President's Letter to Members

Join, Volunteer, Contribute to Something Significant

So many exciting things are happening in NAEP now it is a challenge to catalogue everything. Some of our activities are further described in this newsletter, which is probably the most information packed issue we have delivered to our members in years.

The 2012 conference is happening in Portland in May. If you have not registered, you missed the early bird deadline. You can still save money by registering now and avoiding the late registration fee (http://www.naep.org/2012-conference). I also understand that the room block we have set aside is getting very close to selling out, so it is not too early to get your room reservations. Register soon and reserve your place to be part of a fantastic, professional gathering. We are on track to break some attendance goals.

Join

There has never been a better time to join NAEP. NAEP is a member association. By that, I mean all of our activities are geared toward addressing the needs of the membership. As a 501 (c)(3) association and according to our Code of Ethics and Standards of Practice, we are dedicated to: *Encourage education and research and the development of useful technical information relating to the environmental field.*

The primary revenue that supports the activities we accomplish comes from membership dues. Those dues support our efforts to educate – through this newsletter, through the journal, through the National Desk (just to name a few). With just those offerings, we would be providing a good value for the membership investment. But this is not enough.

The members, the leadership, and the office staff recognize that there is more that can and should be done. We value each member and want all of you to feel that what we provide is a good investment. As President my goal is to raise our membership by 25% before I leave office. I will need your help to do that.

Existing members: I need you to remain current, active, and engaged. I challenge each of you to bring in two of your colleagues in this next year. Provide copies of this newsletter, provide copies of the National Desk, show them what information they are missing. You have my contact email address from the website and I appreciate all comments aimed at making this a better organization.

Former members who are getting this newsletter: I ask you to review what is in your hands and recognize that what we are producing now (at the promised number of six issues per year) is a better, more vitally important publication. I hope you to realize that this publication is open to you, to your area of expertise, to your particular practitioner-based experience. It is time for you to rejoin and become an active engaged member who helps us all advance and succeed professionally.

If you are a chapter member and not an NAEP member, I want you to realize that this newsletter and several of our national publications and reports are now being made available to you through your affiliation at a minimal cost per person. Your Chapter made a commitment to NAEP and recognizes the value of having national and international exposure for individuals within their state or region. NAEP needs to maintain and grow our Chapter affiliates. Your individual voice is needed to help do that. The affiliation of a state chapter member is actually a tremendous bargain and provides each of you with national news and national perspectives. Consider joining NAEP as well to enjoy all of the benefits of membership. If you do that, the journal, *Environmental Practice,* becomes the profession's premier publication available to you. This journal is available to a national audience. Based on information regarding downloads of individual articles, the journal also has international readership and appreciation. You can be an author, and your expertise can be available to parts of the world you have only dreamed of visiting.

Finally, if you are not a NAEP member, this newsletter is only one of three publications you could receive. If NAEP were only this newsletter, I would understand any reluctance to join, but NAEP is so much more. You are also missing the greatest value available to you in the National Desk and *Environmental Practice.* You are missing the value of networking with a cadre of national environmental professionals, many of whom are practice experts in your particular area; many of whom are nationally recognized as the true leaders and problem solvers in the environmental professions.

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In July 2010 the NAEP Board of Directors had their summer meeting in Pittsburgh. The Western Pennsylvania Chapter of NAEP had a Chapter meeting at the Phipps Conservatory. Kelly Ogrodnik presented on the amazing changes being undertaken by the conservatory. This is a follow-up article giving us information on how the construction is going and any new developments.

Information on the Green Building Alliance in Pittsburgh and information on LEED Certification can be found here: (http://www.gbapgh.org/resources). For more information on the Living Building Challenge visit this site (http://ilbi.org). Finally, to find more about the Phipps conservatory, here is the main link (http://phipps.conservatory.org/project-green-heart/index.aspx).

I spent a number of years in Pennsylvania (graduated from Penn State) and except for the snow, I miss it a lot. If you have never been to Pittsburgh I encourage you to visit. It really does rank as one of the most beautiful cities in the US now in my estimation. (The Editor)

Phipps Conservatory and Botanical Gardens: Growing a Sustainable Future

Kelly Ogrodnik
Sustainable Design and Programs Manager
Phipps Conservatory and Botanical Gardens

Center for Sustainable Landscapes

A model of sustainability for the Pittsburgh region and beyond, Phipps is setting a new standard in green with a clear, innovative vision for a better world, and cutting-edge practices in building design and operations, horticulture and community outreach. Our most ambitious venture to date is the Center for Sustainable Landscapes (CSL), a dynamic research, education and administrative complex slated to emerge as one of the greenest buildings on Earth in the spring of 2012.

The CSL, now nearing completion, is expected to be the first building in the world to simultaneously achieve the three highest green building standards: the Living Building Challenge, LEED® Platinum (Leadership in Energy and Environmental Design) certification, and SITES™ Certification (also known as the Sustainable Sites Initiative™). In achieving the Living Building Challenge design standards, the CSL will produce all of its own energy using renewable resources, and capture, treat and reuse all water onsite.

As defined by the International Living Building Institute (ILBI), a living building reaches the highest standards of sustainability possible today in seven areas: site, water, energy, health, materials, equity, and beauty. A living building is informed by its bioregion's characteristics, and generates all of its own energy with renewable resources, captures and treats all of its water on site and operates efficiently. More than 80 additional buildings are registered and at some stage of the LBC process—in design, construction or operation. Three buildings have been certified to date following a one year operating monitoring program: Tyson Living Learning Center in Eureka, MO; Omega Center for Sustainable Living in Rhinebeck, NY; and Hawaii Preparatory Academy Energy Laboratory in Wainea, HI.

Conceived as an innovation for the world, the CSL will interact with the surrounding landscape as a vital part of its daily operation, blurring the lines between natural and built environments. Inside the state-of-the-art building and throughout the demonstration gardens, Phipps will conduct and share the results of research aimed at transforming the way people relate to nature, while serving as an environmental education center for community members to visit and explore.

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Phipps

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Quick Facts About the CSL

Construction began: October 2010

Slated to open: Spring 2012

Square footage: 24,350 square feet

Total acreage: 2.65 acres (as part of Phipps 13 acre site)

Projected total cost: $23.5 million, which includes:

- $1.5 million dedicated to building and grounds
- $14.5 million dedicated to the hard and soft costs of the CSL
- $4 million dedicated to a research endowment
- $3.5 million dedicated to landscape site work and education demonstrations

Energy Usage: Projected to consume 80 percent less energy than a conventionally designed office building of the same size

Water Capture and Reuse: 1.3 million gallons annually

Energy-Efficient and Renewable Technology Shapes the CSL's Net-Zero Energy Goal

Achieving net-zero energy in a relatively low-sun and cold climate location like Pittsburgh poses a significant challenge. But it's one that the Center for Sustainable Landscapes (CSL) design team is facing with a multi-pronged solution that combines passive design with some of the world's most advanced energy-generating technology. Installation of the solar photovoltaics, geothermal wells, a Gale 10 vertical axis wind turbine, and a Berner Tricoil® Energy Recovery Unit is complete, and these energy-generating features work in harmony with building systems designed to minimize energy use through non-mechanical, passive design. A due south orientation paired with high performance insulation, low emissivity (low-e) windows, passive cooling, a green roof, and screening also creates a building that will demand substantially less energy than a conventionally designed one.

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Phipps

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Solar Photovoltaics (PVs)

- 125.25 kW MonoCrystaline Photovoltaic Solar Array renewable energy system is expected to generate 135,000 kWh per year, which is equal to $19,626 of electricity
- It is 100 percent American made from local aluminum and steel: SolarWorld panels made with U.S. materials and labor; SMA inverters manufactured in Denver using EU materials; Flexrack racking manufactured in Youngstown, OH
- Array is the largest non-commercial solar panel installation in the Pittsburgh region
- Adjacent facilities building and upper campus Special Events Hall roof surfaces provide ideal near-southern orientation for solar PVs
- Building Management System meters and sensors will collect and report on renewable energy generation from solar PVs

CSL Vertical Axis Wind Turbine

- 10 kW Tangarie Gale™ vertical axis wind turbine is expected to harness more than 5,000 kWh annually from the wind
- Generates 50 percent more electricity than traditional propeller models
- Creates energy with winds as low as 4.25 mph (cut-in speed)
- Safe for birds and bats
- Withstands extreme weather such as frost, ice and wind conditions greater than 130 mph
- Has a non-polluting sealed unit design with no gearbox
- Raised to stand at 40 feet with the turbine itself being 15 feet high
- Made in the U.S. from high-quality air craft aluminum
- Designed to be remarkably quiet and compact
- Acquired the first permit from the City of Pittsburgh for a wind turbine

Geothermal Wells

- 14 geothermal wells installed 500 feet underground
- Ground-source geothermal system generates heating and cooling
- Geothermal systems typically capture about 70 percent of their heating and cooling energy from the ground's consistent 57 degree temperature
- Works in conjunction with Berner Tri-Coil® Energy Recovery Unit
- In cooling mode, heat removed from the space by RTU DX refrigerant coil is absorbed by water circulated in the wells and the heat is absorbed by the cool ground
- In winter, warmth built up from the cooling season is recovered from the wells to heat the building

Berner Tri-Coil® Energy Recovery Unit

- Uses ground-source geothermal capacity
- Economizer cycle provides "free cooling" using outside air when ambient temperatures are cooler and drier than indoor temperatures, without mechanical refrigeration
- A desiccant energy recovery wheel pre-cools and dehumidifies outside air to reduce cooling loads of hot moist outside air in the summer; also pre-heats and humidifies incoming cold outside air in winter
- Maximized outside air and a high performance MERV13 air filter provide superior indoor air quality
- UV Lighting included to reduce the potential for microbial growth

Water-Efficient and Green Infrastructure Technology Shapes the CSL's Net-Zero Water Goal

Leading the charge as an advocate for a more restorative future, the CSL will strive to achieve the highest standards of certification, promoting biodiversity and conserving resources in its landscape. Working in concert with the building to provide water needs from resources directly on site, and featuring a planting design that increases water efficiency and features native plants adapted to the region's climate, the net-zero water site will capture and treat all sanitary and stormwater on site, eliminating the impact on the city's combined sewer overflow system. Located on a former brownfield site, the CSL landscape is channeling development toward urban areas in an effort to reduce resource consumption and restore ecosystem services to a previously damaged site. The site also has historical significance for Pittsburgh,

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Phipps

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originally having been a rock quarry in the early 1900s and later an incorporation yard for the Department of Public Works.

Sustainable Landscape

- Features vegetation native to the EPA EcoRegion III and naturally growing with 200 miles of Phipps
- Replicates and restores the region's natural ecosystem functions
- Irrigated by water harvested from the glass roofs of Phipps' Tropical Forest Conservatory and CSL site
- Nine unique plant communities with restorative and educational value, including: water's edge, lowland hardwood slope, successional slopes, oak woodland, upland slopes, constructed wetland, rain garden, shade gardens, and ornamental entry gardens

Green Roof

- American Hydrotech system installed by Burns and Scalo
- Permaculture design featuring useful and edible plants
- Semi-intensive system with 8" of planting medium
- Provides insulation for the building
- Reduces the volume of stormwater runoff and pollutants
- Excess stormwater will be directed to a lagoon for cleaning and use in landscape irrigation

Lagoon

- 3,000 square feet
- Captures stormwater runoff from the Tropical Forest, CSL roof and landscape, and adjacent maintenance building's roof
- Replicates the water treatment process naturally occurring in wetlands and marshes
- Water will be cleaned to standards comparable to municipal treatment systems
- Contributes to capture and reuse of 1.3 million gallons of water per year
- Boardwalk surrounding lagoon will offer interpretation of the process

Constructed Wetland

- 300 square feet
- Treats sanitary water from the CSL and maintenance buildings, and 242 gallons per day from low-flow toilets and 174 gallons from low-flow sinks
  - Horizontal subsurface flow
  - Two-stage filtration system
- Plants, soil and microbes remove nitrates and phosphates
- Pollutants removed include BOD (biochemical oxygen demand) and TSS (total suspended solids)
- Sand filters remove ammonia and clarifies water
- Followed by an ultraviolet (UV) light sanitization process
- Water reused as flush water in CSL
- Additional water sent to Epiphany Distillation System for orchid irrigation

Epiphany Solar Distillation System

- Treats a portion of the CSL's sanitary water
- Parabolic dishes located atop the production greenhouse office roof collect solar thermal energy
- Solar thermal energy heats a thermal fluid that circulates through patent pending solar collectors mounted at the focal point of the parabolic dishes
- Thermal fluid is heated by the sun to 800 degrees Fahrenheit and stored in insulated tanks
- Heat from thermal fluid is used to power a distillation unit which produces clean, distilled water
- Distilled water is pumped into the greenhouse for watering the orchids

Stormwater Management and Rainwater Harvesting

- Capture of stormwater from the Tropical Forest Conservatory glass roof and CSL site
- Features RainXchange™ System with underground Aquablox modular cisterns
- Captures more than 300,000 gallons annually
- Contributes to capture and reuse of 1.3 million gallons of water per year

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Phipps

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- Water cleaned and used for irrigation inside Conservatory
- Pervious pavers in parking lot will direct water to rain gardens for natural infiltration
- Rain gardens and bioswales will handle water from driveway and four distinct watersheds on site

Sustainable Materials

The CSL is a triumph of locally-sourced, recycled, environmentally friendly, and healthy materials and practices.

