteers are trained in environmental issues and human health so they can reach out to community, school, and church groups with environmental education programs and workshops. They also provide additional information and environmental education resources available through EPA, state and local governments, and public health organizations. EPA's Public Information Center provides audience-appropriate materials for each volunteer presentation.

### **Shipboard and Shoreline Educator Workshops:**

EPA's research vessel, the Lake Guardian, hosted 30 teachers from around the Great Lakes Basin who participated in the Center for Ocean Sciences Education Excellence (COSEE) Great Lakes Shipboard and Shoreline Science Workshops. The week-long cruises on Lake Superior and Lake Huron promoted Great Lakes science in formal and informal education and are forging lasting relationships between science researchers and educators. The teachers, representing grades 4 through 10, lived aboard the Lake Guardian for 1 week, studying near shore and open water stations and traveling to ports throughout the Lake Superior and Huron coastlines.



## Environmental Education Training Partnership



The Environmental Education Training Partnership (EETAP) is a consortium of universities and nonprofit organizations that 1) assesses the needs of the EE field, and 2) develops and implements strategies and programs to address those needs. EETAP is an unprecedented 15-year effort to provide systematic training and long-term support to education professionals across the U.S. Because of long-term support from EPA, EETAP has been able to launch several strategic initiatives that take years to develop and refine. The most significant achievement is the National Project for Excellence in EE (NPEEE) which produced 4 sets of national guidelines for EE materials, kindergarten through grade 12 students, educators, and non-formal programs. A fifth set of guidelines is being developed to address EE and early childhood learning. The Guidelines have also provided a solid foundation for other groundbreaking initiatives such as: state certification of environmental educators, national accreditation of state certification programs, standards for college and university teacher preparation programs, an online process for reviewing and evaluating materials, and creation of several university accredited online courses. Additional accomplishments include the development and maintenance of the largest source of online information for environmental educators (EE-link), and the development of training strategies for reaching culturally diverse audiences. Hundreds of thousands of educators and millions of students have benefited from the program. For more information on accomplishments of this unique partnership, please go to:

[www.epa.gov/enviroed/eetapaccomplishments.html](http://www.epa.gov/enviroed/eetapaccomplishments.html)

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**Teacher Training:** EPA-Research Triangle Park's (RTP) EE Outreach Program led hands-on teacher workshops, linked to the North Carolina Standard Course of Study in Science, at the North Carolina Science Teacher Association Conferences in Greensboro. The most recent workshop was "Teaching Sustainability by Doing" and topics included: Air Quality Resources, Climate Change, Watts Up with Energy, Trash Talk, and What's On My Plate?





## CAPACITY BUILDING

### Public Information Centers (PIC) and Environmental Education Resource Centers (EERC):

Several of EPA's regions operate PICs where educators and the public can order free publications and other resources. In addition, Region 10 operates an EERC to provide educators with educational resources for use in schools and non-formal educational programs for a variety of audiences. Region 10 also provides information on funding sources for EE in the Pacific Northwest. Region 3's PIC is open to the public as a walk-in information, resource and exhibit center. More than 10,000 visitors per year, including student groups, visit to see the

various environmentally related exhibits. Collectively, EPA's PICs and EERCs service tens of thousands of educators and the general public each year.

[www.epa.gov/enviroed/contacts1.html](http://www.epa.gov/enviroed/contacts1.html)

### Regional Environmental Education (EE) Coordination:

Usually in association with the state affiliate organizations of the North American Association for EE, many of EPA's Regional offices are helping EE organizations be more effective. The outcome of this work includes elimination of duplicative efforts, more efficient use of resources, improved distribution of educational materials, and more effectively reaching diverse audiences. This work

### National Environmental Education Grant Program

The purpose of the Environmental Education Grants Program is to support environmental education projects that increase the public's awareness about environmental issues and provide them with the skills to take responsible actions to protect the environment. Since 1992, EPA has awarded between \$2 and \$3 million in grant funding per year to more than 3,300 organizations in all 50 states and various U.S. territories. Each grant addresses one or more environmental issue, and an educational priority such as teacher training, education reform, community stewardship, capacity building or health. Collectively this program has reached millions of students, educators and the general public, and is recognized nationally as the leading source of funding for community-based environmental education efforts.

