

Introducing Ohio Students to Careers in Environmental Science and Engineering



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Why?

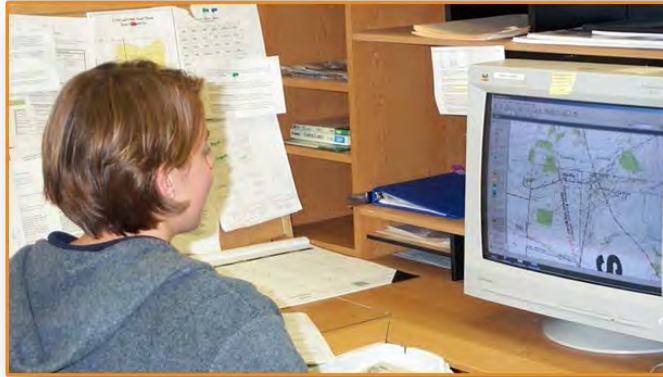
Ohio students, teachers and career counselors have little grasp of the wide range of environmental careers available, or the specialized training and skills required



(what they think)



What else we're doing



Why Now?



- Governor Kasich's emphasis on preparing students for careers in **STEM** fields
- Enrollment decline in some undergraduate environmental programs at Ohio colleges and universities
- Wave of retirements depleting ranks of professionals in fields like environmental health
- Ohio employers indicating qualified applicants harder to find for technical fields



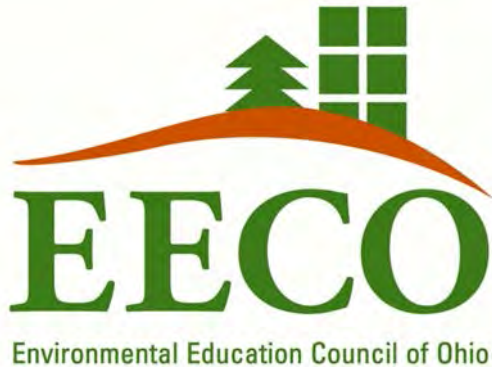


What if we had a statewide network of environmental scientists and engineers willing to talk with students about their careers?



Environmental Career Ambassadors

Project Partners:



School of
ENVIRONMENT & NATURAL RESOURCES



Target audiences

- Middle and high school grades
- Students considering four-year baccalaureate degrees
- Students considering two-year technical programs
- Students attending career/technical education centers
- Gifted and International Baccalaureate students



How does it work?

- Environmental professionals volunteer as Career Ambassadors, at whatever level of commitment they can do
- Teachers and career centers search free database by county to identify ambassadors who might be available for presentations and programs



Options to choose from:

- Make occasional **classroom presentations**
- Participate in school **Career Day** events
- Host school **field trips**

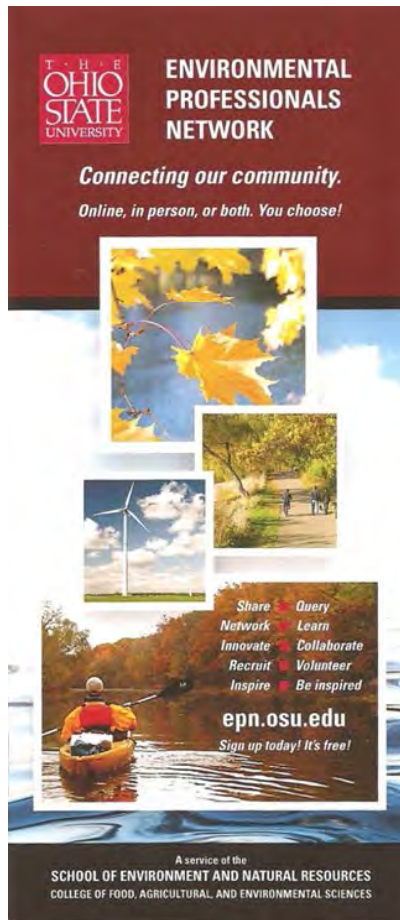


More options...

- Offer internships and shadowing opportunities
- Mentor young professionals
- Recruit other Career Ambassadors



OSU Environmental Professionals Network (EPN)



- www.epn.osu.edu
- Second Tuesday breakfasts
- Topic groups on air quality, education/health, energy, land use, water, wildlife
- Career ambassador pages and search features



Reservation #1: Who's Got Time?



- We expect to recruit more than 500 ambassadors statewide, to share the load
- You can decline any request
- Strong support from employers

Who's On Board?