Red List Materials

All materials sourced in compliance with LBC's Materials Red List which prohibits the use of materials that include a number of the most prolific and toxic chemicals in today's manufacturing world. These include:

- cadmium
- chlorinated polyethylene
- chlorosulfonated polyethylene
- chlorofluorocarbons (CFCs)
- chloroprene (neoprene)
- formaldehyde
- halogenated flame retardants
- hydrochlorofluorocarbons (HCFCs)
- lead
- mercury
- petrochemical fertilizers and pesticides
- phthalates
- polyvinyl chloride (PVC)
- wood treatments containing creosote, arsenic or pentachlorophenol

Recycled Materials

- Make up 30 percent of total building and site material, including: structural steel, raintanks, curtainwall framing, access flooring, spray applied insulation, and mineral wood insulation

Regional Materials

- Materials harvested or extracted and manufactured within 500 miles make up 82 percent of total building and site materials, including: structural steel, concrete, landscape stone, plants and soil, glass, curtainwall framing, barn siding, access flooring, salvaged wood doors (from the U.S. Steel Building in Downtown Pittsburgh), and green roof growing media.

Salvaged Materials

- Salvaged materials recovered from existing buildings or sites and reused at CSL make up 10 percent of total building and site materials, including: salvaged wood doors, fuel oil tanks, barn siding, granite, and Belgium block.

The Building as a Research Laboratory and Teaching Tool

In keeping with the Phipps tradition, the CSL will also serve more than one-quarter million people annually as an educational tool to demonstrate the efficacy of sustainability in the commercial and residential arenas. Our efforts are designed to center around a research laboratory, interactive programs for the public that demonstrate the importance of plants, onsite educational programs, and partnerships with area schools and educators on topics such as plants, science and sustainability. Guided tours through the CSL will expose its inner workings, inspiring greater public interest in and awareness of the green building movement while demonstrating its environmental and economic benefits. It will also showcase the architectural design and engineering talent of the Pittsburgh companies and further solidify the region's leading role in sustainable innovation and advancements in the nation's green building movement while broadening the horizon of the environmental movement worldwide.

The technology which controls and monitors the functions of the CSL will be the subject of extensive research in collaboration with researchers from the National Energy Technology Laboratory, Carnegie Mellon University, the University of Pittsburgh, and Penn State in order to evaluate its processes in a search for ever-greater efficiencies. A publicly accessible digital monitoring kiosk, also known as an energy dashboard, will serve as a training and educational tool for visitors and students on site and will also be accessible from the Phipps website. The dashboard will allow the public to follow the building and its landscape as it operates, reporting real-time monitoring data.

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Phipps

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Additionally, original research will be conducted at the CSL to help transform the way people relate to landscapes and provide technical assistance to businesses and landowners interested in eco-friendly methods for managing landscapes. The four core areas of research and assistance are: Sustainable Landscaping for Green Buildings, Landscape and Brownfield Restoration, Conservation and Biodiversity in Southwestern Pennsylvania and Best-Practice Sustainable Landscape Maintenance.

Design Team, Partners and Contractors

By showcasing the architectural design and engineering talent of Pittsburgh and Pennsylvanian citizens, the CSL will further secure the region's role as a leader in the green building movement.

Our Partners

Carnegie Mellon University - Center for Building Performance and Diagnostics

Chatham University

Duquesne University

Green Building Alliance

National Energy Technology Laboratory (NETL)

University of Pittsburgh - Mascaro Sustainability Initiative

Pittsburgh and Pennsylvania Based Design Team

The Design Alliance Architects; Architecture, Pittsburgh

CJL Engineering; MEP Engineering, Pittsburgh

Andropogon; Landscape Architecture, Philadelphia

Atlantic Engineering Services; Structural Engineering, Pittsburgh

Civil & Environmental Consultants, Inc. (CEC); Civil Engineering, Pittsburgh

Evolve, LLC; LEED Certification, Pittsburgh

H.F. Lenz; Commissioning, Johnstown

Massaro Corporation; Pre-Construction, Pittsburgh

Maya Design; Interpretation, Pittsburgh

Pitchford Diversified; Enhanced Commissioning, Butler

7group, LLC; Energy, Daylight and Materials Consultants, Kutztown

Sundrive; Water Treatment, Ottsville

Other Consultants

Indevco; Owner's Representative, Pittsburgh

Massaro Corporation; Technical Advisor, Pittsburgh

Vermeulens Cost Consultants; Estimating, Toronto

General Contractor

Turner Construction; Pittsburgh

Sub-contractors

Sitework/Excavation - Noralco Corporation; Pittsburgh Area

HVAC & Plumbing - SSM Industries; Pittsburgh Area

Electrical - Hanlon Electric; Pittsburgh Area

Geothermal Wells - Western PA Geothermal; Pittsburgh Area

Structural Steel & Misc Metals - Engineered Products Inc; Pittsburgh Area

Concrete - Ionadi Corporation; Pittsburgh Area

Rock Anchors - Braymen Construction; Pittsburgh Area

Glass & Glazing - DM Products; Pittsburgh Area

Landscaping - Mele Landscaping Contractors, Inc; Pittsburgh Area

Fire Protection - SA Comunale; Pittsburgh

Masonry - Franco; Pittsburgh Area

Roofing - Burns and Scalo Roofing; Pittsburgh Area

Waterproofing - Tom Brown Contracting; Pittsburgh Area

Interior Architectural Woodwork - Giffin Interiors; Pittsburgh Area

Hydraulic Elevators - Marshall Elevator; Pittsburgh Area

Painting - Saints Painting; Pittsburgh Area

Carpet/Resilient Flooring - Spectra Contract Flooring; Pittsburgh Area

Asphalt Paving - A. Folino Paving; Pittsburgh Area

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Doors/Frames/Hardware - AG Mauro; Pittsburgh Area

Interiors - TD Patrinos Painting and Contracting; Pittsburgh Area

Polished Concrete - Allegheny Installations; Pittsburgh Area

Access Flooring - Compu-Site; Pittsburgh

Building Controls - Automated Logic; Pittsburgh

Air Handling Unit - Berner; Pittsburgh

PV Array - EIS; Pittsburgh

Stormwater Management & Harvesting - Aquascape; Pittsburgh

Follow Our Progress

In telling the story of Phipps, we retrace the steps we've taken to expand our facilities with conscience, from the construction of our LEED® Silver Welcome Center and state-of-the-art Tropical Forest Conservatory — the most energy efficient of its kind in the world — to our production greenhouses, which use 24 percent less energy than conventionally designed ones. We also look ahead to an even brighter future with the building of the CSL, our most ambitious project yet, with the video The Evolving Green Story and Integrative Design - Phipps: A Case Study. As we near the opening of the CSL, stay tuned for construction updates and details about our grand opening in spring 2012.

President's Letter

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If there were to be an estimate of the value of all of our publications, the membership fees would be worth over twice the amount paid. From estimates available to me, if you are not associated with NAEP, the Journal costs over $180 per person.

The NAEP National Desk comes out every two weeks. It is made possible through a licensing agreement with Environment and Energy Publishing, LLC. We have been able to access their current news feeds and provide the members with up to date news. This service costs NAEP $5,000 per year. Companies can get a discount on a full subscription from E & E News through NAEP. We offset the cost to NAEP through these discounted subscriptions to the full newswire services of E&E News.

Finally, the E News. We publish 6 times per year. In response to feedback from the readership, in each issue we have two or three, practitioner-based articles. We normally get a spotlight article in each issue so that members can see who their associates are and what they do for a living. Each issue has information on the activities of the state and regional Chapters. There are reports from our National Committees, and there are announcements of activities by NAEP.

Compare these figures to a $150 membership fee, and you can see a great return on investment.

Joining NAEP now will provide you with more value for the investment. It will also provide new members opportunities that I firmly believe lead to professional advancement and professional satisfaction.

Volunteer

So, now that I have you all revved up to join and the inevitable question is, "Do I belong? Can I really make a difference? Where?" My answer is not complex…volunteer. Volunteer to be a part of the annual conference. Volunteer to be a part of our National Committees. Volunteer for special projects, task forces, or action teams aimed at solving complex and persistent professional issues.

As a volunteer for the conference, you do not need to be a resident of the conference city to have a great influence on the content. Remember, we live in an age of unprecedented electronic communication. Communication within NAEP is accomplished through the normal pathways, email, and teleconference. For the more technologically astute, we have a Facebook presence, and we are LinkedIn. All of these are available for you, as a member, to be a part of the magic that is the conference. Members and non-members visit and post to our Facebook and LinkedIn sites.

This year marks the 37th year that NAEP has presented an annual conference. The conference content covers nearly all of the varying areas of practice that are the environmental professions. The conference is also a member-directed effort that succeeds in getting important speakers in the environmental fields to address an audience of their peers. In many instances, you would not have the access to many of these top professionals.

Our members are another source of expertise that we have

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available to any annual conference. Our experts are more than willing to share their experiences and their lessons learned with a national audience. While the NEPA track sessions are always an integral part of the conference, the tracks that make up the rest of the conference reflect the current trends and events in the environmental professions: energy, transportation, oceans, wetlands, brownfields, and military installations, to name a few. This year we had a tremendous amount of effort put into the tracks and a large number of sessions that will cover visual resources and visual impact assessments.

For non-members, we trust we are providing you with an unmatched professional experience. For members, we also trust that you recognize the $100 discount you receive is certainly worth the cost of membership.

This past year we added another service, another educational opportunity, and have made it available to environmental professionals everywhere. The Webinar series is also a volunteer opportunity. In general of our four webinars, we have reached an average of between 300 and 700 people per session. Not only are we reaching a large audience of members and non-members, we are seeing attendees from corporations, agencies, and many attendees from Canada. What a fantastic opportunity to help provide important information to professionals throughout the US and Canada.

The webinar pricing is certainly affordable at $109 for non-members. If you are a member you are saving a total of $180 over the six webinars per year just by joining NAEP. If you attend as an average connection, the cost per person for your office becomes $13 per person to get the most up to date environmental information.

You, as a volunteer, can be a part of this effort to expand the education opportunities for environmental professionals. Ideas are currently being developed to expand these offerings to include local training programs.

Additionally, our education partner, the American Public University, is offering three webinars this year, starting on March 28. The subject of the webinars will be job searches and how to make them more successful. In conjunction with the career related sessions at the conference, NAEP is providing a valuable service to our members and those yet to be members. The value to a member in this category provides the potential for an amazing return on investment.

All members are welcome to help NAEP succeed and advance toward continued relevance. Roger Turner, our California AEP representative refers to our NAEP volunteers as "Team Professionals working for a common cause to make this the best organization it can be." I embrace this definition of the NAEP volunteer.

Contribute Significantly

One of the greatest lessons I have learned since I joined NAEP is that when you become involved, the investment of money becomes much more of a bargain. I was a non-involved member from 1994 when I joined until 1996 when I helped found the Northwest Chapter of FAEP. From there I decided to become part of the FAEP Board of Directors in 1998. By 2004, I was President of FAEP and got involved in the NAEP Board of Directors. These events helped provide me with personal fulfillment, and professional advancement. I have enjoyed every moment volunteering with these professional associations.

This level of involvement increases an overall investment of time and becomes a professional turning point. As a volunteer, you are free to express your ideas. What is exciting is to see that a group of people can work toward a common goal for the betterment of an association.

I have seen professionals contribute significantly to the operation of FAEP and NAEP. I have seen volunteers make a conference shine. The level of speakers, the entertainment, the little things like the conference-sponsored side trips, have all made an impression on me concerning the volunteers involved. There is a personal touch, a pride in their city that you can see in the volunteers as they greet conference attendees.

I have participated in the teleconferences of the Education Committee and smile as the discussion turns to the challenges overcome to produce yet another successful webinar. Each time they become determined to make the next webinar better than the last. And the story is the same for each of our National Committees.

This summer there will be the second Chapters retreat where the representatives of the Chapter will get together with the NAEP Board members and for a full day and a half there will be ideas floated to improve relations and to provide a better organizational affiliation for all involved. The last one was five years ago and the result of that meeting was the Affiliation Agreement, a significant achievement that grew from the committed efforts

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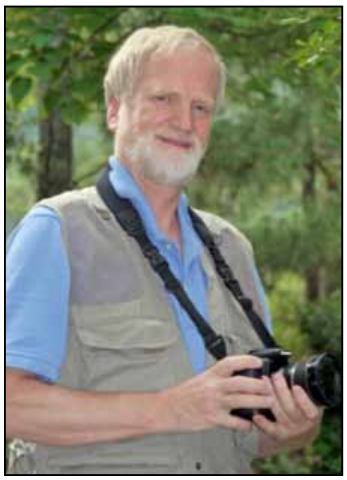
of Chapter and National Board volunteers.

The volunteers on this and the other committees are doing significant things. They are advancing the profession. They are working toward NAEP recognition in politics, regulation, and science. I could go on talking about each Committee. Each has provided a lot of work to improve the Association overall. That kind of talent, that kind of dedication, is not noticed these days where interpersonal communication is suffering and it appears that on a daily basis more and more people are losing the ability to communicate.

The volunteers of NAEP are fabulous professionals, fantastic individuals and unselfish in their commitment to the betterment of NAEP.