[www.epa.gov/enviroed/grants](http://www.epa.gov/enviroed/grants)

### Environmental Education Research & Evaluation Partnerships

EPA established key national research partnerships with the National Park Service, National Oceanic and Atmospheric Administration, and the U.S. Forest Service to demonstrate the effectiveness of EE as an environmental protection tool, and provide training on EE program/project evaluation. EPA's partnership with the National Park Service for example, conducted a national study quantifying a relationship between place-based EE programs and improved air quality. The study found that almost half of the EE programs used in communities resulted in cleaner and healthier air and most of the programs studied had taken some form of action to improve air quality.

[www.epa.gov/enviroed/activities.html](http://www.epa.gov/enviroed/activities.html)

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focuses on sharing information and resources, networking, coordinating EE program implementation, and educator training. EPA convenes regional EE stakeholders through conference calls, meetings, interagency workgroups, and by supporting conferences and workshops. Region 6, for example, convenes both formal and non-formal educators from all five of its states for a roundtable discussion twice yearly. This forum provides environmental education professionals an opportunity to share curricula, studies, projects, funding information and best practices. To learn more about EPA regional EE coordination, go to:

[www.epa.gov/enviroed/contacts1.html](http://www.epa.gov/enviroed/contacts1.html)

**West Virginia Environmental Education Association:** This association is a collaborative effort with the help of Region 3 to establish and develop a centralized environmental education association for West Virginia. Partners include EPA, Department of the Interior, West Virginia Department of Environmental Protection, Ogelbay Institute, academic organizations, and more than 50 state and local non-governmental organizations. Prior to 2007, West Virginia was one of four states nationally without a centralized environmental education organization or state affiliate of the North American Association for Environmental Education. Region 3 provided input, staff support, and three Volunteers In Service to America (VISTA) members who were all instrumental in the initial planning, development, capacity building, and growth of the association.



## **STUDENT PROGRAMS**

**Bell Multicultural High School Partnership:** EPA's Office of Cooperative Environmental Management formed a partnership in 2007 with the Bell Multicultural High School to promote environmental education, high school graduation, college entry, and environmental careers for underserved students in Washington, DC. The partnership offers speakers from EPA to promote environmental careers, tours of EPA facilities for students and staff, and a summer internship program for students in grades 9 through 11. Most recently the partnership has been exploring teacher training opportunities with the National Wildlife Federation's *Climate Classroom* program, and has expanded the number of internships offered by working with other EPA Washington, DC offices.

### Environmental Education Web

**Workgroup:** EPA's Environmental Education Web Workgroup (EEWW) consists of EE coordinators and Web designers from various EPA regions and headquarters. The EEWW provides technical support to EPA program offices in the development of EE Web sites, and is responsible for establishing the criteria and selecting the links that are included on the Agency's EE Web portals for kids, middle and high school students and classroom teachers. Tens of thousands of educators and students access the portals each year.

[www.epa.gov/enviroed/eeww](http://www.epa.gov/enviroed/eeww)

**EPA Americorps VISTA Program:** In partnership with the Corporation for National and Community Service, EPA Region 3 uses Volunteers in Service to America (VISTA) to work in low income areas providing community based environmental justice, education and outreach activities. EPA VISTA members address issues of poverty, injustice, human health and environmental illiteracy in communities through education aimed at and mobilizing community resources and increasing the capacity of the community to address and solve its own problems. The region currently has established VISTA projects in Washington, DC, Pennsylvania, West Virginia, Delaware, and Maryland. Thousands of residents in low income areas benefit from the program.

