

EPA

Moderator: Karen Scott
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4:00 p.m. ET

Operator: Good afternoon. My name is (Suzette) and I will be your conference operator today. At this time, I would like to welcome everyone to the Environmental Education Specialist with the Office of Environmental Education conference call.

All lines have been placed on mute to prevent any background noise. After the speakers' remarks, there will be a question and answer session. If you would like to ask a question during this time, simply press star then the number one on your telephone keypad. If you would like to withdraw your question, press the pound key. Thank you.

Ms. Karen Scott, you may begin your conference.

Karen Scott: Thank you. This is Karen Scott. I'm with the Office of Environmental Education with the Environmental Protection Agency in Washington D.C. This is the last in the series of Webinars that we are or that we are conducting to celebrate National Environmental Education Week.

We will be doing other Webinars in the future, so please come to our site, epa.gov/education to find announcements about those Webinars.

Today, we're going to be doing a Webinar on Greening STEM. And we're pleased to have two presenters from the National Environmental Education Foundation who will be presenting information about the Environmental Resources and Tools that they have there at their foundation for inspiring 21st Century Learning.

Our first presenter will be Jennifer Tabola who is the Senior Director for Education at the National Environmental Education Foundation. And the second presenter will be Sarah Kozicki, who is the Education Program Coordinator and she is also the National Environmental Education Week Coordinator.

So, welcome Jennifer and Sarah. And Jennifer, you can go ahead.

Jennifer Tabola: OK, great. And I just want to make sure, I'm going to go ahead and show my screen. OK.

Female: Perfect.

Jennifer Tabola: Great. So, we, at the National Environmental Education Foundation, really appreciate the opportunity that the EPA is providing to share with it's national audience the wealth of resources that we and our partners offers to strengthen environmental knowledge both inside and outside of the classroom.

Thank you so much, Karen, for inviting us to join this day as part of celebrating National Environmental Education Week and Earth Day. Before we get started, I want to let you know, we're going to be breaking our presentation up into two sections. The first is to share with you some background around the National Environment Education Foundation and the resources that we offer in Environmental Education across a number of sectors. And then, the second will be to dial deep into Green STEM and our theme for this years National Environmental Education week.

So, with that, to we get started, I just wanted to share a little background and history about our organization.

So, National Environmental Education Foundation or NEEF is chartered by Congress in 1990 to advance environmental knowledge among the American public that is obviously they have very big mission and we have enlisted a number of strategies to do that.

We have a team of about 25 staff here in D.C. at our headquarters. And so, in order to reach the American public, you'll be hearing about our strategies for doing that. We were chartered by Congress in 1990 and through the National Environmental Education Act, NEEF was established as a complimentary 501(c)(3) or a non-profit organization to the United States Environmental Protection Agency.

And our mission is essentially to extend it's ability to foster environmental knowledge and all segments of the American Public, as well as to leverage private funds that EPA as a federal agency cannot access. To fulfill our mission, NEEF strategy is to reach the public through a powerful network of trusted professionals, who can help Americans make everyday in forms traces for a healthy life and a healthy environment.

We work with the network of teachers, weathercasters, land managers and health professionals. And our programs reached hundreds of thousands of household and translate into direct actions that raise environmental literacy to protect nature and to improve the health of the public.

Working with our network of trusted professionals and each of our signature program areas needs to create some leverages public/ private partnerships to provide science-based information and resources to promote daily actions for helping people live well while protecting and enjoying nature.

For example, in our K-12 education program, we supported network of 20,000 teachers across the country who drop on our resources to integrate environmental learning into their classrooms to reach hundreds of thousands of students. Similarly, in our health and environment program, we trained health care providers about the impact of the environment on health and may in turn pass on this knowledge to thousands of patients in their care.

I wanted to begin by talking with you a little bit about one of our signature programs, Earth Gauge. Earth Gauge increases public knowledge by bringing environmental information into American homes to participate in broadcast meteorologist around the nation.

Because there's a natural link between the weather and the environment, broadcast meteorologist are uniquely placed to educate the public about key environmental topics in their communities. Earth Gauge is helping broadcast meteorologist broaden the scope of the weather forecast by working with the American meteorological society to change the role of meteorologist to serve as station scientist who can cover a range of science and environmental topics in their daily broadcast.

We provide a three weekly newsletter, linking the three-day local forecast and environmental impacts. We also provide free online educational materials for broadcast meteorologist to broaden their expertise in the environmental sciences. And currently, Earth Gauge is distributed in a 118 media markets around the U.S. to over 215 meteorologist and we reached more than 230 million television dealers.

Although meteorologists are experts in the atmosphere scientist, they often have a little more limited background in the environmental sciences. NEEF along with it's partners has developed a set of free online development professional courses that are available to meteorologist.

For example, the course climate change, putting the pieces together is an interactive two-hour online course that's designed to provide a basic understanding of climate change to broadcast meteorologist. And to help them provide science-based answers to question from viewers, including what changes climate? What is the evidence for change and how do we know it is real? Why should we care? What are the impacts of climate change? And how we can be sure that science is – how can sciences be sure that climate change is happening? And what are the next steps for addressing climate change?

Courses include references, answers to questions frequently asked by viewers, a PowerPoint presentation for community outreach and images that can be used in media presentations, other course topics include watersheds, weather and the built-in environment and weather and health.

I wanted to make sure to mention for the educators in our audience today that this courses are also available free to the general public as well all educators including teachers. We've had many teachers in our network to take advantage of this resource to bolster their own background in these key environmental topics.