Without the members and the volunteers of NAEP, there would be some value in membership, but when the people, the members, and the volunteers are included in the mix, the bargain of membership becomes clear. Lifetime friendships develop, mentors arise for young professionals, and students get a real understanding of the horizons toward which their education takes them. We are a singular group with a membership that is made of the premier professionals.

As you read this message, and now move to the other articles also written by members. I trust that you realize that we are the premier National Association of Environmental Professionals. I trust that you recognize that the price of admission is small when you consider the world class publications, the highly professional conferences, and the truly top-notch volunteers with which you are now associating. When you consider everything together, the cost of membership is repaid many times over as you take advantage of every opportunity to learn, develop as a professional, and serve your fellow members. Enjoy the ride.



Education:

MS, Wildlife Management, Virginia Tech

BS, Biological Science, Florida State University

Certifications:

Certified Professional Wetland Scientist, Society of Wetland Scientists

Budd Titlow's 39-year background in biological and wetland investigations and evaluations includes 26 years as an ecological division manager, wetland division manager, environmental sciences/permitting group manager, and key natural resource project manager with East Coast environmental firms serving government and private-sector clients throughout the southern and eastern United States. Prior to joining the private sector in 1986, Budd worked as a federal NEPA Compliance Coordinator in Colorado for 13 years, including 8 years with the National Park Service in Denver. Throughout his career, he has led and conducted vegetation and wildlife investigations to support the preparation of NEPA CEs, EAs, and EISs for existing and proposed pipeline, military, industrial, and commercial facilities and has played a key role in the development of successful applications for local, regional, and national environmental permits. He also is an award-winning nature photographer and natural history writer with hundreds of publication credits, including two books, and experience in multimedia presentations, group workshops, public hearing coordination, and expert witness testimony.

Budd Titlow is a Chief Biologist with the Tallahassee Office of Ecology & Environment, Inc. (E & E). E & E's 64,000-square-foot headquarters building in Lancaster, New York is the worlds-first LEED® Platinum (highest rating) certified structure under the U.S. Green Building Council's LEED for Existing Buildings (LEED-EB) rating system. The company achieved an 80% reduction in carbon emissions associated with the building's energy use at a net cost savings in less than ten years by implementing a series of infrastructure improvements and directly engaging employees in energy efficiency practices. "It is critical that we find ways to become more energy efficient and less dependent on finite energy sources, especially when it comes to our buildings," said E & E president and CEO Kevin Neumaier. "We're pleased … to showcase our global headquarters building, which was ahead of its time when it was built in 1988 and continues to be a model for green design."

Sustainable Design:

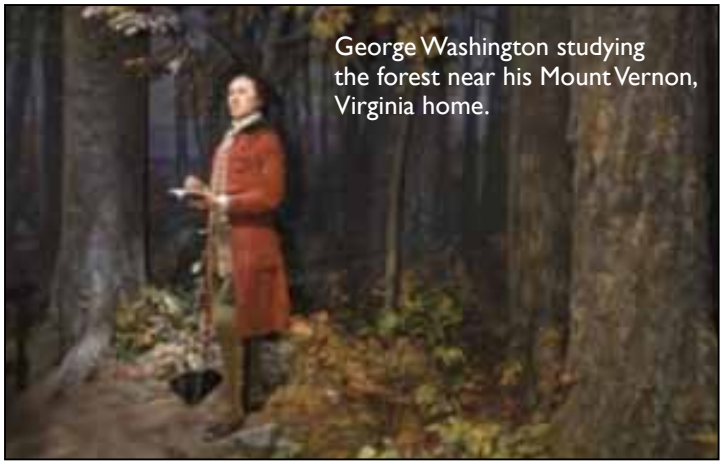
New Technology for Coping with Climate Change

by Budd Titlow
Professional Wetlands Scientist & Wildlife Biologist
Ecology & Environment, Inc.

First in War, Peace, and Sustainable Design

"Sustainable Design," "Green Building," and "Smart Growth" are often touted as the newest trends in land development, but they're really not new ideas at all. In fact, more than 230 years ago, President George Washington was applying sustainable design concepts to the Virginia properties he owned.

According an article written by Tony Wernke (2005), The Father of Our Country purposely designed a house on Mount Vernon that was both remarkable and original. His innovative ideas featured open quadrant arcades, cupolas, and the great piazza — all of which violated contemporary architectural dictates. Each of Washington's design features emphasized utilitarian functions: helping to cool the building, providing shelter from



George Washington studying the forest near his Mount Vernon, Virginia home.

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George Washington's Virginia home, Mount Vernon, includes many sustainably-designed architectural and landscaping features.

the elements, and taking advantage of natural breezes to improve living conditions.

Washington's landscape design at his Mount Vernon estate also featured a "naturalistic" approach, which was a radical departure from the formalized gardens of the time. The key element of his design took advantage of the natural beauty of the site. Accordingly, Washington surrounded his property with dense tree plantings. He planted and replanted the walkways in grove configurations rather than formal allees, while underplanting the shade trees with dense copses of small trees and shrubs.

Washington later developed a plan, which was ultimately carried out and documented in 1787, to have his mansion house surrounded by every possible specimen of tree or shrub native to his Virginia landscape. The plan was ingenious for its time and included the revolutionary idea of restoring part of the landscape to "wilderness." He continued such work long after it could benefit him personally and right up until his death. In a time of land and natural resource abundance that must have seemed completely inexhaustible, Washington's land development and farming experiences led him to become the first American conservationist and environmental restorationist.

Critical Decision Point for Florida

Many research studies *(Vermeer and Rahmstorf 2009; U.N. Intergovernmental Panel on Climate Change 2007)* predict that climate change could cause global sea levels to rise more than three feet between now and 2100. Because so much of Florida is either right at or just above sea level, the effects of such an increase on our coastlines would be both dramatic and devastating. The Institute for Alternative Futures (IAF) *(2007)* reports that because 15 million of Florida's 16 million residents live and work within 35 miles of the coast, sea level rise impacts on urban areas are a major concern. Miami Beach, Pensacola, St. Petersburg, Tampa, and other densely populated areas near the Atlantic Ocean and Gulf of Mexico will face enormous expenditures for elevating living/working spaces, building sea walls and other flood control structures, and facilitating relocation of displaced people.

According to the IAF *(2007),* some of the solutions for avoiding this pending disaster are the same sustainable design concepts that George Washington practiced centuries ago. The fundamental scientific, technical, and industrial know-how to solve the climate change conundrum for the next 50 years already exists or is well within our reach. Technological progress aimed at using energy and our other natural resources much more efficiently while concurrently finding new sources of energy is by far the biggest component of the climate solution. The technological changes needed to stabilize the climate may be much greater than most people realize, but they are feasible and - taken together – will be a major part of the Next Technological Revolution (NTR). According to the global consulting and certification design firm, McDonough Braungart Design Chemistry, LLC (www.mbdc.com), "The NTR is the emerging transformation of human industry from a system that takes, makes, and wastes to one that celebrates natural, economic, and cultural resources." Gus Speth, an environmental techno-critic during the 1970's elaborates on the NTR concept (IAF 2007), "We must rapidly abandon the twentieth-century technologies that have contributed so abundantly to today's problems and replace them with more advanced twenty-first century technologies designed with environmental sustainability in mind."

What Exactly is Sustainable Design?

Sustainable design is best defined as: *An ideal of intergenerational equity that balances considerations for the environment, the economy, and society ... while meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.* The IAF Report (2007) elaborates by stating that the key to creating a sustainable future in Florida is recognizing that economic opportunity, ecological integrity, and social equity are interlocking links in our chain of well-being. The pursuit of one without the others, or in opposition to the others, will ultimately jeopardize our future progress. When properly understood and practiced, sustainable development leads toward a more sophisticated approach to governance based on policies designed to move simultaneously toward economic, environmental, and social goals.

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In practice, sustainable design includes simultaneous consideration of multiple overlapping fields of study and spheres of influence.

Sustainable design emphasizes that actions we take now in four primary areas (nature, economy, society, and individual well-being) will affect what happens in the future. Understanding the present and future interconnectedness of our actions is the basis for making thoughtful decisions that support sustainability, including:

- Protecting/conserving wetlands, critical wildlife habitat, and other sensitive natural resources;
- Connecting humans to the natural environment through designed amenity networks;
- Benefiting all citizens by establishing/maintaining a strong economy and high quality of life;
- Linking community issues together for more effective decision-making;
- Using long-term system approaches to issue resolution.
- Soliciting/implementing creativity and innovation from inspired thinkers; and
- Inspiring others to participate in enhancing the overall community structure.

Source: Florida Engineering Society 2005

Why Do We Need Sustainable Design?

Construction and maintenance of buildings has a tremendous impact on our environment and our natural resources. There are more than 100 million residential and commercial buildings in the U.S. today. Collectively, these buildings use one-third of all the energy and two-thirds of all electricity consumed in this country. Our future challenge must be to build "smart buildings" that minimize use of nonrenewable energy, pollution, and energy dollars, while increasing the comfort, health, and safety of the people who live and work in them.

According to the Smart Communities Network web site (www.smartcommunities.ncat.org), buildings are a major source of the pollution that causes urban air quality problems, and the pollutants that contribute to climate change. They account for 49 percent of sulfur dioxide emissions, 25 percent of nitrous oxide emissions, and 10 percent of particulate emissions, all of which damage urban air quality. Buildings also produce 35 percent of the country's carbon dioxide (CO2) emissions—the chief pollutant blamed for climate change.

Traditional building practices often overlook the interrelationships between a building, its components, its surroundings, and its occupants. Buildings consume more of our resources than necessary, negatively impacting the environment and generating a large amount of waste. According to Laurence Doxsey, former Coordinator of the City of Austin, Texas's Green Builder Program *(http://www.smartcommunities.ncat.org): "One standard wood-framed home consumes over one acre of forest and the waste created during construction averages 3 to 7 tons."* Most existing buildings are also costly to operate in terms of energy and water consumption. Plus they can result in poor indoor air quality, which can lead to major health problems.

Additional facts and figures on national and world-wide building construction are equally troubling:

- Toilets alone consume five billion gallons of fresh water every day.
- Buildings use 12.2% of all potable water globally or 15 trillion gallons per year.
- Buildings use 40% of raw materials globally and approximately three billion tons annually.

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- The U.S. Environmental Protection Agency (EPA) estimates that 136 million tons of building-related construction and demolition (C&D) debris are generated by the U.S. in a single year.
- The typical construction project generates up to 2.5 pounds of waste for every square foot of floor space.
- People spend 90% of their lives indoors. Indoor air quality related illness costs billions of dollars of lost productivity every year.

Sources: Florida Engineering Society 2005; U.S. Green Building Council 2003

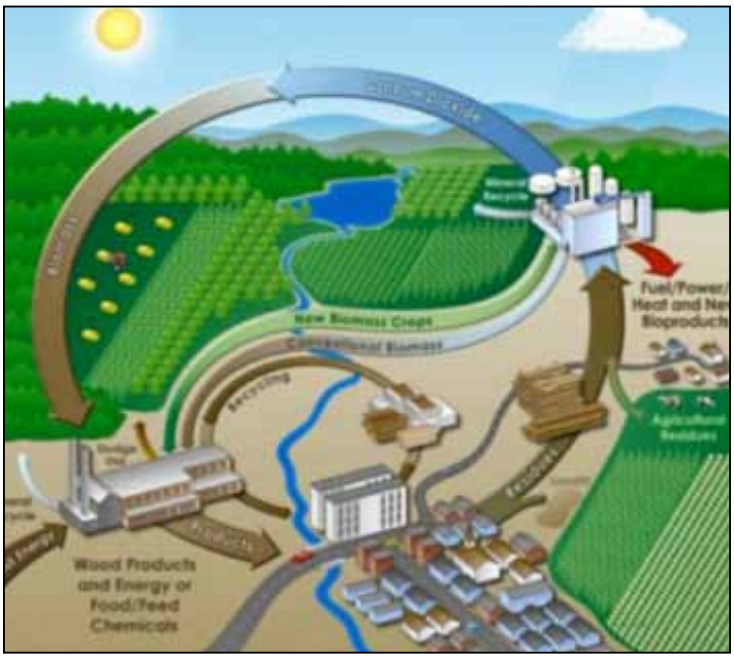
Why Aren't We Practicing More Sustainable Design?

The Architecture Inc. web site (www.archinc.com/susdesign.htm) reports that for many people, the idea of 'green' buildings brings up images of unattractive solar roof panels and giant wind turbines. In addition, many developers fear that following a green agenda will delay project schedules and significantly raise project costs.

In reality, well-executed sustainable design projects perform extremely well financially. In fact, the financial rewards of sustainable design are now bringing mainstream developers into the fold at an increasing pace. It is now possible to do well financially by doing the right thing environmentally. In general, green buildings now cost less to construct, operate, and maintain than traditional buildings. As a result, sustainable design developers are differentiating themselves from the crowd and — in the process - getting a big marketing boost.

Green buildings are high-performance machines for living and working, inspired by both nature and technology. Green buildings are environmentally responsible, economically profitable, and healthy places to live and work. Most importantly of all, green building allows us to live the lives we dream of today without denying future generations the same fundamental rights and resources (source: www.smartcommunities.ncat.org).