- **Companies:** AEP, Agrium, Emerald, Heritage, Kurtz Brothers, Lyondell-Basell, Quasar Energy, Waste Management
- **Trade Associations:** Environmental Service Industries, Ohio Chemistry Technology Council, Ohio Parks & Recreation Assoc.
- **Colleges and Universities**
- **State & Federal Agencies:** ODE, ODNR, Ohio EPA, USEPA, Wayne National Forest, Cuyahoga Valley National Park
- **Local Agencies:** park districts, municipal environmental divisions, recycling offices, soil and water conservation districts, solid waste management districts
- **School districts & Educational Service Centers**



Reservation #2: I don't know how to talk to kids!

- **Toolkits** to help make presentations more engaging, hands-on, and age-appropriate
- Pre-visit **classroom activities** aligned with Ohio science standards by grade level



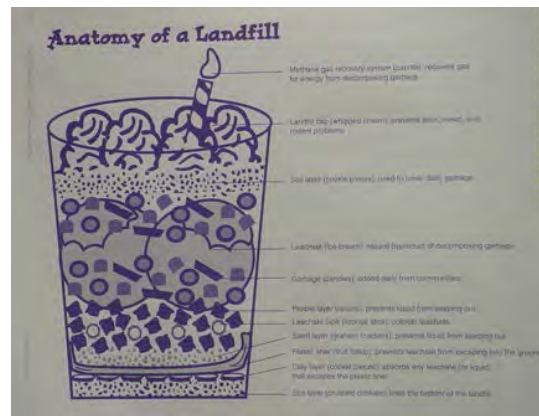
Sample Toolkit: Drinking and Wastewater Treatment

- Classroom activities from *Healthy Water, Healthy People* and U.S. EPA
- EnviroScape© Drinking and Wastewater Treatment Plant model and Ground Water Flow model available for loan in most counties



Other models

- EnviroScape© hazmat spill cleanup
- EnviroScape© watershed model
- EnviroScape© Landfill
- Edible Landfill



Toolkit Lending Library: DVDs on Environmental Occupations

- Environmental Inspector
- Water & Wastewater Treatment Plant Manager
- Geologist
- Meteorologist
- Park Ranger
- Biological Scientist
- Solid Waste Manager
- Air Quality Manager
- Hazardous Waste Manager
- Recycling Plant Manager
- Urban & Regional Planner
- Forester & Conservation Scientist



Environmental Inspector DVD

www.careerpathwaysonline.com



Connecting the Dots: Ongoing Career Initiatives Statewide

- Career Days at many schools
- Company-sponsored programs
- Competitions
- Career/technical education centers



We teach real-work skills

Ensuring Ohio leads
in global competitiveness



Career Fairs: “Who Works the River” in Cincinnati



**US Army Corps
of Engineers**
Great Lakes &
Ohio River Division



**RiverWorks
Discovery**



Corporate Career Programs



- SP&L Explorers program, online renewable energy curriculum, hands-on experimentation kits, mentoring program, internships and scholarships



National Engineers Week



- Middle school teams' future cities judged on energy & environmental criteria



www.futurecity.org



Ohio Envirothon Competition



- High school teams tested on forestry, soils, water quality, wildlife, current policy issues



Career Shadowing Programs

Wayne National Forest, Little Cities of the Forest,
Hocking College School of Natural Resources



High school students shadowing environmental professionals monitoring water quality, building trails, removing invasive species, studying vernal pools & pollinators



Career Shadowing Programs

Cleveland Public Schools, Cleveland State University, Earth Day Coalition



- High school students shadowing environmental professionals gathering data on phytoremediation and urban heat islands.
- Students leading anti-idling campaign on school grounds

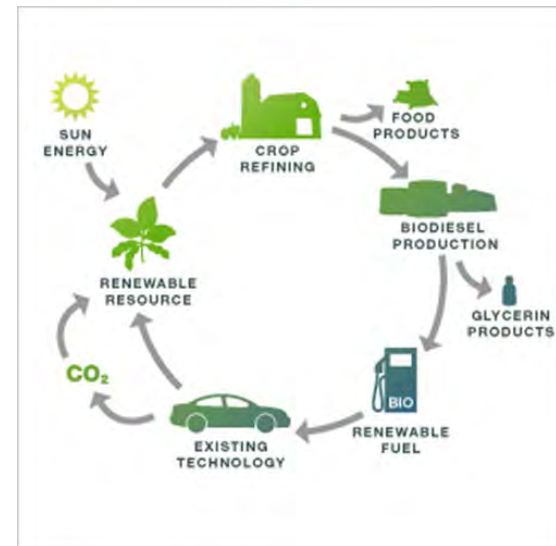
Connecting the Dots: Ohio Environmental Education Fund Grants