**Pre-K Environmental Education:** EPA Region 2 began reaching out for the first time to a new audience in New York City – very young children. Using materials found after extensive research, EPA taught 66 classes at Fed Kids, a preschool for children of federal employees. Most activities are hands-on or involve AV and/or music. While many EE programs include kindergarten level activities and materials, few have materials for younger children. EPA has now begun to reach out to other preschools in the city and successful lessons will be compiled and made available electronically to other agency staff and offices interested in reaching this underserved audience.





**Reconnecting Kids to Nature:** EPA Region 8 joined forces with the National Wildlife Federation in Denver, Colorado to host a forum that brought together Colorado leaders from across disciplines to address the challenge of nature deficit disorder and the disconnect between children and nature. Experts representing children's health organizations, environmental education organizations, government agencies, kindergarten through grade 12 schools, and higher education are among the many leaders that joined together to address this challenge unique to today's children. The forum was attended by over 100 people dedicated to reconnecting kids with nature in Colorado. Since the forum, a select group of representatives have continued the effort, which is now known as: Colorado Kids Outdoors.



**Student Environmental Development Program (SEDP):** SEDP is a nationally recognized, education and leadership program established by EPA's Regional office in Philadelphia in 1993, and is currently being featured as an EPA Best Practice. SEDP provides a seven-week summer course for rising eighth-grade students recruited from lower income inner city neighborhoods. The program takes a holistic approach to environmental education; students concurrently learn communications skills, cultural awareness, and career development. Students participate in hands-on classroom activities and relevant extended learning experiences. Each week, EPA lecturers from Regional and headquarters offices teach a spectrum of environmental topics from recycling to air and water quality, and integrated pest management. Graduates develop a stronger understanding of environmental stewardship and individual responsibility. Since its inception, SEDP has graduated more than 1,000 students, and has been used as a model by organizations across the country to develop similar programs. Region 3 has developed programs in the Philadelphia, PA, Washington, DC, Baltimore, MD, Chester, PA, and Wilmington, DE communities.

***Recognizing excellence in environmental education and protection is a strategy used by nearly all of EPA's program offices. Recognition programs generate tremendous public interest, raise awareness of environmental issues, and provide opportunities for a variety of audiences to become involved in addressing environmental problems in their communities. Thousands of people participate annually.***

**EcoCAR: The Next Challenge:** The Office of Transportation and Air Quality developed this three-year collegiate advanced vehicle technology engineering competition to challenge 17 universities across North America to reduce the environmental impact of a 2009 Saturn Vue production vehicle. Students from participating universities will use a real-world engineering process to design and integrate their advanced technology solutions into the 2009 Saturn Vue. EPA will provide technical input and support to the competing teams, specifically on drive cycle design, and testing and calculation of emissions, fuel economy and energy gains. In addition, EPA will evaluate each of the competing team's vehicles at our National Vehicle and Fuel Emissions Laboratory (NVFEL) in Ann Arbor, Michigan and present awards based on results. EPA will serve as a major sponsor in the EcoCAR Challenge which was established by the United States Department of Energy (DOE) and General Motors (GM), and is managed by Argonne National Laboratory.



**Rachel Carson Intergenerational Contest:** In partnership with Generations United, the Dance Exchange, and the Rachel Carson Council, Inc., EPA's Office of Children's Health Protection and Environmental Education sponsors an annual intergenerational poetry, essay, photo and dance contest. Entries must be from a team of at least one young person and an older person and should express a "Sense of Wonder" for the natural world. The goal of the contest is to encourage intergenerational sharing of the love of nature and is based on the belief that through teaching a child and those around us, we open our eyes and ears and senses to the wonders around us. EPA established the contest in 2007 and thousands of people have participated. Winners are posted on EPA's Web site.

[www.epa.gov/aging/resources/thesenseofwonder](http://www.epa.gov/aging/resources/thesenseofwonder)

**Video Contests:** Radon, water, waste, and lead were the topics for video contests sponsored by the Agency in 2009.

- **Lead** - In an effort to educate the public about lead poisoning, the Office of Prevention, Pesticides, and Toxic Substances, together with Department for Housing and Urban Development and Centers for Disease Control, launched a Lead Poisoning Prevention Video Contest in 2009. The Agency is asking the public to help get the word out by submitting 30- and 60-second videos about the hazards of childhood lead poisoning and ways to prevent it. The winning videos were announced during Lead Poisoning Prevention Week in October 2009 and the videos currently air on EPA, HUD and CDC's Web sites.