So, I invite you to visit Earth Gauge to learn more and to enroll in the courses, if that's of interest to you.

Another one of a new signature program is the Public Lands Program. National Public Lands Day is America's largest single day volunteer event to improve and enhance our parks and other public lands.

In 2011, more than a 170,000 volunteers worked at over 2,000 sites in every state, the District of Columbia and in many U.S. territories. NPLD volunteers removed an estimated 500 tons of trash, collected 23,000 pounds of invasive plants, built to maintain an estimated 1,300 miles of trails, planted an estimated 100,000 trees, shrubs and other native plants and contributed an estimated \$17 million to improve public lands across the country.

Eight Federal Agencies, a number of non-profits and state and regional and local government participate in this annual day of caring for shared lands.

In 2012, NPLD will be held on September 29th, registration is now open. And we encourage all of you out there to consider participating. It can be a great way to engage students and families in learning about and contribute the health and preservations on one of our countries greatest treasures.

Also, I wanted to mention that we do have a number of teachers who have engage in environmental class and students in National Public Lands Day. So, it's a great opportunity to get your students or family members outdoors and typically at a number of these events, there are also educational offerings that come along with the service projects.

So, I encourage you again to take a look in this upcoming (inaudible) will be on September 29th, 2012.

I also wanted to mention that right now we have open a grant opportunity and this is being offered to Friends Group that we are increasingly reaching out to the National Public Lands Day to what is now being referred to as Our Public Lands Program because it is Public Lands everyday.

We are looking to engage citizen volunteers to invest further in our public lands, so we're shifting from the day of service approach to a year round strategy for supporting the health of public lands and to providing new resources to support local Friends Groups.

We will encourage, if any of you volunteer with or partner with a Friends Group that supports public lands, community gardens, local parks to take a look this grant opportunity, the deadline is May 25th and the grants go up to \$5,000. So, again take a look at that if it's a resource that you maybe able use or put those that you work with or partner with and touch with.

So, next signature program I wanted to share is Health in the Environment. The Health in the Environment Program at NEEF advances environmental knowledge among health professionals to improve the public's health with a special emphasis on children and underserved populations.

Today's children as all of us know suffer from a variety of chronic health conditions such as obesity and asthma. Research increasingly indicates that unstructured outdoor activities may improve children's health by increasing physical activity, reducing stress and serving as a support mechanism for attention disorders.

NEEF is very busy educating pediatric healthcare providers about prescribing outdoor activities to children and connecting healthcare providers of local nature sites, so that they can refer families to save and easily accessible outdoor areas.

Healthcare providers can then refer families to parks or nature centers in their communities or NEEF partners such as the National (Inaudible) Society, the National Parks Service, the Forest Service and others to provide active nature programming. Visit the site for environmental health fact sheets, research

findings and tips for engaging children and families in healthy outdoor activities.

And again, for the educators that are out there, as you were looking to make the case for integrating more outdoor learning into your classroom and into your offerings, I encourage you to take a look at what the health and environment program has put together because there are a lot of reports and settings that will help to substantiate from the different angle, from the health angle the value of getting your students outdoors.

And now, I would like to share with you a little bit about our K-12 education initiative Classroom Earth. The goal of Classroom Earth is to increase knowledge about the environment among K-12 students and to provide resources and models for including environmental education across all academic disciplines, from Biology to Arts.

Classroom Earth is made up of a number of distinct education initiatives that support K-12 Environmental Education and obviously giving you a quick overview of each of those. We employ a number of strategies to support the integration of environmental learning into schools around the country.

These strategies include national awards, to recognize exemplary teaching on the environment, support in the way of grants to teachers for professional development opportunities and grants to student to support environmental projects and internships, as well as online resources for educators and the incubation to demonstration projects as new models of K-12 environmental learning.

The National Environmental Education Foundation, in partnership with the weather channel launch Classroom Earth in 2009, as a program designed to enhance and strengthen environmental education in high school classrooms nationwide. They're harmlessly – the expertise in passion of students and teachers around the country. Classroom Earth is designed to enrich the curriculum by encouraging the inclusion of environmental education to all subjects and to make is easier for teachers to access best practices online.

The primary goal of the program is to increase the environmental literacy of students and to provide models for including environmental education in classrooms.

The site was designed by teachers for teachers and to this day is guided by our National Teachers Advisory Council. By becoming a member of Classroom Earth, you become part of a nationwide community of educators teaching about the environment.

And I wanted to make a special note that while Classroom Earth was originally founded as a resource for high school teachers, we are currently in the process of integrating K-12 into the resources. So, we will be re-launching this site sometime this summer as a K-12 site.

So, for those of you who take a visit and look at it now, you'll notice that most of the resources are geared towards high school students but that will be expanding and it will be a complete K-12 service by the end of this summer.

In terms of using the resource, one of the goals and objectives of the study of the Classroom Earth Web site was to really make it as easy as possible for teachers to go in and find what they needed to support their class, whatever subject they were teaching and whatever environmental topic they wanted to cover.

We know that 15 through the many environmental education resources available can be daunting and determining the quality of materials can be even more overwhelming. So, in most virtual library offer to Classroom Earth, you will find helpful Web sites, useful videos as well as sample lessons and unit plans, all geared to use state and local standards.