- \$49,628 to Collins Career Center (Southeast Ohio)
- Students in agri-science, natural resources, carpentry, business & marketing jointly manage a forest plot and sawmill to document economic benefits and job opportunities from sustainable timber harvesting, reforestation, and habitat restoration



Connecting the Dots: OEEF Grants

- \$14,898 to Miami Valley Career Technology Center
- Students produce biodiesel fuel from soybeans; perform maintenance and diagnostics on diesel school buses, farm and construction equipment using biodiesel; and monitor carbon emissions and fuel consumption compared to other fuels



Connecting the Dots: OEEF Grants

- \$18,705 to Penta Career Center (Northwest Ohio)
- Equipment for students in grades 11-12 to explore solar, wind, hydro, biomass, geothermal & fuel cell technologies
- Week-long STEM summer day camp on Green Energy careers for students in grades 7-9



PENTA
CAREER CENTER

STEM
summer
camp

Science | Technology | Engineering | Math
A summer career exploration activity
for students who are currently in Grades 7-9

June 14-18
2010
10:00 a.m. - 2:30 p.m.
MONDAY - FRIDAY

PENTA
Career Center
9301 Buck Road
Perrysburg, Ohio

Explore the possibilities
of STEM-related
careers with exciting
hands-on activities!

Contact your school counselor for a registration form.
The completed form should be submitted to your school counselor by
Friday, April 16, 2009.

For Students in the Following Districts:
Anthony Wayne, Bowling Green, Eastwood, Elmwood, Genoa, Lake, Maumee, Northwood, North Baltimore,
Oak Harbor, Otsego, Perrysburg, Rossford, Springfield, Swanton & Woodmore



College Scholarships

Environmental Science and Engineering Scholarship program to help 2nd and 4th year college students finish their degree programs



Next Steps

- Since **July 2013**: OSU Environmental Professionals Network members can sign on as volunteer career ambassadors
- **Summer 2014**: rollout to educators
- **Fall 2014**: optional webinars for ambassadors on toolkits
- **2014-2015 school year**: lots of Career Ambassadors at Work!



The graphic features a dark red header with the Ohio State University logo and the text 'ENVIRONMENTAL PROFESSIONALS NETWORK'. Below this, it says 'Connecting our community. Online, in person, or both. You choose!'. The central part of the graphic is a collage of images: yellow autumn leaves, a wind turbine, a park path, and a person kayaking. A list of activities is provided: Share, Query, Network, Learn, Innovate, Collaborate, Recruit, Volunteer, Inspire, Be inspired. The website 'epn.osu.edu' is listed with the tagline 'Sign up today! It's free!'. At the bottom, it identifies the organization as a service of the School of Environment and Natural Resources, College of Food, Agricultural, and Environmental Sciences.