[www.epa.gov/lead/pubs/videocontest.html](http://www.epa.gov/lead/pubs/videocontest.html)

- **Our Planet, Our Stuff, Our Choice** - The stuff we use every day affects our environment, our communities, and our planet, so EPA's Office of Resource Conservation and Recovery launched a video competition to challenge film makers to join the effort to raise awareness of the connection between the environment and the "stuff" people use, consume, recycle, and throw away. The goals of the contest are to develop videos that inspire community involvement, spread information and lead to action. EPA will announce the winners on Earth Day in April 2010.





- **Radon** - U.S. EPA's Indoor Environments Division's radon center conducted a video contest to engage the public and build awareness of the dangers of radon. The theme, "Radon: Test, Fix, Save a Life," drew more than 30 entries ranging from 30 to 60 seconds in length. The winning entry, "Eddie's Story," has more than 5,800 views on YouTube and more than 4,200 views on radon's Web site to date.

[www.epa.gov/radon/eddies\\_story.html](http://www.epa.gov/radon/eddies_story.html)

- **Water** - EPA's Office of Wetlands, Oceans, and Watersheds video contest on YouTube generated more than 250 video submissions on a wide variety of topics, including marine debris, wetlands protection, polluted runoff, and drinking water protection. Many were done by young filmmakers who learned about water pollution problems and came up with creative ways to relay important messages about water quality protection. Cumulatively, the YouTube Channel received more than 18,000 hits at the close of the contest indicating that this experiment in Web 2.0 technologies was a success. EPA awarded a \$2,500 award to two winners, and recognized 22 honorable mentions. EPA has a royalty-free license to copy, distribute, modify, display, and perform publicly and otherwise use, and authorize others to use, the videos for any educational purpose and in any media. The Agency is exploring how to make the winners available on SchoolTube.

[www.epa.gov/owow/videocontest.html](http://www.epa.gov/owow/videocontest.html)



Since 1971, EPA has sponsored the President's Environmental Youth Awards (PEYA). The program recognizes young people across America for projects that demonstrate their commitment to the environment. Young people in all 50 states and the U.S. territories are invited to participate in the program. Projects submitted in the past have covered a wide range of subject areas including recycling programs in schools and communities; construction of nature preserves; major tree planting programs; videos, skits, and newsletters created by students that focused on environmental issues; and environmental science projects. To be eligible to compete, a student or students, sponsored by an adult, must submit to their local EPA regional office evidence of a completed project as defined in the PEYA application, as well as a completed application.

[www.epa.gov/peya](http://www.epa.gov/peya)

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# Earth Day & Other Events

***Through Earth Day and other events, the EPA engages communities in environmental education activities to promote environmental stewardship and raise awareness about environmental issues within the community. EPA and the Agency's offices host and plan a variety of activities such as community service projects, presentations, and cleanup campaigns to educate and encourage individuals and communities each year to become environmental stewards.***

## **EARTH DAY**

Earth Day is one of the most significant national annual events for raising public awareness of the environmental problems currently facing the country and the planet. The Agency has been involved in Earth Day celebrations since its founding 40 years ago. From community festivals and cleanup campaigns to teach-ins and community service projects, many of the Agency's offices and labs are involved. For more details about Earth Day 2009, visit:

[www.epa.gov/earthday](http://www.epa.gov/earthday)

**Region 1 Activities:** Region 1 celebrates Earth Day by hosting an annual Green Expo, a fair featuring energy efficient, recycled, less-toxic, organic, and other environmentally preferable products and services. The Region also schedules *Take Your Children to Work Day* in conjunction with Earth Day and organizes a Kid's Expo to teach environmental stewardship through various activities and games.