According to Florida Gulf Coast University's Dr. Jennifer L. Languell *(Florida Engineering Society 2005): "Green buildings are inherently more resource-efficient and healthier than traditional structures."* Residential homeowners can expect to save on energy and water bills. They will also enjoy healthier interiors. These



In effect, all elements of sustainable design are interrelated and interconnected.

improvements are realized through the design of a more efficient building envelope, the selection of more efficient mechanical systems using drought tolerant landscapes, and incorporating low off-gassing materials. Commercial green buildings have lower operating costs, higher lease rates, and happier and healthier occupants than conventionally constructed structures.

Savings in energy costs of 10% to 50% are common through integrated planning, site orientation, energy-saving technologies, on-site renewable energy producing technologies, light-reflective materials, natural lighting and ventilation, and down-sized heating, ventilation, and air conditioning (HVAC), and other equipment. Building owners also realize savings during the life of the building through other measures such as water-saving equipment, natural landscaping, low maintenance materials, recycling construction debris, and integrated building controls.

How Does Sustainable Design Work?

Sustainable design includes both indoor and outdoor components, beginning with the due diligence evaluation of natural resource constraints on each potential development site. The process starts with identifying development envelopes that set aside and protect each property's most significant natural

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resources. Then existing topographic profiles and drainage patterns are surveyed, assessed, and plugged into the conceptual engineering designs for each property. The emphasis is on making the best use of existing natural features and flow patterns to minimize the amount of clearing, grading, and re-contouring that has to occur to make each site "work". This saves up-front construction costs by minimizing earth work while facilitating the design of Low Impact Development (LID), Best Management Practices (BMP)-based stormwater management systems.

Sustainable development begins with identifying and preserving a site's key natural resource features.

Designing to preserve a property's natural features can also produce a significantly higher economic yield than typical clear-strip-and-grade development practices. On large development sites, such designing with the land may produce fewer total lots but individual lots are typically sold for significantly higher unit prices because of the extra amenities associated with the preserved open space and wildlife habitats. In the typical scenario, the protected natural features – a grove of old-age hemlocks, a high bluff overlooking a river floodplain, a meadow-full of native grasses and colorful wildflowers – are treated as design nodes interconnected by walking/hiking paths that loop through and around the perimeter of the development. The paths may be further enhanced by placing interpretive bump-outs/rest-stops for birding, fishing, picnicking, and exercising at key locations.

In addition to working with the natural drainage patterns, LID stormwater management systems emphasize small, multi-functional BMP's scattered throughout the site in lieu of large, ugly detention ponds. The advantages of LID stormwater systems are many-fold. First, small localized BMP's are designed to capture stormwater immediately at each point of origin. This results in a significant cost savings realized from not having to construct a hard-engineered, site-wide system of catch basins, pipes, culverts, and large concrete ponds. Second each small BMP is typically designed to provide functions beyond capturing and controlling rainfall. For example, bio-retention swales are planted with native vegetation that provides habitat for songbirds and other local wildlife species. Also stormwater captured in infiltration chambers and trenches is typically pumped back up to the surface and re-used for irrigation and other non-potable purposes. Properly designed, stormwater BMP's such as bio-trenches and rain gardens can significantly enhance the visual appeal of a development site by adding islands of green "open space" dotted with colorful clusters of wildflowers. Also, much of the clean rain that falls on green roofs is taken up by plant material, while the excess is captured in cisterns and pumped back into the building for both potable and non-potable uses.

In general, green building practices offer an opportunity to create environmentally-sound and resource-efficient buildings by using an integrated approach to design. Green buildings promote resource conservation, including energy efficiency, renewable energy, and water conservation features; minimize environmental impacts and waste generation; create a healthy and comfortable environment; reduce operation and maintenance costs; and address issues such as historical preservation, access to public transportation and other community infrastructure systems. The entire life-cycle of the building and its components is considered, as well as the economic and environmental impact and performance (source: www.smartcommunities.ncat.org).

So What's The Bottom Line?

More and more designers, builders, and building owners are becoming interested and involved in green building. National and local programs encouraging green building are growing and reporting successes, while hundreds of demonstration projects and private buildings across the country provide tangible examples of what green building can accomplish in terms of comfort, aesthetics, and energy/resource efficiency.

According to Eric Martin with the Florida Solar Energy Research Center *(Florida Engineering Society 2005): "Green, or sustainable, homes are becoming ever more prevalent in the new home buying market."* Such homes are designed to be responsive to regional environmental issues by conserving energy and water, providing good indoor air quality, and minimizing waste while maximizing durability. Home buyers are becoming increasingly interested in purchasing such high-performance homes. Some are driven by social responsibility, while others are driven by pure practicality. Energy prices are on the rise, there is concern about the future cost of clean water, families are aware of the link between health and the indoor environment, and experts tell us that hurricane seasons will remain quite active for some time. Various national studies have concluded that today's home buyer is willing to pay a premium for a home with green features, sometimes significantly more than what builders expect.

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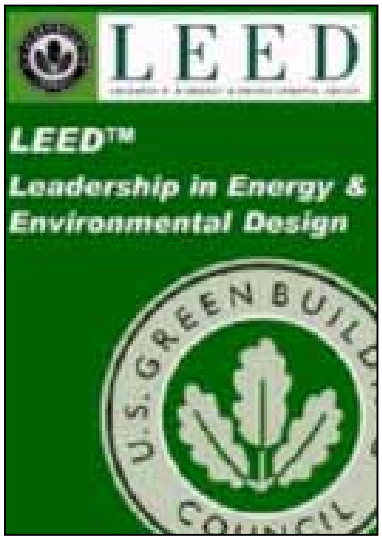
In summary, the general benefits of green development are reduced capital costs, reduced operating costs, increased health and productivity benefits, higher perceived value and quality, staying ahead of regulations, and – finally - the sheer satisfaction that comes from doing the right thing!

How Can I Get Involved?



The U.S. Green Building Council (USGBC) has established the Leadership in Energy and Environmental Design (LEED) Rating/ Certification System.

The U.S. Green Building Council's (USGBC; www.usgbc.org/) Leadership in Energy and Environmental Design (LEED™) Green Building Rating System is a voluntary standards and certification program that defines high-performance green buildings. The USGBC also has rating systems for existing buildings, commercial interiors, homes, and neighborhood developments.

Today the USGBC includes over 16,000 member companies and organizations. More than 1.5 billion square feet of commercial building space has been registered or certified under the USGBC's LEED™ program, and — based on 2010 figures — the annual US market in green building products and services has grown to $60 billion.

Ten years ago, in Florida, a grass roots group composed of university, industry, and environmental organization representatives formed the Florida Green Building Coalition (FGBC; www.floridagreenbuilding.org/). Since its inception in 2002, the FGBC has developed voluntary standards and certification programs for green homes, green developments, green commercial buildings, and green local governments.

Also in Florida, located on the campus of Florida Gulf Coast University (FGCU) in Fort Myers, the mission of the WCI Green Building Demonstration and Learning Center (www.fgcu.edu/greenbuilding/) is to form partnerships and lead initiatives to promote sustainable development and green building within FGCU and the extended community.

The increase in conversations, conferences, and initiatives about Sustainable Design, Smart Growth, and Green Development all indicate a greater commitment to the core premise that the decisions we make today will not only control the quality of life today but also the quality of life for future generations. The more frequently best practices are communicated and celebrated, the more everyone will learn about the importance of and the innovations associated with sustainability. With each success, we all move closer to enjoying the preferred future that designing and engineering a sustainable human environment promises!

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Karisa Taylor graduated with honors from American Military University, part of the American Public University Systems, with her Bachelors of Science in Environmental Science in the Fall of 2011. She has been on the Presidents Honors List, Deans Honors List, and is a member of the Golden Key International Honour Society, and Phi Theta Kappa. She is an active member in many organizations such as SETAC, NMFWA, OEFFA, and NAEP. In fact she brought to fruition the APUS NAEP student chapter for environmental majors at her university, and the first virtual chapter for NAEP. She has a personal passion for the health of others and the planet, and combines these passions by working full-time at a health and wellness office. Possessing an entrepreneurial spirit she recently started True Karisma, LLC, where she creates and sells eco-friendly skincare and household products. In her spare time she enjoys camping, hiking, fishing, reading, writing, and spending time with her wonderful family.

Chemical Toxicity in our Environment and its Implications on Public Health

By Karisa Taylor

Public Health, as defined by the Merriam-Webster dictionary, is the art and science of dealing with the protection and improvement of community health by organized community effort, including preventative medicine and sanitary and social science. There are hundreds of impacts on a public's health from infectious diseases, genetic mutations, social impacts, the environment, and many others. Environmental factors account for as much as 24% of the global burden of disease and 23% of all deaths (Friis and Sellers, 2009). Hippocrates stated, "If you want to learn about the health of a population, look at the air they breathe, the water they drink, and the place where they live" (NIEHS, n.d.).

Chemical agents, one of many environmental hazards to public health, cause a wide array of adverse impacts and can be found anywhere from our home, work, food we eat, to our outside surroundings. Therefore the cause of chemical toxicity related morbidity and mortality needs to be further reviewed and discussed in order to identify relevant exposures, the health impacts of exposure, and review of control and remediation methods for this environmental and public health hazard.

A toxic substance is one that can adversely affect the health of a living organism when exposed to it. Chemicals surround us in our everyday life and can be found in everything from the foods we eat (pesticides), cleaning agents we use, outgases from materials, such as stain-resistant carpets and varnishes, to a variety of materials inside our home and at work. Our bodies are constantly bombarded with a barrage of chemicals. Paracelsus stated, "All substances are poisons. There is none, which is not a poison. The right dose differentiates a poison and a remedy" (SOT, 2011). It is true that it is the dose that makes the poison, and toxicity is quite complex. A chemical's effect depends on many factors, such as the size of the dose, the amount of the dose given in a time span, health, age, gender, and conditions of exposure. Different chemicals can also illicit different responses, with some chemicals being mutagens, some teratogens, and yet others carcinogens.

Mutagens are substances that can cause random changes and mutations within the DNA molecules of cells, and can even be passed on through mutated cells to offspring. Diseases such as cystic fibrosis, Down's syndrome, and bipolar disorder are but a few examples (Ames, Profet, and Gold, 1990).

Teratogens can cause birth defects while the fetus is developing, especially in the first trimester. Teratogens can be from radiation, bacteria, viruses, and chemicals such as PCB's, lead, mercury, and other heavy metals (Ames, Profet, and Gold 1990).

Carcinogens are agents that can cause, promote or enhance the growth of cancerous cells. According to the World Health Organization (WHO) environmental factors and lifestyle, play a significant role in this process, promoting up to 80% of all cancers (Fitzgerald, 2006). Carcinogens can easily be contracted through environmental and occupational exposure (Ames, Profet, and Gold, 1990).

The Environmental Protection Agency has a list of the twenty most toxic and hazardous substances, including chemicals such as vinyl chlorides, PCBs, benzene, chloroform, lead, mercury, chlorinated hydrocarbons, and organophosphates (EPA,

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2011). The chemicals listed above, are just a few of the 850 chemical compounds recognized as neurotoxins, which can cause permanent damage to nerve cells.

Chemicals can create many hazardous problems both inside and outside of the home. One such hazard, known as sick building syndrome, is the toxic contamination of the indoor air quality of a building. Sick building syndrome has many possible causes, including molds, carbon monoxide, formaldehyde, benzene, and other toxic chemicals that are released through varnish, plastics, particle board furniture, paints, insulation, and more. Sick building syndrome can induce a multitude of symptoms including headaches, fatigue, dizziness, nausea, and allergies (EPA, 2010). Most chemicals used in products for daily use are tested safe at an individual low level of dosage, but not at higher dosages or in a synergistic dose with multiple chemicals. It is these synergies and high dosages which most people are exposed to inside and outside of home and work.

The U.S. Center for Disease Control and Prevention surveyed 2,400 people and evaluated them for 148 different kinds of toxic compounds that could be traced in their blood and urine (Hill, 2007). What they found was that every single person tested positive for a multitude of toxins. Of the 9,282 people tested for pesticides, it was found that 100% of them carried an average of thirteen different pesticides in their bodies (Fitzgerald, 2006). Of this population, children were found to have the highest level of chemicals in their systems, most of which were phthalates and pyrethroids, both are chemicals found in household pesticides and plastics (Baker, 2008). The USDA, upon testing ten thousand different food samples, found that an average of ninety-two different pesticides were in foods (Fitzgerald, 2006).

Clearly there is evidence that chemicals accumulate in our systems, often long after the chemical has been banned, and usually before we even leave our mothers womb. This is evident in studies, such as those listed above, that have shown multitudes of chemicals and pesticides to be found in samples of blood taken from individuals, chemicals found in umbilical cord, and even substances such as DDT being found in other countries that had never had exposure in their area (Easton, 2011).

Disclosure of chemicals and their health impacts to the EPA are the responsibility of the companies that produce these chemicals. The Government Accountability Office, a division of Congress, estimates that the EPA only receives about 15% of the health impact data sheets from companies on the chemicals they produce (Baker, 2008). Many governmental agencies even recognize that the magnitude of chemical toxicity and the implications to public health is largely unknown. The National Institute of Environmental Health Science (NIEHS), a branch of the National Institute of Health (NIH), has posted a statement regarding chemical exposure that reads, "We're struggling to look at where genetics and the environment interact with the human cell…causing a chain reaction leading to diseases like cancer, Parkinson's, arthritis, heart disease and other diseases. Though we still do not understand the root causes of many of these serious chronic diseases, we suspect they can be caused or triggered by chemicals and other environmental exposures, from years before." The University of Massachusetts appears to have proven the statement by the NIEHS. The University researchers completed a cancer study in 2005 that included a half century's worth of data. The researchers connected the pattern between synthetic chemical production and higher rates of cancer from 1950 to 2001 (Fitzgerald, 2006). The study, which used an age-adjusted rate, showed that cancer rates have increased by 85% since 1950, coinciding with the increased creation of more and more synthetic chemicals.