T · H · E
OHIO
STATE
UNIVERSITY

**ENVIRONMENTAL
PROFESSIONALS
NETWORK**

*Connecting our community.
Online, in person, or both. You choose!*

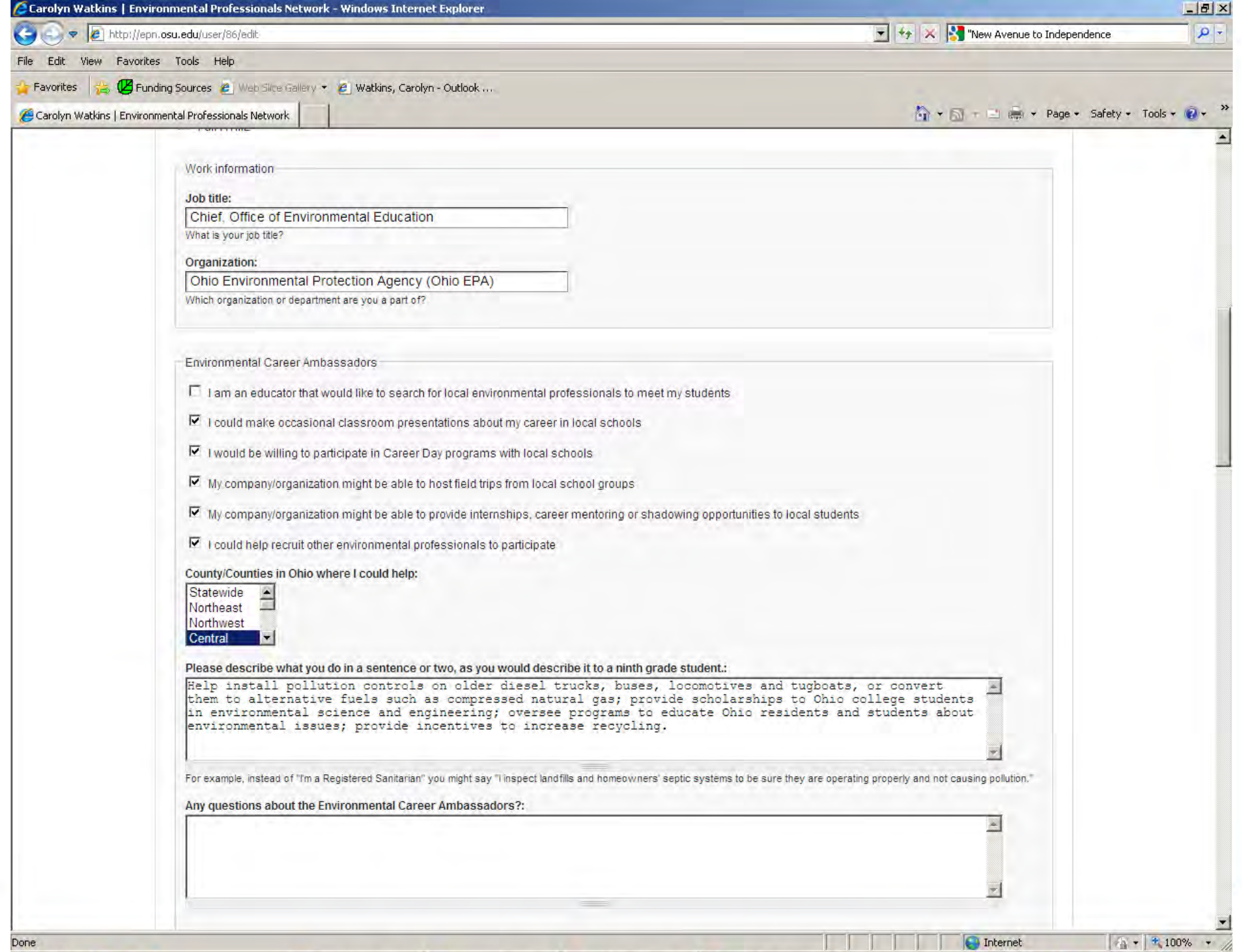
Share • Query
Network • Learn
Innovate • Collaborate
Recruit • Volunteer
Inspire • Be inspired

epn.osu.edu
Sign up today! It's free!

A service of the
SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

- Join the EPN at www.epn.osu.edu
- Check any of the career ambassador boxes when you set up your profile





Work information

Job title:

Chief, Office of Environmental Education

What is your job title?

Organization:

Ohio Environmental Protection Agency (Ohio EPA)

Which organization or department are you a part of?

Environmental Career Ambassadors

- I am an educator that would like to search for local environmental professionals to meet my students
- I could make occasional classroom presentations about my career in local schools
- I would be willing to participate in Career Day programs with local schools
- My company/organization might be able to host field trips from local school groups
- My company/organization might be able to provide internships, career mentoring or shadowing opportunities to local students
- I could help recruit other environmental professionals to participate

County/Countries in Ohio where I could help:

- Statewide
- Northeast
- Northwest
- Central

Please describe what you do in a sentence or two, as you would describe it to a ninth grade student:

Help install pollution controls on older diesel trucks, buses, locomotives and tugboats, or convert them to alternative fuels such as compressed natural gas; provide scholarships to Ohio college students in environmental science and engineering; oversee programs to educate Ohio residents and students about environmental issues; provide incentives to increase recycling.

For example, instead of "I'm a Registered Sanitarian" you might say "I inspect landfills and homeowners' septic systems to be sure they are operating properly and not causing pollution."

Any questions about the Environmental Career Ambassadors?:



Environmental Professionals Network

Connecting our community.

Welcome back [Carolyn Watkins](#)

 Entire site SEARCH

- Home
- Getting Started
- Stream
- Community
- My stuff
- My bookmarks
- About EPN
- ECA

Environmental Career Ambassadors

ECA

Search

Use the filter to find environmental professionals that could assist with classroom presentations, career day programs, field trips, internships or mentoring, or recruitment.

- County: select the regions or counties of interest. Selecting nothing is equivalent to selecting all.
- Set the activity fields that you are interested in to true.

Click the xls button to download an Excel file with the results, or the doc button to download a Word document with the results.

Filter

XLS DOC



COLLEGE OF
FOOD, AGRICULTURAL, AND
ENVIRONMENTAL SCIENCES

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Environmental Sciences

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Who will you recruit into
your profession?

www.epn.osu.edu