**Region 2 Activities:** Region 2 employees visit schools each year for Earth Day. The Regional Environmental Education Coordinator provides training workshops on the use of age-appropriate activities at the New York Regional Office and at the Region's Edison, NJ facility. During these workshops, employees become familiar with EPA's environmental education publications, which they can order and bring with them; they also have an opportunity to try out the activities prior to visiting the schools.

## Ready, Set, Go Visit a School!

Many schools and non-formal education organizations request the participation of EPA staff in Earth Day activities, and throughout the year. EPA's Regional Environmental Education (EE) coordinators and headquarters EE staff have worked together to develop a web page entitled "Ready, Set, Go Visit a School!". This Web site provides a selection of helpful environmental education (EE) resources that can be used to present information about the environment or lead activities to promote environmental stewardship and/or careers. Included on the Web Site are more than 80 specific classroom activities that are organized by subject and by grade. Each activity listed on the site can be conducted within a 50-minute class period.

[www.intranet.epa.gov/earthdayee](http://www.intranet.epa.gov/earthdayee)

## National Environmental Education Week

The National Environmental Education Foundation's National Environmental Education Week (EE Week) is the largest organized environmental education event in the United States. EE Week increases the educational impact of Earth Day by creating a full week of educational preparation, learning, and activities in kindergarten through grade 12 classrooms, nature centers, zoos, museums, and aquariums. During EE Week 2009 the combined efforts of nearly 2,600 schools, nature centers, museums, zoos, and other educational institutions brought environmental learning to millions of students. NEEF coordinates EE Week in cooperation with thousands of outstanding schools, environmental education organizations, education associations, and state and federal agencies.

[www.eeweek.org/](http://www.eeweek.org/)



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**Region 3 Activities:** Each year more than 250 of the mid-Atlantic Region's staff participate in hundreds of Earth Day events across the region and the surrounding states. The activities range from school visits to hands-on redevelopment activities. Region 3 is planning to hold an event for the 40<sup>th</sup> Anniversary of Earth Day in 2010 at the Philadelphia Zoo, which will be a city-wide celebration featuring more than 120 participating organizations.

**Region 4 Activities:** Region 4 worked with the National Environmental Education Foundation to launch Be Water Wise, a unique service learning water conservation partnership among Miami schools and the city.

**Region 5 Activities:** The goal of Region 5's Earth Day challenge, *Protecting the Great Lakes 4 million times*, was to collect one million pounds of electronic waste (e-waste) and one million unwanted pills from residents, businesses, and communities around the Great Lakes. Thousands of residents responded by collecting the equivalent of 4,400,000 pills and approximately 4,950,000 pounds of e-waste, as reported by 23 unwanted medicine events and 33 e-waste collection events that were held around the Great Lakes.

**Region 6 Activities:** Region 6 leads the annual downtown Dallas cleanup campaign. This year the Region will expand and refocus the cleanup event to include a community or roof top garden, and the distribution of produce to neighborhood residents and the local food bank.

**Region 7 Activities:** Region 7 participated in 20 community Earth Day events last year focused on the theme of healthy homes. Regional staff presented information on lead, mold, air quality, pesticides, radon, asthma, waste reduction and recycling energy, and water conservation.

**Region 8 Activities:** Region 8 participated in the *Colorado Forum: Connecting our Kids to Nature*, which brought together Colorado leaders from across disciplines to address the challenge of the disconnect between children and nature. The forum was attended by over 100 people dedicated to reconnecting children with nature in Colorado. A select group of representatives have continued the effort, which is now known as *Colorado Kids Outdoors*.





**Region 9 Activities:** In celebration of Earth Day, Region 9 held the 11<sup>th</sup> Annual Environmental Awards Ceremony honoring 40 organizations and individuals in the Pacific Southwest for their outstanding efforts to protect the environment. Region 9's Environmental Education Coordinator also provided training workshops on activities and materials for EPA staff as they gave presentations at various schools, ranging from pre-school through college.