Classroom Earth is an online resource that's designed to help teachers include environmental content in their daily lesson plans. And so, as you can see you can search by the type of resource, by the topic, by the subject, by the course and by the level.

Additionally on this site, you will find resources such as in the news, which is a resource to find environmental news articles that are timely to connect to

your class in content. And the news article in Classroom Earth (our) link to suggest to curriculum, to make it easier to take a look at something that is popping up the news.

For example, last year, we had a lot of interest by teachers in terms of teaching on the Gulf spill and we were able to link a number of those articles with resources, curriculum activities even games within our Web site. And so, you could pull from that and come up with a lesson plan quite easily.

And we also have success stories, so that the projects that other teachers can offer inspiration and you can look for ideas that interest you there. You are able to browse that by topic and subjects.

And then, we also have funding opportunities. So, we know that teaching about the environment doesn't necessarily require funding but if you have creative ideas that needs funding or you want to allow an opportunity to enrich your skills, you can browse the funding resources to find out about those opportunities.

And then finally, we do list professional development opportunities, as we were looking for opportunities to help you learn more about how to include environmental content in your classroom reference. And you will find here all kinds of classroom opportunities ranging from summer intensive to online courses. So, we try to keep that up to date, so that you can have a one stop shop to be able to bolster your ability to teach in the classroom.

And then, I did want to also mention with respect to one of our strategies for supporting environmental education, we have, right now and that is active until April 30th, professional development grants that are focused on teaching wildlife conservation.

So, teachers who are interested in this, you can and it's middle and high school for this particular grant opportunity that's being offered right now. You would have the opportunity to do an online course in collaboration with the Wildlife Conservation Society and the two topics would be Conservation Biology for Educators or Habitat Ecology for Educators.

And both of those courses will be offered this summer. So, the grant would pay for the course, as well as graduate level credits that would be available via Adam's State College. So, again, the application is due April 30th and I'd encourage you to take a look and see if it's something you might like to apply for.

Planet Connect is a component of (customers) and it is an online portal where high school students can learn about current environmental topics, funding opportunities, green colleges and environmental careers. Students there can also share and exchange ideas about how they are playing a critical role and solving to these environmental challenges.

The Planet Connect sites target high school students who are seeking to built enthusiasm from environmental learning and solutions; it highlights student leadership that is making a difference in the environment. It exposes students to environmental careers in college majors and it also helps to increase student engagement in school and community level environmental discussions and projects.

Students who would join and sign on for Planet Connect either via it's newsletters or social media will only see the regular newsletter and have access to the latest resources to support them to be environmental leaders. And NEEF also offer some direct resources in the way of grants for students who want to do on environmental projects or to support internships over the summer.

And also, we sponsor video contest. So, this last year, in keeping with our Green STEM theme, we had a Get Green video contest where we asked high school students around the to show us how the – how STEM is being used to green their town or city. We've got some great feedback and great results and those videos – the winning videos are actually featured on our EE Week site.

So, you can take a look at those and see how students around the country are showing us what they see and how they STEM is at work in their own communities.

I had mentioned earlier that one of our strategies is to incubate demonstration projects. And one of those for NEEF is Be Water Wise.

A strong public, private partnership for water education "Be Water Wise" is a school based demonstration project that begun in Miami schools in 2009 then Atlanta in 2010 and is now in D.C. schools for 2011-2012 school year. Be Water Wise involves D.C., involves 13 schools which include elementary, middle and high schools in the city.

A key component of the model is to provide training to teachers and facility staff around school based water challenges. Once this training is complete, teacher and facility staff supports students to participate in activities such as water measurement that involved math, science and geography and language skills. Students also identify water needs at their schools and are receive funding to develop projects to help conserve water and reduce storm water flowing into local rivers.

And finally, a key component of the initiative is also civic engagement. So, we know that for students it's fine more motivating with when and what they are learning actually has an audience. So, one of the pieces of this program model is to have the students presents their project to city officials.

So, we are very excited at the end of May, we will have students and their teachers and facility staff coming together to present what they have learned and the projects that they have implemented to city officials across Washington D.C. And for those of you who are interested in integrating water education, I just wanted to make sure to mention that the weekly water wise materials, lessons plans, our water audit resources such as are also available on their Web sites for your use.

I also wanted to mention that we are actively recruiting nominations right now for the Richard C. Bartlett Environmental Education Award. This award is given annually to an outstanding middle or high school teacher who successfully integrates the environment into their curriculum and engages students and interdisciplinary solutions to environmental challenges.

The award recognizes an educator who can serve as an inspiration and as a model for others. This year's environmental education award will go to a high school teacher which includes grades 9 through 12. And we know that middle and high school teachers may face different challenges in their teaching on the environment.

So, the award alternates between middle and high school teachers each year. The Richard C. Bartlett Environmental Education Award winner will receive \$5,000, as well as a trip to Washington D.C. to meet with the National Environment Education Organizations and Federal Agencies. And then additionally, (two merit) winners will receive \$750 each.

I wanted to mention that this award is made possible through the generous support of Baxter Healthcare Corporation and that the award itself is named after an environmental visionary, Richard Bartlett, who inspired environmental educators nationwide and who believed that education is critical to preserving the national worlds for future generations.

Unfortunately, we just lost – Richard just last year but his legacy was on to the Bartlett award and if you know an outstanding high school teacher who was a leader in bringing environmental education to their school, we sure hope that you will consider nominating him or her for this year's Bartlett award.