Another study, completed by Health Canada, looked at pesticide exposures in lab animals in 2001 and showed that 80% of the babies born to animals that had been exposed to household bug sprays and weed killers either had developmental or abnormal behaviors or were born dead (Fitzgerald, 2006). A 2005 study of lactating women in eighteen different U.S. states found toxic levels of perchlorate in breast milk, a level of 86 parts per billion (ppb). This level is higher than the 62.5 ppb level that triggered an FDA recall of PCB contaminated cow's milk. Yet this is in the breast milk of humans and is passed onto their babies at levels that, according to the National Academy of Sciences, are higher than levels deemed safe for an individual over an entire lifetime (Baker, 2008). If breast milk were to be sold in grocery stores, like cow's milk, the FDA and EPA would most likely classify it as a hazardous substance and not allow the sale of the milk. It would appear that babies, who have very sensitive and underdeveloped immune systems, are potentially being subjected to this chemical unbeknownst to their mothers.

The National Institute for Occupational Safety and Health (NIOHS) studied roughly 2.6 million U.S. death records and found the following: farmers exposed to pesticides and welders exposed to welding fumes have a higher incidence of Parkinson's disease; hairdressers are at a higher risk for Alzheimer's and other motor neuron diseases due to chemical dye and solvent exposures; and aircraft mechanics, veterinarians, and produce

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graders and sorters have the highest risk of dying from ALS due to chemical exposures (Fitzgerald, 2006). These statistics alone should make it abundantly clear that the effects of single chemical toxin exposure, as well as the synergistic effects of multiple chemical exposures, are largely unknown and the exposure to multiple chemicals and combinations of chemicals accumulating in our environment and in our bodies can be extremely harmful to our health. The magnitude of chemicals that the public is in constant contact with and absorbing into their systems, through a variety of exposure paths, is most certainly a cause of concern for public health as a whole.

The exposure path is the route through which chemicals can enter into the human system and build up to create a synergistic and toxic effect. Exposure occurs primarily in four different ways. The first is through the air we breathe. Volatile Organic Compounds (VOCs) are released into our environment through evaporation of contaminated waste and through outgassing of chemical products, such as paints and lacquers, pesticides, building materials and furnishings, copiers and printers, cleaning, disinfecting, cosmetic, degreasing, and hobby products, which we then inhale. The EPA's Office of Research and Development's "Total Exposure Assessment Methodology (TEAM) Study" found levels of nearly a dozen common organic pollutants to be from two to five times higher inside homes than outside, regardless of whether the homes were located in rural or highly industrial areas (EPA, 2010). VOCs can cause a variety of ill health effects such as respiratory irritation, headaches, loss of coordination, nausea, damage to liver, kidney, and central nervous system, cancers, and skin allergies (EPA, 2010).

The second path of exposure is through the food we eat. Consumption of grains or produce contaminated with pesticides and other pollutants, as well as the consumption of contaminated meats, dairy and eggs expose humans to potential chemical toxins. Our food items can become contaminated through pesticide application and VOCs settling on foods. Chemical and anti-bacterial laden fodder fed to farm animals can accumulate in the meat that we later consume. In 1990, the American Association of Poison Control Centers reported that some 79,000 children were involved in common household pesticide poisonings or exposures each year.

The third exposure path of chemical exposure is via the water that we drink. Agricultural pesticides and fertilizers, household chemicals, improperly discarded pharmaceuticals, and many other contaminants enter into our water supply and do not get properly filtered out before reaching our glasses.

The final exposure path is through soil as crops uptake the chemicals in the soil and retain them in their skin and flesh. Thus, chemicals are potentially passed onto us when we eat them (Hill, 2007).

These are examples of why paying a little more for organic foods and natural, chemical-free household products are worth the price in the long run. The more natural, organic, and chemical-free products you are in contact with and inhale or ingest, the less chemicals you will be adding to your body burden. Clearly chemical exposure can cause negative implications to public health.

Bioaccumulation is another complication of chemical exposure. Bioaccumulation is the tendency for a chemical to build up in a living organism's body because the chemical either does not easily breakdown in the body or it binds to specific sites within the body. This phenomenon causes chemical levels to be much higher than tested safe for a person (Hill, 2007). PCBs (polychlorinated biphenyls) and POPs (persistent organic pollutants) are examples of bioaccumulative chemicals. PCBs, although no longer manufactured, are very difficult to break down. Since they are fat-soluble, once they are acquired they accumulate in fatty tissues. Metals, such as lead, are another example of chemical elements that can bioaccumulate. Lead is especially dangerous because it does not break down and becomes incorporated into the blood, bones, and teeth (Hill, 2007). When chemicals persist within the human body that cannot easily be broken down or excreted, the body becomes over-laden with chemicals, known as body burden. Our bodies were never meant to handle such a constant chemical onslaught. As a result, many chemicals never get removed from our bodies and accumulate inside of us, which can create cancers and other chronic diseases. Toxic chemicals can be hard to define, since the level of toxicity varies with each individual chemical.

Toxicity is the study of toxins and the effects on living organisms, such as animals, humans, and the environment. Toxins are able to damage, destroy, and kill by reacting with cellular components in a living organism's body as well as disrupting metabolic functions and hormones.

Both natural and synthetic chemicals can be toxic, and many chemicals are toxic at very low doses. Yet, as seen above,

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chemicals can be persistent or bioaccumulative as well. Therefore, you may only be exposed to a small amount from one product and have an acute response, or you may be exposed to many products over periods of time creating a chronic response. Thus toxic chemicals need to be evaluated for a dose-response relationship and items such as threshold, latency, and synergism, need to be explored.

Threshold refers to the lowest dose of a chemical in which a particular response may occur (Friis, and Sellers, 2009). The difficulty in evaluating threshold in relation to chemical toxicity is that it is hard to narrow down diseases caused by chemicals due to latent effects (the time between exposure and development of disease) as well as synergistic effects of chemicals. Synergism is defined as the combined effects of several exposures. Synergistic effects can be greater than the sum of the individual effects (Friis and Sellers, 2009). Little is known about how thresholds of a multitude of chemicals react together within a living organism. Constant exposures to a variety of chemicals in our environment are complex. Research on interactions, synergies, acute and chronic health effects and public health consequences are only beginning to be researched and fully realized. So how does one assess the implications of chemical toxicity on public health?

The most effective way to evaluate a chemical's toxic effect on public health is through a risk assessment. Risk assessment consists of four steps: 1) Hazard Identification, 2) Dose-Response Assessment, 3) Exposure Assessment, and 4) Risk Characterization.

Hazard identification involves collecting and analyzing data on the chemical in question. This data can be collected from research literature, government agency profiles, like those through the EPA, the manufacturer, past epidemiological studies, and other informative sources (Hill, 2007). The questions that need to be asked during the hazard identification stage should include: What toxic effect does the chemical cause on laboratory animals? Does it harm the respiratory system, interfere with respiration, cause birth defects, or suppress the immune system? How does exposure occur, through the skin, inhalation, or absorption? What is the lowest dose that shows signs of adverse affects? Once these and other questions are answered then the second step, the dose-response assessment, can be done.

In this step, different groups of living organisms, usually laboratory animals, are exposed to increasing doses of the chemical. The laboratory animals are then observed over various periods of time: days, weeks, and months and their response to each dose is evaluated. There are usually three to four different groups involved, one that serves as the control, one that receives low doses, one that receives a higher dose, and one that receives an even higher dose. The highest dose tolerated without negative effects is known as the no observed adverse effect level (NOAEL) (Hill, 2007). In order to use this information for human use the scientist assumes the average person is ten times more sensitive than the lab animals and then that some humans are ten times more sensitive than other humans. This allows a safety factor of 100 to be determined. This information is then used to determine the reference dose by dividing the NOAEL by the safety factor (Hill, 2007). The reference dose (RfD) is what determines the dosage that is considered safe for humans over a lifetime of exposure. The smaller RfD a chemical has, the more toxic the chemical. After these first two steps are done the exposure assessment and risk characterization are started.

The exposure assessment looks at the level of chemical exposure, the source of the chemical (such as air or water), the route of exposure (inhalation, skin absorption, ingestion), the most highly exposed populations (such as children in old houses with lead paint or communities built close to a hazardous waste site) and the worst-case assumption scenarios. Finally, risk characterization brings all the previous steps together so that a complete picture of the chemical, its hazards, dose-response toxicity, and exposure can be learned (Hill, 2007). Once these steps are completed preventative measures can be taken and risk-management tools and remediation can begin in places known to have chemical toxicity endangering the health of the public.

Prevention to protect public health from chemical toxicity comes in three forms: primary, secondary, and tertiary. Primary prevention includes risk management laws and regulations to lower emission rates, ban certain chemicals and control quality of substances (such as the Toxic Substances Control Act, Clean Air Act and Clear Water Act). Government, manufacturers and industries can work together to reduce emissions, create safer and more environmentally friendly chemicals, find cost-effective methods to reduce pollution, and identify potential sources and remove them prior to exposure.

Secondary prevention includes educating the public about toxic chemicals. This education includes information on the proper ventilation when using chemicals, the appropriate use of PPBs, how to safely use pesticides and other chemicals, and providing information on how to test for other substances in

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Chemical Toxicity

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their home (like radon, carbon monoxide). This can help save people from unknowingly exposing themselves to a variety of chemicals that are within their control. Unfortunately, exposure to various chemicals on a daily basis in buildings, at work, and outside is largely out of our control to an extent. If the public is given information on how to control the chemicals they do use and consume, then the body burden each of us carries can be lessened. Eating organic foods for example is not only better for the environment, but it is also better for public health by reducing exposure to pesticide-laden food. Using natural cleaners, such as white vinegar, hydrogen peroxide, and essential oils in the home can clean just as effectively as commercial chemicals without the toxic exposure. Using live plants inside the home not only produces a lovely ambience but they also help clean the air of VOCs. The more the public is educated and made aware of issues such as sick building syndrome, the effects of everyday chemicals, and alternatives to toxic chemicals, the better chance the public health system has to create a healthier, less toxic society.

Finally, tertiary prevention includes treating those who are already ill from exposure to minimize further debilitation. Remediation to clean up hazardous sites, such as those on the EPA's National Priorities List is also necessary. Non-regulatory methods such as pollution prevention, better waste treatment facilities, bioremediation, using less toxic substances and providing adequate ventilation indoors are other ways to help reduce the effects of toxic chemicals already in our environment and to control the amounts of chemicals released. Although everyone is susceptible to decreased health and immunity due to chemical toxins, the young, elderly, and immunocompromised are most vulnerable due to their less developed or weaker immune systems.

In conclusion, chemical toxicity has a huge impact on public health. As humans are subjected to more and more chemicals, their toxin levels become higher and they increase their body burden. Our bodies are not designed to handle the amount and variety of chemicals to which we are exposed. Many chemicals are persistent and bioaccumulate in our organs, blood, cells and fatty tissues. This creates a chemical cocktail that can potentially create a variety of ill effects from nervous system disorders, heart disease, cancers, Parkinson's, Alzheimer's, allergies, respiratory complications and many others.

Granted, there is not enough funding or time to test every single chemical exposure and evaluate the life span to see the overall affect on human health. However, as this paper has presented, the evidence suggests that environmental exposure to chemicals may cause adverse effects in humans and the environment (EPA, 2011). The suggestion of adverse health effects should be enough to warrant caution concerning the usage of these chemicals. Erring on the side of caution seems the ideal route, as prevention and early detection is significantly more manageable than remediation. Reducing our reliance on synthetic chemicals and becoming more educated in the proper use of chemicals is necessary.

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Chemical Toxicity

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The cost to lower chemical toxicity can sometimes be large such as in a site remediation, or inexpensive such as making your own natural cleaners, buying plants, and choosing organic products. However, the cost to not reduce chemical toxicity for public health takes a much higher toll in the form of medical bills, environmental degradation, and the creation of a more disease-prone and illness-ridden society. The chemical toxicity in our environment and its implications on public health are huge. Therefore assessment, education, and remediation to lower society's chemical exposure is paramount.

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NAEP January 2012 Board Meeting Update

The January 2012 Board meeting was held in beautiful Pensacola, Florida, the first European settlement in North America. By a nearly unanimous vote in October, the Board wanted to stay on the beach, so the reservations were at Pensacola Beach, home of the world's whitest beaches. The western end of Santa Rosa Island is also the location of a civil war era fort (Ft. Pickens) and the final prison for Apache Indian chief Geronimo and 50 Chiricahua Apache men, women and children who were imprisoned in Fort Pickens Oct 1886 to May 1888. Nearby and also part of the Gulf Islands National Seashore is the headquarters at Naval Live Oaks. This location is the site of the first forest preserve for naval live oaks, in 1928. The Live Oaks were used for making all of the parts of the sailing ships before the civil war. All together the components of the National Seashore spread from the Panhandle of Florida to the Mississippi Gulf Coast and Cat Island at the border of Louisiana and Mississippi. Approximately 3.3 million visitors come to this beautiful gem of coastline each year.