**Region 10 Activities:** Region 10 celebrated Earth Day with some friendly competition. From April 13 through 26, EPA employees were encouraged to volunteer at schools or in outdoor projects and log their hours to compete for an award. During these two weeks, 192 EPA employees logged 830 hours of volunteer time working on habitat restoration, beach cleanups, and classroom presentations as guest teachers throughout the Region.

**Research Triangle Park (RTP) Activities:** RTP staff reached thousands of people in multiple community events including: the Durham Tech Earth Day and the Durham Earth Day Festival, the Butterfly Bash at the North Carolina Museum of Life and Science, and the local baseball team's (Durham Bulls) Education Days.

## **NATIONAL & COMMUNITY EVENTS**

While Earth Day is an important event for raising environmental awareness, it is by no means the only way EPA engages communities in environmental education activities. From forums to speaker's bureaus that target an employee's skills and knowledge to a specific audience or age group, the Agency uses a variety of techniques and strategies for reaching millions of people each year with environmental messages and education. Highlights include:

**Children's Health Month:** In support of Children's Health Month, Region 4, in collaboration with the Northwest Georgia Girl Scout Council developed and hosts Environmental Awareness Badge Day. Each year eager volunteers from EPA, public and private organizations such as Lowes, Keep Georgia Beautiful, and Hughes Spalding Children's Hospital, share their passion for protecting the environment with young impressionable scouts. Scouts rotate through a series of creative stations that educate the girls on a range of interesting environmental topics. The impact of this event is far reaching. More than 1,000 scouts have received a badge through this day-long event and all walk away with tools and knowledge to champion the environment.

**Environmental Education Program:** EPA's Educational Outreach Program in Research Triangle Park (RTP), North Carolina matches employees from all disciplines and offices who enjoy speaking and sharing hands-on activities with the needs of the local schools and community groups. The outreach program and EE events target low-income schools and the Speaker's Bureau further extends the reach to meet the EE needs of the greater Triangle community. In 2009 nearly 150 employees

participated in 193 events for a total of about 1,900 hours, reaching nearly 25,000 participants through direct presentations and community events. EPA employees visited 50 schools in the Triangle area and judged 12 science fairs; participated in 38 career fairs or presentations; mentored 41 middle or high school students; fulfilled 109 requests for presentations through the Speakers Bureau; provided campus tours and environmental activities for nine student groups (165 students total); served in a leadership role on the Durham Public School's Superintendent's Business Advisory Council; and developed over 25 hands-on kits and lesson plans, and trained fellow employees in their use.

[www.epa.gov/rtpspeakers](http://www.epa.gov/rtpspeakers)

- EPA-RTP sponsored an event at Lowe's Grove Middle School, in Durham, NC, featuring Jeff Barrie, the award-winning filmmaker and producer of *Kilowatt Ours: A Plan to Re-energize America*. Nearly 50 seventh-grade students in the school's Math Science and Education Network heard Barrie share his energy conservation message and learn how they can lead their schools, families, and communities in making small, yet meaningful, changes that save energy and help protect the environment. EPA-RTP employees led a hands-on demonstration and helped students use a "watts meter" to measure how much energy common electric household appliances use. Students took pre and post tests from the "Kilowatt Ours" Curriculum before and after meeting with Barrie, and the results were impressive. On average, student knowledge increased more than 20 percent.

[www.kilowattours.org/curriculum-thanks.php](http://www.kilowattours.org/curriculum-thanks.php)

- EPA Administrator Lisa Jackson spoke to full auditorium of students at Southern High School in Durham, N.C. immediately before President Barack Obama spoke to students nationwide on Sept. 8, 2009. Following a hands-on science activity by EPA-RTP's EE Outreach Program, Jackson met with students from the school's Green Club and toured their garden. Watch the video online at:

[www.dpsnc.net/channel-4/newsbriefs/epa-administrator-performance-report](http://www.dpsnc.net/channel-4/newsbriefs/epa-administrator-performance-report)

- Forty preschoolers from First Environments Early Learning Center, located on the EPA-RTP Campus, visited EPA to learn about environmental science. The first activity was a meeting to solve the problem of too much trash going into landfills. The preschoolers checked out a big bag of "trash," and sorted through it trying to figure out how to keep each

## National Public Lands Day (NPLD)

NPLD is the nation's largest hands-on volunteer effort to improve and enhance the public lands Americans enjoy. In 2009, 150,000 volunteers built trails and bridges, removed trash and invasive plants, planted trees, and restored our water resources. NEEF coordinates NPLD in cooperation with thousands of outstanding schools, environmental education organizations, and state and federal agencies.