I also wanted to share with you one additional initiative and that is Hands on the Land. Partners and Resource Education is the coordinating body for Hands on the Land and NEEF coordinates PRE which has two programs to achieve it's mission. First, Hands on the Land is our national network of classrooms that stretch across America from Alaska to Florida.

The Hands on the Land network is supported by Southern Federal Agencies that provide America's largest classroom to engage students in the outdoors. And this Federal Agencies include the DOM, the U.S. Environmental Protection Agency, U.S. Fish and Wildlife, U.S. Forest Service, the National Park Service, Natural Resource Conservation Service and NOAA.

Currently, the Hands on the Land network includes a 117 members sites in 28 states and the HOL Web site provides over 300 educator resources which

include lesson plans, activities that are segregated by grade level and topic that are all tied to land base learning.

So, we encourage you to take a look at this initiative and if you are partnering with a public land and are interested in being a part of this network, I'd encourage you to visit the site and take a look. There are some great resources there. There are resources for environmental monitoring.

So, if you are interested in citizen science, this would be a great network to become a part of. This site also allows schools and classrooms to create their own Web sites, so that you can share with other schools across the country in your network what you're doing and what you're learning and the resources that have been successful and helpful to you.

And then, finally another initiative that is run through the partners and resource education is the distance learning initiative. This initiative is sponsored by NEEF work with PRE at a number of other partners as a series of three distance learning adventures around critical environmental topics that engage students in the outdoors.

The current topic is Bat Fly and education program for children in the 4th to 8th grade and their educators. Bat Fly will bring Bat conservation to life in classrooms and communities around the country. And we know that bats are vital to help the ecosystems and human economies worldwide as primary predators that night flying insects.

Bats consume enormous quantities of agricultural pest and reduce the need for chemical pesticides. But unfortunately, these wonderfully diverse and beneficial creatures are among the least understood of animals. So, increasing knowledge about this species and their habitat needs is key for their conservation and protection.

So, through Bat Fly we invite to participate in a live Webcast for students and educators that will take place on May 17th, from 1:00 to 2:00 p.m. Eastern Time. And we invite you to participate in a series of Web seminars for teachers and non-formal educators and others.

There are two left in the series, one will take place May 3rd and another is October 11th. And then, we also invite you to visit the Web site where you can join in citizen science activities involving bats in your states and also to check out the all the few resources on the Bat Fly Web site.

And finally, the Bat Fly Web site does provide a mechanism to connect with leading bat conservation organization around the world. So, we hope that you will join NEEF in this distance learning adventure. And also know that upcoming for the next school next year will be a focus on climate science and education.

And with that, I am very excited to turnover the presentation to my colleague, Sarah, who's going to show with you all the highlights about Greening STEM. We are very excited about the STEM for EE Week this year and we know that our country is facing a challenge in engaging students and raising interest in STEM careers and STEM disciplines.

And so, we're hoping that by positioning the environment as a rich resource and contacts for teaching STEM, we will be able to engage more students in finding a passion and an interest in pursuing these disciplines. So, with that, Sarah, I'm turning it over to you.

Sarah Kozicki: Thanks, Jennifer. So, for the rest of tonight's Webinar, I'll just be talking to everyone about EE Week. And before I delve into the series STEM theme, I just wanted to give you all a little background on National Environmental Education Week or EE Week for short, having trouble advancing my screen.

Karen Scott: Sarah, try enter.

Sarah Kozicki: OK.

Karen Scott: I'll go ahead and bring it up and you can ...

Sarah Kozicki: OK, I've got it here.

Karen Scott: Oh, you've got it, OK.

Sarah Kozicki: OK, I'm sorry about that everyone. National Environmental Education Week or EE Week is the nation's largest environmental education event held each year, the week before Earth Day and is meant to inspire environmental learning and stewardship among K-12 students.

EE Week connects educators with environmental resources to promote their students understanding of the environment. Since it's inception in 2005, EE Week has reached millions of students and educators across United States with non-biased high quality environmental education materials grounded in accurate, timely, scientific information in tied to local state and national learning standards.

Each year, we select a theme around which offerings for educators are based and these offerings I've listed here, resources, success stories, curricula, a nature center map and a photo blog contest annually. So, EE Week's goal to connect educators with environmental resources to promote their students understanding of the environment, and the main way we do this is by offering hundreds of resources for educators and this includes lesson plans, videos, professional development opportunities and information on grants and awards on a variety of topics.

All of the resources on our site have gone through a regular review process to ensure that they are correlated to learning standards, scientifically accurate, free of biased and appropriate for audiences K-12 students and educators.

So, on the top left, I've shown you a screen shot of our curricula library which is organized by topic area and then, on the bottom right is an example of a resource page which includes a list of water resources. And then on our curricula pages, our resources are organized by grade level.

One way that we support educators is by providing professional development opportunities such as Webinars. We work with federal and non-profit partners to bring educators the information and schools they need to engage students in activities related to our annual theme.

Our Webinars are generally structured into two distinct parts, background information on the topic of the Webinar and strategies for teaching about the

topic area in and out of the classroom. For example, our first Webinar teaching the water energy connection tied our 2010 theme, tied to our 2010 of the water and energy connection, featured background information from the River Network and strategies for inclusion of this topic area into lesson plans from Earth Day network.

As you can see in the top right, our Webinar landing page which takes you to the bottom right and is an example of an actual Webinar page where information about the Webinar is included once and we record all our Webinars. So, once the Webinar is concluded, we post the recording, a question and answer sheet and any materials that were presented during the Webinar online.