The last newsletter contained an article "Going Green," written by Keith Wilkins and Matt Kelly, environmental staff for Escambia County. The article featured the Escambia County Florida LEED Gold Certified Central Office Complex. Keith and Matt arranged to have the Board meet at the County Building and gave the Board a tour of the building, including the green roof, over lunch. To add a bit of fun to the experience of travelling from the hotel to the County Building (approximately 30 miles) Keith also made arrangements for the Board to ride on the County's "trolley," a trolley shaped bus that is also available to residents for many celebrations.

Friday evening was spent meeting the local FAEP contingent and Saturday the Board members who remained enjoyed a great dinner at Hemingway's. All in all the fun part of the weekend was done very well.

As for the Board meeting, it was a full day of decisions and information. WE had a large number of attendees and good representation on the telephone. On the most positive note, Joe Musil gave us all great news as a late Christmas present. NAEP made money this year, enough to put some into our reserves for the second year in a row. We have been able to make the webinars a secondary revenue source that is helping us to balance our budget. We also keep seeing membership increasing slowly, which is great news.

One of the more important changes coming to the NAEP is our proposed realignment of the committee and working groups. While the implementation is not due until after the Conference, the planning and defining of the changes is underway. A draft reorganization structure was presented for the consolidation and integration of the more-than-30 existing committees and working groups into nine consolidated committees. The proposed committees are Awards, Chapters, Communications, Conference, Education, Elections, Environmental Policy, Finance, and Membership. Comments on the proposed structure are welcome. A final proposal for Board approval is planned for the May Board meeting.

The 2012 Board elections were also discussed. The four new members of the Board will be sworn in at the Conference in May. They are: Courtney Arena, David Dickson, Bill Plumpton, and Lijin Sun. Bill Plumpton previously served on the Board as the Pennsylvania chapter representative.

The Board reviewed the Environmental Practice journal with editor Dan Carroll. Dan indicated that the journal is working on renewing its Editorial Advisory Board membership. If interested in being a member of the Advisory Board, please send a resume to Dan Carroll (dcarro17@depaul.edu).

Upcoming Board meetings are in Portland in May, Kansas City in July, and Los Angeles in October. Members are welcome to attend and observe these meetings.

Meanwhile, check out the NAEP Linked In and Facebook pages. Also, volunteer to help out with the National Desk Newsletter, the NAEP website, or one of the NAEP committees.

NAEP plans to continue investing in its training and webinar series. In the last quarter, there was the Bald and Golden Eagle workshop, and a Native American tribal consultation workshop took place in January. Upcoming plans are for a CEQ NEPA streamlining webinar, American Public University training, a webinar on the Gulf of Mexico BP cleanup, and a webinar on NEPA case studies. There is an announcement of the most up to date webinar information (subject and date) in this newsletter. Keep up with these offerings. We are trying to maintain the DePaul CEU credits for all of the webinars and working on getting similar credit recognition from the APA.

Member Spotlight: Robert S. Cunningham

Recently, I was offered the opportunity to describe my career spanning 40 years of public service and reflect on what it means to be an environmental professional. The opportunity arises as I face the life-changing choice to retire from federal civil service and pursue the next phase in my career. A career whose living, working, and being all of us enjoy. First, it may be helpful to describe my life and profession. Our organization, the National Association of Environmental Professionals (NAEP), enriches both.

I am a westerner. A little before European settlement, I was born in California and raised in Arizona after few years of early grade school in Lubbock, Texas. Life was a bit challenging growing up in Tucson during the late 50's into the early 70's. Not brutal poverty. Let's say a great opportunity to appreciate what it takes to just get by. With scholarships and a host of odd jobs, I graduated with distinction from the University of Arizona with Bachelor and Master of Science degrees. I elected to study water resources, hydrology, forestry, engineering, and biological sciences. Yes, I was one who secured a government-backed loan so I could go to school. There was no other way I could attend. After drawing a rather high draft lottery number, I finished at the University and set about to see if I could repay the loan.

My first full-time job was Hydrologist for the Hiawatha National Forest in Michigan's Upper Peninsula. The first day on the job, I visited the Supervisor, Mr. Trout. His office was next to the Administrator's office, Mr. Fish. Who in turn was next to the Biologist's office, Mr. Wolf. I didn't think they would go to all that trouble just to haze the new guy. No. Mel Brooks had not cast the staff. The next 40 years proved as entertaining as the first day.

I moved on the Shawnee National Forest to run a very large abandoned coal mine reclamation project using secondary sewage sludge from Chicago as the medium for remediation. The project was my introduction to the inherent energy of public opinion regarding innovative natural resources management. For some reason, local folks did not like the idea of Chicago sludge gracing their landscape.

The next stop was the Forest Service Regional Office in Atlanta. From Regional Hydrologist, I moved on to the Regional

Bob and his sister Maureen at the wedding of his youngest son.

Planning Team there. My first son and daughter came along, as did an assignment to the National Forests in North Carolina. There my understanding of public engagement began to mature.

There are four National Forests in North Carolina. In the early 80's, I led the team for two National Forest Plans and associated impact statements. One plan was for the two National Forests in mountainous western North Carolina, and the other for the National Forests in the Piedmont and Coastal Plain. Public engagement in the development of the plans was extensive and often heated. People wanted a say in how their public land was going to be used. We heard what they said.

Unfortunately, it was not the same thing as what the Forest Service believed was technically appropriate for managing the Forests. Welcome to the manager's dilemma. After the birth on my youngest son, my friends chided me for having my last child twice, impugning my planning skills. Taking the hard won lessons in stride, I did the most logical thing. I moved to the Eastern Region in Milwaukee.

There, I served as the Assistant Director for Planning, NEPA implementation, and appeals and litigation, a role similar to that in North Carolina, only with many more National Forests in the mix and no budget responsibilities. I spent most of my time working with National Forest Staff and groups that had appealed the newly minted Forest Plans. As a professional with now over 15 years of experience, I gained a much better understanding of the clash between public desires and technically correct, but not necessarily appropriate, answers to complex problems. I also observed how decentralized-organizations,

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government as well as non-government, respond to perceived threats. Disagreements are somehow seen as threatening, rather than enriching opportunities to consider alternative paths.

In the early 90's, I moved on to the Forest Service National Office in Washington, DC where things got very interesting indeed. As Branch Chief for Environmental Compliance, I finished revision of the Forest Service NEPA procedures. In Washington, Federal Register notices, inter-departmental and the President's Council on Environmental Quality (CEQ) reviews, and Congressional involvement are the daily norm. The pace is blistering with little time for reflective contemplation.

The business of public service in Washington takes no prisoners. Common lore is you have one opportunity to make a mistake - your replacement will make the next one. In a program that borrows agency career staff for work on Capitol Hill, I served as the natural resources staff to the Majority Deputy Whip in the House of Representatives, Bill Richardson. An eye-opener regarding how the Congressional staff actually work together to accomplish meaningful service to the home district and the nation, or at least how they used to! At the conclusion of my tenure, a friend sent an announcement that the National Science Foundation (NSF) needed an expert to implement NEPA for the United States Antarctic Program (USAP), an international program supporting hundreds of scientists in the Antarctic environment. An opportunity I couldn't refuse.

At NSF, I was able to implement NEPA procedures for USAP with little fanfare, overcoming the fears that NEPA would throw sand in the gears of pressing scientific investigations. Along with a very aggressive waste management program, the environmental accomplishment of the NSF in Antarctica improved dramatically. NEPA procedures were integrated with those of the participating Antarctic Treaty members such that proposed science and science-support projects were efficiently and effectively reviewed, improving both.

I even hosted a public scoping meeting at the South Pole for a new station then undergoing planning. With no place else to go, attendance was high. The common theme was that people living in that isolated environment wanted to have at least their own private room for sleeping. Because we were scoping the project, not the document, with the design team, the final station design was changed to meet the desires of those most affected and certainly most interested in the outcome. The professional lesson is clear. NEPA is a powerful planning tool if you use it right.

After winning Senior Executive Service Certification while at the NSF, I was borrowed again to serve as Associate Director at CEQ to lead an effort to improve NEPA practices government-wide. There, I first met NAEP's Jim Roberts. His enthusiastic dedication to professional environmental practice and the efforts of NAEP truly impressed me and guided my continued involvement over the last 15 years. After service as the federal liaison to the Committee of Scientists reviewing the Forest Service planning procedures, the Chief of the Forest Service asked if I would head the national team to rewrite the agency planning regulations. It was back to the Forest Service into a highly charged political environment.

From 1998 to 2000, with help from a few close co-workers, I developed draft and final planning regulations, with all the necessary procedural hurdles and inter-departmental wrangling. The professional lessons won are best summed as having infinite patience and the ability to work almost every waking moment. I was able to include section 101(b) of NEPA as an overarching principle in considering activities on National Forest System land. The new planning regulations lasted as long as the then current Administration remained in charge, less than two months. The new Administration, with the change in political party, threw the regulations out, furthering the Washington axiom that no good deed goes unpunished. Actually, the experience was a wonderful opportunity to take on the job as Assistant Director for Land and Realty Management in the Forest Service National office. It also spurred me to take up motorcycling as a weekend hobby along with home repairs and remodeling. Now, my grown children and my neighbors seem to frequently need an experienced handyman!

In my new Forest Service role, the responsibility for the real estate functions for 193 million acres of public property was at times somewhat overwhelming. Little known among polite circles, the Forest Service has over 80,000 land use authorizations ranging in complexity from multi-million dollar energy production and transmission infrastructure, ski areas, 15,000 summer homes and commercial establishments, to mail boxes, a statue of Jesus, and even worm farms. Among federal agencies, The Forest Service's installed hydropower capacity of 16,000 MW is second only to that of the Corps of Engineers. Renewable energy production is now emerging as a legitimate use of public land.

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Many of these uses, authorized under no fewer than 26 individual acts of Congress, require close coordination with other federal departments and agencies.

During the last decade, I led the agency and USDA efforts in revising hydropower, cost recovery, electric transmission, and wind energy directives, along with the designation of energy corridors in the 11 Western States, co-authored the Nine Agency Memorandum of Understanding for locating electric transmission on federal lands, and was charter member of the oversight committee for the Obama Administration's Rapid Response Team for Transmission. Each of these efforts and a host of Congressional engagements amplified my understanding of the importance of working across traditional agency boundaries and within true interdisciplinary teams.

Our use of natural resources and our modern life demand the best of our professional efforts and accomplishments through application of interdisciplinary skills. I have had the pleasure over the last several years to participate in and chair the NAEP Environmental Excellence Awards program. Many of these successful projects exemplify the real effort it takes to work among divergent interests, professional disciplines, and often overly engaged public participants.

After receiving recognition for 40 years of federal public service in November 2011, I concluded it was time to move on to other things. I have established *Pathway Consulting Service,* LLC and am now directing my efforts toward aiding project proponents and agency professional staff in strategically engaging multiple federal, state, and tribal agencies. My focus is on agency permitting and regulatory responsibilities and ways to work with agencies and their decision-making hierarchies. Too often, necessary environmental reviews, permits, and consultations are entangled in agency procedures and miss opportunities for real improvements.

I am partnering with Judith Lee, President of *Environmental Planning Strategies, Inc.* to provide services to agencies and project proponents. Judith, through Facilitated Planning©, often partners directly with authorizing agencies in helping agency teams and proponents work with their own contractors to provide high quality planning and analyses, documents, strategies, and integrated interdisciplinary procedures, as well as focused public engagement strategies. Judith is expert in facilitating planning within the framework of inherently governmental functions and the achievement of meaningful interdisciplinary results. Our partnership capitalizes on our skill and experience applicable to a variety of projects and training needs.

In reflecting on these many years of public service and professional life, I am struck by the role NAEP is playing in the development of true environmental professionals dedicated to seeking solutions to the complex problems we face daily. It is with this understanding that I am welcoming the opportunity for service in a new role. There is much work to be done. NAEP is helping to make it happen.

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NAEP MARCH 21, 2012 WEBINAR ANNOUNCEMENT

Using Avoidance Strategies to Facilitate Review of Renewable Energy Development Projects on Public Lands

Go to WWW.NAEP.ORG to register

The current administration under the leadership of President Barack Obama has highlighted the development of renewable energy sources, and particularly wind and solar technologies, as a means to reduce the nation's dependence on fossil fuels, curb climate change, improve the environment, and create jobs. Several states have followed suit by establishing their own policies to stimulate investment in alternative energy technologies. These new policies have resulted in record numbers of right-of-way applications for renewable energy projects, and particularly wind energy farms and solar energy facilities, on publicly owned lands. The Education Research & Science Working Group has developed an informative webinar that is aimed at sharing pragmatic guidance for streamlining the environmental compliance process, based on renewable energy projects that have been successfully entitled on public lands during the past several years. NAEP's goal is to provide members and other environmental professionals in the nation lessons learned from successful projects.