[www.publiclandsday.org](http://www.publiclandsday.org)



Activities Funded by  
National Environmental  
Education Foundation



item out of the landfill. The kids were also able to check out the RTP demo lab to learn what research scientists might do when they go to work. More information on this visit is at the Greenversations Blog at:

[blog.epa.gov/blog/2009/03/12](http://blog.epa.gov/blog/2009/03/12)

### Environmental Outreach in the Caribbean:

- **Pro-Enviro Fair, St. Thomas, U.S. Virgin Islands** - This annual event raises awareness and teaches environmental concepts to young people and the general public in the U.S. Virgin Islands. The fair's goals are: 1) to provide hands-on experiences that improve understanding about how individual actions impact the environment and how those impacts multiply in a community; and 2) to promote "green" practices that young people will remember and practice in their everyday lives.
- **St. John Environmental Fair, U.S. Virgin Islands** - EPA Region 2 partners with several organizations and non-governmental and governmental agencies in this annual event that celebrates the importance of the earth. The fair, usually held around Earth Day, features environmental education

displays, events, posters, and activities. The event is part of a school program in which students are required to report on what they learn.

**International Coastal Cleanup:** The Ocean Conservancy, with help from EPA and other sponsors, hosts the International Coastal Cleanup (ICC) on the third Saturday of September each year. The ICC includes over 100 countries and territories bordering every major body of water on Earth. Each year nearly a half a million volunteers around the world, including several hundred volunteers from EPA, spend a few hours removing trash and debris from beaches, lakes, rivers, and other waterways making it the world's largest volunteer effort to cleanup the marine environment and collect marine environmental data from both land and seas. In 2008, volunteers removed 6.8 million pounds of debris from more than 17,000 miles of coasts, shorelines, and underwater sites. Not only does the ICC engage people to remove trash and debris from the world's beaches and waterways, but it also helps to identify the sources of debris, and change the behaviors that cause marine debris in the first place. For over 20 years, EPA has supported the ICC and been addressing trash and marine debris in our waterways, oceans, and coasts.

[www.epa.gov/owow/oceans/debris](http://www.epa.gov/owow/oceans/debris)

### Maryland/Delaware Children's Water Festival:

Various EPA headquarters and Regional offices participate in this popular festival, modeled after the internationally acclaimed Children's Ground Water Festival. This event enables students to explore water through interactive and dynamic activities; learn about drinking water, ground water, watersheds, surface water, and water quality topics in engaging presentations;



and gain a better understanding of their water supply and what a truly precious resource it is. EPA conducted the *Incredible, Edible Aquifer* activity which allows students to build their own aquifer from ice, soda, and various colored sprinkles. The edible aquifer provides a hands-on activity that explains and shows how water is stored underground and how many activities above ground begin to affect the clear water below. Thousands of students attend the festival each year.

**Minority Outreach Initiative:** EPA's Regional office in Philadelphia signed an MOU with the University of Maryland Eastern Shore, the Maryland Departments of Environment and Natural Resources, and the Maryland Coastal Bays Program (MCBP) to enhance MCBP's Minority Outreach Initiative. EPA's Regional staff conducted sessions for the Upward Bound Program, which aims to increase high school graduation and college enrollment rates among students from low-income families and/or from families in which neither parent holds a bachelor's degree. EPA staff taught over 100 students about non point source pollution, environmental careers, and the types of jobs available at EPA.