So, that anyone who doesn't make it to the live broadcast can access materials from the Webinar at a later date. And I'll be talking more about this year's Webinar a little later when I start to talk about our STEM thing this year.

Story sharing is a great way for us to connect with educators around the country and showcase some of the fun and creative ways that they're engaging students in environmental education.

These stories often serve as inspiration and encouragement for educators looking for ways to get their students involved in environmental education. There also a great opportunity for small organizations to become recognized for their activities and strategies they're using to connect students to the environment.

So, I just have a screen graph here of our success stories homepage, our landing page and then an example of what a success story looks like, it's simply a brief article and a photo and video where educators who visit our Web site can learn more about a school or organizations efforts in the environment.

So, another great way that we connect with and share stories from educators in our audience is to our annual photo blog contest. The photo blog contest is an opportunity for educators to share their inspiring story and a photo of how

they and their school or organization are engage in students and environmental education.

Photo blog entries are judged based on their quality of the photo and blog text and the student learning that took place as a result of the activity depicted in the blog. So, I'm happy to announce that our 2012 contest is open and it runs through May 31st. So, you have ample time to spread the word and get your environmental education activities recognized through the photo blog.

First, second and third place winners will receive a digital camera and be featured on eeweb.org.

One of the most popular features of our Web site is our nature center map. The nature center map includes contact information for over 2,000 nature and environmental education centers nationwide. And is a perfect way for educators to find local nature areas for field trips and outdoor study.

Organizations can contact us via e-mail to be included on the map and we update the map online every few weeks to keep it current. So, if you would like to get your nature center in here or know of a nature center that should be included on this list, please do contact us via e-mail and we'll be providing our contact information toward the end of the Webinar.

And so, that's a little bit of information and background on National Environmental Education Week. And now, I'd like to get into EE Week 2012 and our theme Greening STEM, the environment as inspiration for 21st Century learning. Now, this is a bit of a departure for us as our theme are usually topical but increasing STEM knowledge and expanding STEM education and career opportunities for students is a national priority.

Student achievement in STEM is keep fostering a new way of innovators who can creatively address complex 21st Century challenges. We believe that the environment is a compelling context for teaching STEM as it provides teachers with a diver's range of a real world challenges and engage students in meaningful hands on opportunities to apply and reinforce STEM concepts across multiple subject areas.

And now I'm going to take you through some of the special offerings this year related to our STEM theme. And I better just say and I'm sure everyone on line knows this but STEM stands for Science, Technology, Engineering and Math.

So, one of our main offerings this year is that we have developed a set of planning tool kits for educators that layout activities and resources in five popular topic areas that incorporate the elements of STEM, this include gardens and schoolyards, energy efficiency, geography connections, water resources and climate and weather.

We've also developed as you can see at the top a schoolyard BioBlitz toolkit in partnership with National Geographic Education this year that connects our 2012 Webinars which I will discuss later. This toolkit focuses on activities and resources for engaging students and STEM outside through an inventory species in the schoolyard or a local public land.

Some of the activities and resources in our toolkits also highlight project based learning, service learning and citizen science component. Now, here's an example of a toolkit, this is our garden and schoolyards toolkit, just the top portion. As you can see we have an introduction and then a toolkit menu which takes you directly to resources in your grade level.

As you can see, our featured partner on this toolkit was kidsgardening.org. We work with a partner on each toolkit that is a leader in the – in education and around that topic area to help us best identify activities and resources for each toolkit.

So, for our other toolkits, our partners were Alliance to Serve Energy and Energy Efficiency, National Geographic Education on our geography connections in schoolyard BioBlitz toolkits. Earth Force for our water resources toolkit and our sister program Earth Gauge which Jennifer mentioned earlier for our climate and weather toolkit. So, I encourage everyone to go online and check these toolkits out.

So, as I mentioned earlier, we had two Webinars this year in celebration of our STEM theme, our first Webinar Technology Goes Wild, New Tools for

Connecting Classrooms and Nature, featured National Geographic Education and Project NOAH, exploring mobile technology as a means of engaging students and STEM learning outdoors.

National Geographic explained how to conduct a BioBlitz on a local level and project NOAH built upon the BioBlitz concepts with their app and Web site for taking inventory of local species by participating in a mission.

Field investigation in STEM featured the Pacific Education Institute and the association of Fish and Wildlife Agencies, exploring how to engage students in STEM learning outdoors through field investigations.

The presenter detailed how to conduct a field investigation on or near a school grounds. Now, as I mentioned earlier, both of these Webinars have an archive and recorded on are available online at eeweek.org/Webinars.

Real quickly, I would like to kind of show off a very cool info graphic that the National Environmental Education Foundation developed this year in celebration of our STEM theme.

This is our STEM and Our Planet info graphic which is meant to provide information in a fun and engaging way about the importance of the environment to children and teens. And how it can inspire STEM learning and lead to future STEM careers that will be much sought after to help address the environmental challenges in the coming decades. This info graphic is available for download at eeweek.org.

Another important piece of our STEM theme this year was highlighting organizations from around the country that are connecting STEM to the environment in unique and creative ways. And the organizations we identified were EAST Initiative which is an educational model focusing on student driven service projects accomplished by using teamwork and cutting edge technology.