The webinar panel will consist of representatives from the Bureau of Land Management, enXco Development Company, Sapphos Environmental, Inc. and EMPSi. This webinar will focus on the due diligence that should be undertaken in preparing to process a right-of-way application for development of a renewable energy project on public lands. In particular, the level of detail required for a project description and required technical studies to support the environmental evaluation pursuant to NEPA will be described and discussed. The webinar will highlight considerations for incorporating strategies early in the project planning process to avoid significant impacts and enhance the opportunities for consistency determinations and no net effect determinations related to cultural and natural resources.

Date and Time: Wednesday, March 21, 2012 at 1pm ET (12pm CT, 11am MT, 10am PT)

Duration: Event will last 90 minute

Location: Wherever it is convenient for you

Questions: Please contact Tim Bower at 856-283-7816 or email him at naep@naep.org

Registration Fees:

- NAEP members — $79.00
- NAEP Affiliate Chapter members that are not NAEP members — $98.00
- Non-members (NAEP or Affiliated Chapters) - $109.00 (Save $30—please consider joining to receive the member rate for this and future events
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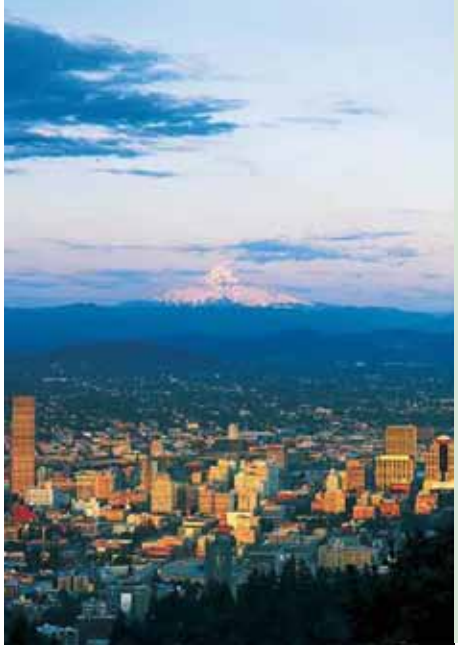

National Association of Environmental Professionals

Science, Politics and Policy: Environmental Nexus

NAEP 37th Annual Conference

Sign up NOW! Registrations are coming in fast, we are well ahead of last year's registration rate. Don't miss out on a great conference, go to www.naep.org/2012-conference and register now.

The schedule is coming together for the conference. Speakers have submitted their papers, keynotes have been reconfirmed, and we have received approval for almost the entire conference for AICP Maintenance credits.

Reserve your room!

If you are planning on attending and haven't made your hotel reservation you should do so now as the hotel is rapidly filling up. Because there is another convention in town we are not able to expand our room block.

TWO FULL-DAY SYMPOSIUMS

The two full day Symposiums are proving to be very popular. Be sure to include this in your registration if you wish to attend either. The highlight of the **NEPA and Decision Making** Symposium is a Q&A session with Ninth Circuit Judge Diarmuid O'Scannlain. This is a rare opportunity to hear the story from the other side of the bench and to ask questions of one of those who pass ultimate judgment on the adequacy of NEPA documents. Also: a panel of NEPA litigators, a Forest Service decision maker, and the Northwest's own Prof. William H. Rodgers.

The **Advance Topics in Visual Resource Impact Assessment Symposium** will focus on Visual Impact Assessments prepared for large scale renewable energy projects targeted for both private and federal public lands, and the similarities and differences in assessment methods. Individuals will finish the training with a "tool-kit" to complete a thorough and defensible VIA consistently for a broad range of projects.

If you have any questions, email Donna Carter at naepfl@verizon.net or call 863-949-0262.

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NAEP APRIL 25, 2012 WEBINAR ANNOUNCEMENT

CEQ Guidance on NEPA Review and Streamlining

The Council on Environmental Quality (CEQ) has issued its guidance on "Improving the Process for Preparing Efficient and Timely Environmental Reviews under the National Environmental Policy Act," that was circulated for public review and comment from December 13, 2011 through January 27, 2012. This Guidance is part of the ongoing efforts to modernize the NEPA process and expedite the permitting and other environmental decisions involved in the development of needed infrastructure projects. The Education Research & Science Working Group has collaborated with CEQ and the U.S. Forest Service to develop a webinar that will provide guidance for preparing concise and technically and procedurally adequate environmental documentation that complies with the National Environmental Policy Act. The webinar will consider pragmatic approaches such as the effective use of the scoping process to identify and integrate the NEPA process with other applicable statutes and regulations.

Horst Greczmiel, CEQ associate director for NEPA oversight, will provide an overview of the guidance that outlines techniques and practices provided by the CEQ NEPA Regulations for agencies and practitioners for focusing and producing effective environmental documents and the related NEPA review in less time. Mr. Greczmiel will be joined by Mr. Joe Carbone, Assistant Director for the National Environmental Policy Act, in the Ecosystem Management Coordination Branch of the U.S. Forest Service. Mr. Carbone will share the work U.S. Forest Service has advanced in the spirit of the Guidance.

Date and Time: Wednesday April 25, 2012 @ 11:30 am PT, 12:30 pm CT, and 1:30 pm ET

Duration: Event will last 90 minutes

Location: Wherever it is convenient for you

Questions: Please contact Tim Bower at 856-283-7816 or at naep@naep.org

Registration Fees for a single session:

- NAEP members — $79.00
- NAEP Affiliate Chapter members that are not NAEP members — $98.00
- Non-members (NAEP or Affiliated Chapters) - $109.00 (Save $30—please consider joining to receive the member rate for this and future events)
- Full time Students can participate at a reduced fee of $39.00

Looking for Career Advice from Top Environmental Experts? Register for a Complimentary Career Advice Three-Part Webinar Series

With the current economic conditions and job market, Environmental Professionals need to stand out in order to compete for jobs or to advance their careers. Recognizing this challenge, the National Association of Environmental Professionals (NAEP) and American Public University (APU) are bringing together top academic leaders and subject matter experts to collaborate on a 3-part webinar series, helping educate environmental professionals on this highly informative topic of career preparation. Register today at www.studyatapu.com/NAEP-Webinars to learn critical skills that may help you shape the future of your career in this field!

NAEP and APU have selected some of the top environmental experts today to provide relevant and cutting-edge career advice that you can use to help you advance in your field. The caliber of the experts speaking at this webinar series really highlights both NAEP and APU as thought leader organizations in the environmental field as well as their legitimate interest and commitment toward helping drive professional advancements through career-relevant education.

Taking advantage of this career-advice webinar series is complimentary and is offered for registration on a first-come, first-served basis. Attendees will need to register separately for each webinar. For more information, please refer to the webinar descriptions below.

Part 1 • Preparing to Stand Out — Wednesday, March 28, 2012 - 12:00 p.m. - 1:00 p.m. ET
Long-time career professionals will share tips for navigating employment and application procedures for jobs in the federal and local government, as well as private and consulting firms. With the challenging economic environment today, employers have the opportunity to be extremely meticulous when it comes to selecting the perfect candidate from a pool of applicants that can often reach the 100's. Topics covered will include: simple application enhancements to help you stand out, resume submission best practices, self-assessment questions for finding the perfect job, relationship building tips, mastering the job interview, and demonstrating your qualifications beyond the resume and cover letter. Attendees will also get a "sneak peak" of the results of 2012 NAEP/ECC National Environmental Employer Survey revealing details on how best to enter or advance in an environmental career.

Part 2 • The Perfect Resume — Wednesday, July 18, 2012 - 12:00 p.m. - 1:00 p.m. ET
This resume-focused session brings experts to the table providing a deep dive on building a powerful resume. Attendees will hear perspectives from experienced HR and hiring managers as well as top career development experts in the industry who play active roles at the National Association of Environmental Professionals. Speakers will address the following: understanding the different needs between the federal and private sectors, documenting your key accomplishments, highlighting your daily responsibilities, appropriate use of language and grammar, using resume builder software and keywords, cover letter etiquette and formatting, and online resources for additional reference. An overview of the career services department at American Public University will also be provided.

Part 3 • Leveraging LinkedIn to Land Your Next Job — Wednesday, October 17, 2012 - 12:00 p.m. - 1:00 p.m. ET
Our tech-savvy panel will cover the ins-and-outs of how job hunters and employers utilize social media and how you can leverage LinkedIn to network your way to your next job. Topics to be covered include: strategies for job hunting, importance of networking, social media best practices, job boards and social media sites, how social media can help or hurt your search, participation in associations, chapters and communities, and managing your personal brand.

We invite you to join us to learn critical skills that will help you shape the future of your career in this field. Register today at www.studyatapu.com/NAEP-webinars

Academy of Board Certified Environmental Professionals Supports Professional Development Presentations at National Association of Environmental Professionals Annual Conference.

May 22nd • GET YOUR CAREER WHERE YOU WANT IT TO BE

Environmental professionals need to stand out in order to compete for jobs or to advance their careers. It is critical to stay abreast of the latest changes in regulations, technology, and best practices. Continuous professional development has always been essential for individuals who want to achieve high performance in environmental planning, management, and compliance.
READ MORE:
http://www.abcep.org/e_comm/2012_presentations/ABCEP_AT_NAEP_CONFERENCE.html

May 23rd • A PROFESSIONAL'S BODY OF KNOWLEDGE

Environmental professionals must understand a broad range of scientific, social, and environmental concepts, terms, and principles. We also must be able to access and understand a large amount of useful, accurate, and current information if we are to carry out our activities effectively and professionally. What concepts must be understood? Where can the most useful and relevant information be obtained? READ MORE:
http://www.abcep.org/e_comm/2012_presentations/ABCEP_AT_NAEP_CONFERENCE.html

May 24th • CEPs IN ACTION

Certified Environmental Professionals are working! This is a time when job openings continue to be scarce and competition is fierce. Staying in your current position or finding a job if you don't have one, is a daunting and nerve-wracking task. Yet, there is something you can do to increase your value to your current employer or to a perspective one: become a Certified Environmental Professional (CEP).
READ MORE:
http://www.abcep.org/e_comm/2012_presentations/ABCEP_AT_NAEP_CONFERENCE.html

Chapter's Committee Report

With the start of a new year, the chapter committee welcomed some new representatives and presidents to the committee and thanked outgoing members for their service:

- Florida: Kristin Bennett is a new chapter representative and president; Bruce Hasbrouck is a new chapter representative.
- Rocky Mountain: Tyler Sparks is the new president
- Hawaii: Maura Mastriani is the new president

The Chapter's Committee met in January and spent its time discussing the results from the Board of Directors Meeting on January 21st, the status of the NAEP – Chapter Joint Marketing Brochure, the status of the Guidelines for Submission and Review of NAEP Affiliated Chapters' Annual Budget Requests, and the initial planning for the 2012 chapter retreat.

The Chapter's Committee met in February and spent its time discussing the planning for the 2012 chapters retreat in detail. Members of the NAEP board participated in this meeting and the planning for the retreat.

Two groups of very dedicated individuals that are trying to start NAEP-affiliated chapters in two locations: NY and Central Texas. Both groups are excited about starting a chapter and are working hard to finding other NAEP members that are interested in starting a chapter. If you are interested in being part of a new NAEP chapter in either NY or Central Texas, or know of others that may be interested, get in touch with the groups trying to start these affiliated chapters.

- In NY, contact: Joe Sicluna at jsicluna@dot.state.ny.us
- In Central TX, contact: Eric Holsten at EHOLSTEN@HNTB.com

Additionally, there is some growing interest in starting a chapter in Tennessee. If interested in being part of a Tennessee chapter, contact Bill Plumpton and let him know that you are interested; he will put you in touch with others.

A reminder that all Chapter Representatives and Presidents are members of the Chapter Committee and all are welcome to participate in committee meetings, even if you haven't participated previously.

If you have an idea or activity for the Chapter's Committee to tackle, interested in starting a chapter in a state or area presently without one, or have questions about the committee, contact Bill Plumpton, committee chair at (717) 763-7212 ext 2142 or wplumpton@gfnet.com.

Advertising Opportunities in the NAEP Newsletter

The NAEP Newsletter is offering a limited amount of advertising space in the publication. Advertisements will be limited to two pages per issue for 2012 and once that space is filled per issue there will be no other advertisements accepted. Advertisers will have the opportunity to purchase space in all remaining issues of 2012 so that they can be assured of space in each issue. This is a great opportunity to both support NAEP and gain access to a potential readership of over 6,500.

Ads can be purchased in either quarter or half page sizes and is priced at a very affordable price that starts at $375 per ad for a quarter page ad when 6 ads are purchased. The purchasing of ads in advance allows the advertiser to reduce their costs and allow you to make sure your ad space is reserved.

For more information on adverting opportunities or to reserve your space please contact Tim Bower at 856-283-7816 or by email at naep@naep.org.

Education, Science and Research Working Group Update

The Education, Science, and Research Working Group is thrilled with the response from NAEP members, affiliate members, and other environmental professionals to the NAEP Webinar Series that was initiated in 2011. The 2012 series started in January with a webinar about Native American Consultation. The next two webinars have been scheduled:

- **March 21, 2012,** Using Avoidance Strategies to Facilitate Review of Renewable Energy Development Projects on Public Lands
- **April 25, 2012,** CEQ Guidance on NEPA Review and Streamlining

The Education, Science, and Working Group plans to provide five additional webinars in 2012. NAEP will also be partnering with American Public University to provide three other webinars that will be focused on development of prospective environmental professionals.