**World Asthma Day Forum:** The growing problem of asthma among DC residents brought together federal and state officials, health care providers, educators, and community partners in a Forum to review the latest evidence-based asthma care guidelines and to discuss new collaborative asthma initiatives at national, state, and local levels to improve asthma outcomes. EPA's Region 3 and George Washington University (GWU) presented information on the potential health outcomes of the Comprehensive Asthma Management Program, an effort funded under a cooperative agreement between EPA

and GWU that provides intense in-home environmental trigger mitigation and asthma managed care techniques for families of asthmatics.

**World Water Monitoring Day:** EPA's Office of Wetlands, Oceans, and Watersheds partners with the Water Environment Federation (WEF) and other agencies on this exciting annual outreach opportunity that seeks to educate people of all ages, in all nations, about the importance of clean water and the role of water quality monitoring. Anytime between March 22 until December 31, students participate in monitoring activities to learn about the health of their watershed. Using a simple test kit, students measure their local water body for pH, temperature, turbidity, and dissolved oxygen. EPA hosts an annual event in September with WEF and other partners to promote the program and recognize successes.

[www.worldwatermonitoringday.org](http://www.worldwatermonitoringday.org)



## Conclusion

Environmental Education is fundamental to the success of EPA. Many of today's environmental challenges such as climate change are complex and not easily solved by government regulations alone. EPA uses EE through a variety of means to reach, inform, and educate the public, students, teachers, and educators about environmental topics, science, and possible solutions. Addressing these challenges requires a population that is informed, environmentally literate, and capable of translating their knowledge and skills into action. Environmental education, with its emphasis on informed decision-making and stewardship, comes to the forefront as one of the most appropriate and effective tools for improving environmental quality.

**In the long run, environmental quality is not determined solely by the actions of governments, regulated industries, or non-government organizations. It is largely a function of the decisions and behavior of individuals, families, businesses, and communities everywhere.**

*-Science Advisory Board*

# EPA HQ and Regional Environmental Education Coordinators

2009

## Headquarters

Ruth McCully

U.S. EPA, Environmental Education Division  
1200 Pennsylvania Avenue, NW (1704A)  
Washington, DC 20460  
mccully.ruth@epa.gov

## Region 1

Kristen Conroy

U.S. EPA, Region 1  
5 Post Office Square, (ORA-01-1)  
Boston, MA 02109-3912  
conroy.kristen@epa.gov

## Region 2

Teresa Ippolito

EPA, Region 2  
290 Broadway, 27th Floor  
New York, NY 10007-1866  
ippolito.teresa@epa.gov

## Region 3

Larry Brown

Kathleen Kirkland

U.S. EPA, Region 3  
1650 Arch Street (3CG00)  
Philadelphia, PA 19103-2029  
brown.larry@epa.gov  
kirkland.kathleen@epa.gov

## Region 4

Kathy Armstrong

U.S. EPA, Region 4  
Sam Nunn Atlanta Center  
61 Forsyth Street, SW  
Atlanta, GA 30303-8960  
armstrong.kathy@epa.gov

## Region 5

Megan Gavin

U.S. EPA, Region 5  
77 West Jackson Boulevard (AT-18J)  
Chicago, IL 60604-3507  
gavin.megan@epa.gov

## Region 6

Bonnie King

U.S. EPA, Region 6  
1445 Ross Avenue (6XA-A)  
Dallas, TX 75202-2733  
king.bonita@epa.gov

## Region 7

Denise Morrison

U.S. EPA, Region 7  
901 North 5th Street  
Kansas City, KS 66101-2907  
morrison.denise@epa.gov

## Region 8

Wendy Dew

U.S. EPA, Region 8  
1595 Wynkoop Street  
Denver, CO 80202-1129  
dew.wendy@epa.gov

## Region 9

Sharon Jang

U.S. EPA, Region 9  
75 Hawthorne Street (OPA-2)  
San Francisco, CA 94105  
jang.sharon@epa.gov

## Region 10

Sally Hanft

U.S. EPA, Region 10  
1200 6th Avenue (ETPA-086)  
Seattle, WA 98101  
hanft.sally@epa.gov