NEXT.cc a Web site that provides informal learning opportunities for students through over 153 journeys with trans-disciplinary activities on the computer in the classroom and in the community. SENSE IT which provides students with

the opportunity to learn about sensor technology and careers through a hands on collaborative process of designing, constructing, programming and testing student implemented water monitoring network.

EcoMUVE, a curriculum developed through research at Harvard and supported by the Institute of Education Sciences at the U.S. Department of Education, it's a multi user virtual environment based curriculum that is designed to support middle school learners, developing and understanding of complex causality in ecosystems.

And finally, Nature Research Center which is a new wing of the North Carolina Museum of Natural Sciences that will be showing students the scientific process of how we know what we know about the natural world. To learn more about this organization, you can visit us online at the link at the bottom of the screen.

Finally, we continue to partner with Earth Gauge which we both, Jennifer and I mentioned earlier. To invite broadcast meteorologist participating in the Earth Gauge Program, to contribute videos explaining the role STEM place in their day to day work.

Our first video is from meteorologist at Univision in Houston Texas and is available in Spanish. And we do work with Earth Gauge to provide environmental tips in Spanish for the weathercasters and the Hispanic media markets.

So, with that, I would like to conclude the Webinar. Our contact information is available here on the slide, as well as some of the main K-12 Web sites we've introduced you to today. I also encourage you all to connect with us on Facebook, Twitter and You Tube to learn about what's going on in our programs and also connect with us by sharing stories and sharing our resources with your friends and colleagues.

So, with that, I will turn it back to Karen to initiate our Q&A session.

Karen Scott: Great, thank you very much Jennifer and Sarah that was all very valuable information and quite interesting. I hope our participants enjoyed it.

So, with that, operator, we can open the phone lines for questions. And I don't know, do we have questions on the Webinar. (April)?

(April): We do.

Karen Scott: So, while you're opening up the lines operator, we're going to take a question from the Webinar first.

Operator: OK and if you would like to ask an audio question, you can do so by pressing star one on your telephone keypad, again, star one.

Karen Scott: OK, first question from the Webinar.

(April): Your first question is, "How do educators access the climate change resources?"

Jennifer Tabola: OK, I can take that, this is Jennifer. So, the – I would mention that there are courses that Earth Gauge has devoured that are dealing with weather and the environment. And we had developed these courses in partnership with the cooperative program for operational meteorology education and training, otherwise, known as COMMET.

And in order to reach those resources, the Web site is [www.meted.ucar, U-C-A-R, .edu/bnet_training.thp](http://www.meted.ucar,U-C-A-R,.edu/bnet_training.thp) and I can type that into the chat boxes as well, so that it'll be easier for you to grab the information.

And as I mentioned, those courses are free, they're online and the first is Watersheds Connecting Weather to the Environment which provides an understanding of a watershed as the local environment and which people's decisions plagues in the background of daily and seasonal weather.

I know that the course is well-known for including simple analogies and also easy to apply demonstrations to impart the skills that are needed to explain watershed concepts. Another course is Weather in the Built Environment that provides an understanding of the characteristics of the built or urban environment and how features of the built environment affect the consequences of the common and severe weather events.

Weather and Health is another course offering and that provides an understanding of the impacts of weather and climate on public health. It also introduces learners to the public health communication system, informing them about reliable public health support services tools and resources.

And then the final is the climate change putting the pieces together that I described earlier in the Webinar. So, Karen if that's OK, I'll just go ahead and type in to the message box the link for those courses?

Karen Scott: Yes, that sounds good.

Jennifer Tabola: OK, terrific.

Karen Scott: Thanks, Jennifer, and we can take a question from the phone now.

Operator: And your first question is (Tom Sumalo) from New York State Department Environmental.

Karen Scott: Great, thanks. Go ahead, (Tom). Hello, (Tom).

Operator: OK, one moment please. Next question is from (Ellen Laurie) from A Lumbee Tribe of North Carolina.

Karen Scott: OK, go ahead.

(Ellen Laurie): Hi guys, thanks. I really enjoyed the Webinar and I'm greatly excited to have the information at my fingertip. I'd like to know if there is any of the boys and girls clubs out there working with these types of programs and if there is, you know, how can we exchange information?

My goal is to have an extra (wareroom) located at the club, so that we can begin to build environmental components to what we do everyday with the kids at the club but I like to hear some ideas of what other clubs to do. And I know, its, you know, the classroom, I hear the classroom a lot and I'm not a teacher, I'm the programs and activities coordinator who – I just have a passion for the environment.

Jennifer Tabola: Well, that's great to hear. I know and Sarah maybe you can share, I don't know in terms of boys and girls clubs specifically and how they maybe using some of our resources. But I can certainly say that we have a number of non-formal educators, you know, people who are working with youths outside of the classroom who use our resources.

So, I wouldn't be sorry about checking those out and I know and Sarah you maybe able to point to a couple of examples of resources that other, you know, groups have used like girl scouts, boy and girls clubs and others to support their students to get outside and do some environmental activities.

(Ellen Laurie): We were able to use the storm drain project that comes with EPA.

Jennifer Tabola: Yes.

(Ellen Laurie): Yes and then the watershed project that you have. We've done those things but we really do want to take it a little step further because we're not ocean people, we're river people. And the distance that we live away from to where aquariums or museums is a long distance.

Jennifer Tabola: Yes.

(Ellen Laurie): So, what I would like to do with the boys and girls club is that we would bring it closer to the school sites ...

Jennifer Tabola: Right.

(Ellen Laurie): ... closer to the boy scouts, closer to (4H), so that they could visit the club. And at the club, would house these hands on activity...

Jennifer Tabola: Yes.

(Ellen Laurie): ... you know, to educate the community, as well as our, you know, our all members and staffs. It's been a goal of mine for a long time to get it to that level. We do with – all clubs – four clubs within the tribe have committed to, you know, the roadside clean up, so we do that as well.

So, you know, I know that there's lots of things out there we can do but they're small projects. And they're – some of them are ongoing depending on the staff and how much each unit wants to get involved but I'm looking to do something where if a long term. And can be used more with folks and agencies in our community, that's what I'm looking to do because right now, we have to travel two hours – two and a half hours to get to the ocean or get to the museum.

So, that's what I'm looking to do and I was just wondering if any of the folks have gotten that far yet.

Sarah Kozicki: Well, I really recommend that you connect with National Public Lands Day with our Public Land Program because that is national efforts. So, you will be part of a really big and a very ongoing and a very meaningful service learning project that really also gets your kids outside, gets them connecting to local parks, local agency staff and also involved in education.

And so, if you go to the national – the Public Lands Web site, they have a great deal of information about education into this and how to get involve and how to set up an event, how to connect with people. They really have a great package for getting you started. So, I really recommend that you check them out.

And then, another great organization, if you're interested in river learning is the River Network.

(Ellen Laurie): Yes.

Sarah Kozicki: And I think they're out west but they have some good resources and some good information.

Jennifer Tabola: I'd also like to mention that I believe there will be some grants that will be coming out to support youth engaging with Public Lands. So, stay tuned for those. I know that with the Americas Great Outdoors initiatives with the Department of the Interior and it being a high priority to connect youth with Public Lands both for inspiring stewardship of the next generation and also to encourage learning both academic and personal.

There are resources that are being mobilized to help support those efforts. So, I would just – keep your eyes open for that as well. And as Sarah says, connecting to the National Public Lands Day would be a great way to do that.

(Ellen Laurie): Guys, I appreciate all the help and let me say thank you to all the work you guys have put out here. This is absolutely wonderful.

Jennifer Tabola: Thank you so much for your interest and for what you're doing out in the community and with youths.

Karen Scott: Thank you, yes, I think, do we have another question from the Webinar?

(April): Yes. We do, we have one participant that would like you to clarify if participation in the photo blog allows informal educators or only classroom teachers.

Sarah Kozicki: Absolutely. The photo blog contest and indeed the entire program is very much open to the participation of both formal classroom teachers and informal educators out in those nature centers (whose) aquariums, volunteers, we're not trying to discriminate.

We do include information about standards and things like that for the classroom teachers. We really want to help classroom teachers overcome the challenges that they may face bringing the environment into their classroom but our resources and certainly the photo blog contest are open to informal educators as well. So, thank you for that question.

Karen Scott: Great, thanks. Now, I think we can take another question from the phone line, if we have another one.

Operator: Yes and your next question is from Jerry Fuller with Associated Colleges of Illinois.

Jerry Fuller: Oh, I just had a question about the slide deck which was answered on the chat line here. Thank you.

Jennifer Tabola: Great.

Karen Scott: Oh, well, yes, do we want to share that?

(April): Well, for that question, the slides and the audio from this Webinar will be available online. Give us about a week or two to put it out but that would be www.epa.gov/education and I'm going to go ahead and share that for you, so that you can see it. And it will be under the EE in action section. So, you'll be able to find the slides and the audio from all of the Webinars that we've been hosting.

Karen Scott: OK, great, thank you. Do we have another question from the Webinar?

(April): We do. Our next question is "How much overlap exists between Web sites or lesson plans and other resources?"

Sarah Kozicki: There's that great deal of overlap between National Environmental Education Week and Classroom Earth as Jennifer mentioned earlier in the Webinar. Classroom Earth originated as a high school Web site for high school teachers and is going K-12 this summer.

So, it will be pulling a great deal of some of the fabulous resources that have been compiled at eeweek.org and we're pulling it into Classroom Earth as very searchable, an easy to access database. So, later in this year, at the end of the summer as Jennifer mentioned, when we re-launched Classroom Earth, that will really be a one stop shop and it go place for K-12 educational resources.

Karen Scott: Great. Thanks. I think we can go to the phone line again.

Operator: And your next question is from (Rachel Fuse) with AMIkids (inaudible).

Karen Scott: OK, go ahead.

(Rachel Fuse): Hello, ladies.

Jennifer Tabola: Hi.

(Rachel Fuse): I am in a rural school in New Mexico and some friends of mine have created a nature trail and they are looking for funding, so that my high school students can monitor the environment there on the trail.

Karen Scott: Yes, Jennifer ...

(Rachel Fuse): So and my question is, I'm sorry, which of the grants opportunities you think might applied to this? Which way would you go?

Jennifer Tabola: And Sarah feel free to chime in. I'm scanning my brain right now to think about any of the latest funding opportunities that I have seen, that have come forward that would support that kind of a project.

A couple of things bring to mind, one is that I had mentioned earlier for the National Public Lands Day the Friends Group and I don't know for this trail if it's located in a – on a public land, is that right, (Rachel)?

(Rachel Fuse): I think so.

Jennifer Tabola: So, if this trail is associated with the public land that may have a Friends Group and when I say that I don't want to send everybody out there and know what that means but essentially, are the number of public lands have volunteers citizen group to support parks and public lands, they maybe called Friends of the Highland View, you know, Park, for example.

And it can be very informal and very loose, that a number of these groups are applying to our Public Lands Grants (friends) of grants programs to secure funds to be able to formalize what it is that they're doing for, now this is mainly around capacity building, however, and you're asking for a specific project and funding to support that.

So, I would have to – two things, one, I would say definitely log on to Classroom Earth and scan our funding opportunities and funding resources section because we do update that regularly. And any funding opportunities comes across from our partners, we – and we actually go out and actually (troll) the Web sites across, you know, all the organization to pull in funding opportunities and with those there.

And so, that's the first thing I would suggest and then, Sarah, I don't know if you have any other suggestions for this specific type of projects?

Sarah Kozicki: Yes, I can't think of anything else at the top of my head. The National Gardening Association Kids Gardening Program has a lot of really great start up grants and things like that. They are more of a gardening nature, than something like a nature trail but I would as Jennifer suggested (troll) the Class Room Earth Web site for funding opportunities.

And then, it may lead you in another direction and certainly, if you like to add a service learning component to what you're doing, checking out Youth Service America for some other grant opportunities as well.

Jennifer Tabola: That's a great idea.

Karen Scott: Yes, this is Karen, again Karen Scott from the Office of Environmental Education here at EPA. We will be issuing a request for proposal for grants probably sometime in May.

(Rachel Fuse): Yes.

Karen Scott: And you'll have to read that very carefully to make sure that you do qualify for grants but if you do, you could put in a proposal to that program as well. But read it very carefully to make sure you are eligible and make sure if you do propose something to that grant program that it have a strong education and a strong environmental stewardship component.

We look for those two components and they both have to be strong for you to be able to qualify. It is a highly competitive program and we usually only end up funding about 5 to 10 percent of those who apply but that will be an opportunity coming up soon.

(Rachel Fuse): Great. Thank you very much.

Jennifer Tabola: Thank you, (Rachel).

Karen Scott: OK, thank you. And now, that was phone question, so we can go now to the Webinar.

(April): Yes, you have a question that says, "How long does the current EE Week information stay on the Web site? Is it archived somewhere when the next years program or theme comes online?"

Jennifer Tabola: Absolutely, we archive all of the resources that we have developed from past years – for each year's theme, so that will be available. It'll be marked in our menu options at the top of our homepage. So, you are very welcome to continue to visit eeweek.org in the future for information about this year's resources.

I know we still have a lot interest from folks, our theme last year with Ocean Connections and I know we still have people accessing those resources. So, we're in the midst of EE Week, ends this Saturday but the resources will be available online going forward.

Karen Scott: OK, since we are already past 5:00, we think we're going to take just one more phone question and then, if Jennifer and Sarah would be willing, maybe you could share your e-mail addresses with everybody else. So, they could send you any further questions that people might have.

OK, so operator, do we have another phone question?

Operator: There are no further phone questions in queue.

Karen Scott: OK, so can we take one more Webinar question?

(April): Hi, have you heard STEM as just seen recently with A Added for Art?

Jennifer Tabola: Yes, we have, we definitely have. I was – just yesterday, we partnered with Samsung on this (All for Tomorrow) contest which engage – actually look at – ask classes around the country to do a video that documented how they were using STEM skills to address local environmental challenges.

And one of the five national winners and there are teachers and students actually came to D.C. and they have the awards banquet yesterday, was an

amazing, inspiring video that actually was the winning school was a Art's Magnet School and they had built an outdoor classroom.

And so, while it included all kinds of design, engineering, environmental science, technology and math and they made a point that the aesthetics of what they were doing were also very important. And so, the signage, the way that they built the fence, the promotional materials to invite, not only teachers but students and community members to come and enjoy the outdoor classroom were all focused on the art's piece, including class promotional video that they put out on their school Web site.

And as I mentioned, the signage, they had a competition. So, the native pollinators and birds and squirrel that they included in their outdoor classroom, all had beautiful signage that they had out in the school. So, they very much made just that point and we certainly have had a lot of feedback talking about the importance of not leaving that out.

So, I would say that the right brain, left brain stem is well represented and STEM is definitely something that folks are talking about. And I know Sarah would echo that.

Sarah Kozicki: Absolutely and actually one of our Green STEM innovators is here which I mentioned during my presentation is NEXT.cc. And there's information about that organization on our Web site. And I really encourage everyone to check out that Web site, it's just next, N-E-X-T.cc and they really focus on STEM and the design component of sort of the arts world, architecture and things like that, engineering.

So, the design piece is really a key factor in connecting the environment and the sciences to the arts and STEM. So, that's very interesting to see how that's progressing. I really encourage everyone to check out that Web site and learn a little bit about some other progressive thinking and how students could become involved in connecting often what seems disparate and you realize that there's a really great access point where all those different disciplines come together and really enhance learning for students.

Karen Scott: OK, great. Thank you very much. I think with that, we're going to have to end the Webinar today but we really appreciate the presenters being willing to give such a great presentation and answer the questions with such great depth and clarity.

And we appreciate all the participants joining us today. Please consider joining us for our future Webinars that we will be presenting, the next one will be on May 15th during the Asthma Awareness Month. And we will be presenting some information about asthma awareness in schools and some of the tools that schools can use in order to make others aware of what can be done about preventing or reducing the number of asthma incidence in schools.

With that, we will close and again, thank you very much.

Operator: Thank you. This concludes today's conference call. You may now disconnect.

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