- May – no webinar due to NAEP Annual Meeting
- NAEP – Wednesday, Jun 20
- APU – Wednesday, Jul 18
- NAEP – Wednesday, Aug 15
- NAEP – Wednesday, Sep 19
- APU – Wednesday, Oct 17
- NAEP – Wednesday, Nov 14
- NAEP – Wednesday, Dec 12

Native American or Tribal consultation was the topic of the January 2012 webinar. NAEP would like to express our appreciation to the two speakers, Thomas F. King, Ph.D and Reba Fuller, and the over 600 environmental professionals who participated in the webinar. The webinar provided background information about the benefits and application of Native American consultation in the planning process, including why it is advisable and how to avoid pitfalls in the consultation process. The webinar provided guidance for environmental professionals as to what is and what is not consultation, as well as how to initiate consultation to the benefit of the full project planning team and public. The webinar reviewed the etiquette surrounding consultation and what is and is not often considered correct consultation from the Native American perspective. Dr. King and Ms. Fuller also highlighted the common causes of project delays and difficulties associated with Native American consultation. Ms. Fuller provided perspectives from a Tribal representative when discussing consultation concerns. "Companion to Cultural Resource Management" (Wiley-Blackwell, 2011), edited by Dr. King may be a reference of interest to those who participated in the webinar.

The Education, Science, and Research Committee is committed to providing cutting edge information to the members. Please submit webinar topics for consideration to NAEP Headquarters @ naep@naep.org.

In 2012, the Education, Science, and Research Committee plans to develop an 8-hour NEPA Basics training course that can be hosted as a training event by local NAEP Chapters. This training event is being closely coordinated with the NEPA Working Group and the Council on Environmental Quality. The goal is to have the training program available in early 2013. Please provide input regarding the scope of topics to be covered in the training course to Education, Science, and Research Committee in care of NAEP Headquarters @ naep@naep.org.

The Education, Science, and Research Committee is seeking volunteers to assist in webinar development and execution and the NEPA Basics training course. If interested, please contact Marie Campbell @ mcampbell@sapphosenvironmental.com. The Education, Science, and Research Committee will meet via teleconference in April and again at the NAEP Annual Conference in May 2012.

Permanent Conference Committee Update

The Permanent Conference Committee is planning ahead for annual conferences through 2015, with plans set for 2013 in Los Angeles and 2014 in Tampa Bay, Florida. Finding great cities with a range of venues and attractions is the fun part of conference planning. Having strong NAEP member representation and support in the host conference city helps make our conferences successful. Would you like to see the national conference come to your area? Let us hear your ideas! Contact the PCC chair, Lynn McLeod at mcleod@battelle.org. Are you interested in joining the PCC? Contact Lynn about that too! We hold bi-monthly conference call meetings to discuss conference policies, format, and locations. We'll also be meeting in Portland during Conference Week. Hope to see you there!

Florida Association of Environmental Professionals Chapter Report

Central

March 22, 2012 - Chapter General Membership Meeting with speaker Speaker Stephen Tonjes, Environmental Scientist, Florida Department of Transportation District Five talking about Wildlife Crossings in Central Florida. Topic summary: One of the many impacts of human transportation corridors on native habitats is the severing of wildlife transportation corridors. Building wildlife crossing structures is one way we have been mitigating this impact. Engineers have standard specifications and drawings for moving water or intersecting traffic from one side of the road to the other, but methods of accommodating wildlife passage are not nearly as well established. I will describe the process we have been using in Florida to decide where we should build these expensive structures, and how we can locate, design and maintain them so they will be effective. For information about these events and other Central Chapter news, please visit www.cfaep.org.

Northeast

March 8, 2012 - The NEAEP is hosting a general membership meeting with guest speaker Mr. Jim Marsh who will be discussing "Asbestos in Our Everyday World." As a Geologist and Project Coordinator, Mr. Marsh is highly skilled in asbestos and lead-based paint testing and abatement. He has designed lead-paint abatement strategies and risk assessments for numerous clients as well as managed many sizable asbestos and lead-based paint abatement projects since the mid-1980s. In addition, he has performed radon gas assessments, testing, and mitigation in several southeastern states. Mr. Marsh has provided X-Ray Fluorescence (XRF) testing throughout the United States and the Caribbean. In addition to preparing lead-paint abatement specifications and performing risk assessments, his expertise also covers hazardous waste testing methods and protocols, as well as air monitoring, wipe sampling and soil sampling. Mr. Marsh is actively involved in the ASTM International and regularly participates in accredited training courses and workshops, along with equipment and radiation safety training. He regularly studies existing and proposed federal and state regulations and guidelines and teaches classes on asbestos at the University of Florida's Training, Research & Education for Environmental Occupations (UF/TREEO) Center. The meeting will be held at the NE Florida Safety Council located at 1725 Art Museum Road, Jacksonville. Future meetings are scheduled for **April 12, 2012 and May 10, 2012**. Details TBA. For information about the Northeast Chapter, please visit www.NEFAEP.org.

Northwest

March 16, 2012 - The Northwest Chapter of the Florida Association of Environmental Professionals monthly membership meeting , 12:00 - 1:00 p.m. at IHMC, 40 S Alcaniz Street. Our guest speaker is Dr. Elizabeth Benchley with the University of West Florida. Dr. Benchley will discuss local archaeological aquatic and terrestrial projects and the methodologies they use in their recovery processes. To attend, the meeting is free, however, the cost for lunch is $12 for non-members, $10 for members, and $5 for students. RSVP to NWFAEP@gmail.com by Monday, March 12th if you plan to join us for lunch. For information about the Northwest Chapter and our upcoming speakers for 2012, please visit www.FAEPNWFL.org.

South

March 21, 2012 - The SFAEP is hosting Mr. Ken Hardin and Ms. Kate Hoffman (Janus Research) who will be speaking on The Post War Boom and Other Cultural Resource Phenomena in Florida. The event will be at Pinecrest Gardens (former Parrot Jungle) in Miami-Dade. The gardens will be open for visiting beginning at 3:00 and the presentation will begin at 4:00. For information about these events and other South Florida Chapter news, please visit, please visit www.sfaep.org .

Southwest

March 28, 2012 - The SWFAEP is hosting its Annual Seminar. The topic is The Florida Panther - "Wildlife Crossings, Prey Studies, & Mitigation Alternatives." Specific Details and Agenda TBA. 8:00 am to 3:00 pm. For information about these events and other Southwest Chapter news, please visit www.SWFAEP.org

Tallahassee Area

March 7, 2012 - Networking Social 5:30-7:00 PM Ray's Steel City Saloon 515 John Knox Road Tallahassee, FL 32303-4117. RSVP to: slewin@cfl.rr.com

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April 11, 2012 - Luncheon Meeting Discussion and Update on Numeric Nutrient Criteria 11:30-1:00 Location TBA. Catering provided by One Fresh Stir Fry. RSVP STRONGLY ENCOURAGED to:slewin@cfl.rr.com

For information about these events and other Tallahassee Chapter news, please visit www.faep-tally.com or check out the Facebook page.

May 9, 2012 - Networking Social 5:30-7:00 PM Ray's Steel City Saloon 515 John Knox Road Tallahassee, FL 32303-4117. RSVP to: slewin@cfl.rr.com

Tampa Bay

March 21, 2012 - Spring is here and we're taking a field trip to Mosaic's Costal Education Center in Riverview. The speaker will be Neil Beckingham, Sustainability Manager for The Mosaic Company. Mr. Beckingham's presentation is entitled "Sustainability and The World Food Story — The importance of Phosphate and Potash ore reserves". Tours of the grounds will be available immediately after the presentation.

March 22, 2012 - 5:30 PM - ? Networking event at the Tampa Bay Brewing Company in Ybor City.

April 18, 2012 - The Tampa Bay Chapter April lunch meeting will feature a presentation on Background "Contaminant" Concentrations in Soil, Determining Background and Implementing FDEP Guidance by Terry Griffin from Cardno TBE. We will meet at Brio at International Mall. For information about these events and other Tampa Bay Chapter news, please visit www.tbaep.org.

Treasure Coast

February 24, 2012 - the TCC-FAEP hosted a Wetland Plant Identification Workshop at the Kimbell center in Jonathan Dickinson State Park. This event was well attended with 27 participants who followed Dr. George Rogers (Palm Beach State College, College of Horticulture) within different wetland habitats including a wet prairie, a cypress dome, Kitching Creek tributaries, and a mitigation freshwater marsh. The workshop consisted of alternating classroom and field modules that focused on 65 wetland species commonly found in the Park. Participants were provided with valuable wetland plant identification resources (websites and various publications), explanation on varieties and synonyms, a review of botanical terms, and a description of the unique feature(s) that make positive identification possible for each of the plant observed or discussed.

March 2012 - TCC-FAEP will be a presentation on the topic of "Shark Conservation" with Dr. Steve Kajiura, (exact date and location TBA). Please contact Arnaud Roux at aroux@ewconsultants.com.

For information about these events and other Treasure Coast Chapter news, please visit our link on the FAEP webpage at www.faep-fl.org or on the TCC home page at https://sites.google.com/site/tccfaep/.

ABCEP CEP Featured in Blog

The Academy of Board Certified Environmental Professionals' (ABCEP) third-party accredited credential for experienced environmental professionals, the "Certified Environmental Professional (CEP)", is the subject of a blog on the website myCPE. This website assists people in maintaining their certifications by reminding them of upcoming dues payments and includes mechanisms to upload/store/create reports for continuing education/maintenance requirements. myCPE discovered the CEP through a Department of Labor listing of national certifications. The bloggers reviewed several environmental credentials' websites and self-concluded that the CEP was pre-eminent. ABCEP leaders were contacted by myCPE for a follow-up interview, resulting in the blog. The blog can be found at:

https://www.mycpes.com/blog/post/2012/01/17/Certification-Spotlight-The-Certified-Environmental-Professional.aspx

Illinois Association of Environmental Professionals Chapter Report

President: Robert Sliwinski, Vice President: Greg Merritt, Treasurer: Christopher B. Burke, Past President: Nathan Quaglia, Board Members at Large: Richard Hayes, Ron Deverman (NAEP Past-President and Representative), Suzanne Frances, Dr. James Montgomery, Patrick VerHalen, Dawn Consentino, Liz Pelloso

Newsletter Editor: Eric Sikora,
Executive Administrator: Debra Hatchett,
Website: www.iaepnetwork.org

Membership Update

IAEP currently has 142 members of which are 117 general, 8 national, 6 student and 11 are corporate.

Recap of the February Seminar

On February 22, IAEP held its Annual meeting at Café Zalute in Rosemont, Illinois. IAEP members enjoyed networking opportunities, abundant appetizers and a cash bar. There were 30 attendees to listen to Robert Sliwinski and Ron Deverman recap 2011 IAEP activities. Then Brian Cox and Leslie Lowry presented on Pesticides and NPDES permitting as regulated by the Illinois EPA. As of January 2012, pesticides that are applied on or near waters of the State require a NPDES permit. Discussed after the presentation were the proximity of herbicide/pesticide applications to waters of the State, issues about subcontractors, reporting violators, and the definition of the "Waters of the State".

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IAEP members enjoying networking before the meeting

Approximately 30 attendees settle in for the presentations

Brian Cox and Leslie Lowry field questions from members

(L-R) Dawn Consentino (Director), Robert Sliwinski (President), Brian Cox (IEPA), Ron Deverman (Director) and Leslie Lowry (IEPA)

IAEP

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IAEP Welcomes Two New Board Members

IAEP had two board vacancies for the 2012 board and two members provided a letter of interest to the board. Vacancies can be filled by a board vote until the next election.

Dawn Consentino, Water Resource Engineer at Crawford, Murphy & Tilly, Inc.

Dawn C. Cosentino has more than 15 years of floodplain and stormwater management experience focusing on both review, design and environmental permitting. Her skills include hydrologic and hydraulic modeling of storm sewers, culverts, and bridges, 100-year floodplain determinations, and IDOT location drainage studies, waterway openings, and bridge data sheets. Dawn is a Certified Floodplain Manager. Dawn received her BSCE from University of Illinois Chicago and MSEd, from Northern Illinois University. She is currently a Member at Large and will be assisting IAEP with the Annual Student Career Seminar in April.

Liz Pelloso, Wetland/Environmental Scientist at USEPA

Liz Pelloso is an environmental scientist for the USEPA with a specialization in wetland ecology. Her responsibilities at USEPA primarily involve reviewing draft and final NEPA documents/reports for which Federal funds, grants, permits, or other actions are required, and providing comments as necessary as they relate to air & water quality, contamination, wetlands, floodplains, threatened and endangered species, historic resources, noise, radiation, energy efficiency, land use, community impacts, and environmental justice. Liz received her B.S. in Environmental Science from DePaul University, and received a double masters (MSES and MPA) from Indiana University's School of Public and Environmental Affairs. Liz is currently a Member at Large and will also be assisting the IAEP with the Annual Student Career Seminar in April.

NWAEP Has a New Board of Directors

At the recently held NWAEP Annual Meeting the Board of Directors election was held. Below is a list of the new Board of Directors:

- Jan Aarts, Cardno ENTRIX
- Brad Thoms, ALTUS Environmental, LLC
- Stephen Gerritson, enterpriseSeattle
- Makary Hutson, Bonneville Power Administration
- Mike O'Connor, Assessment Associates, Inc. Environmental Consulting
- Shane Phelps, Parametrix
- Scott Polzin, Parsons Brinckerhoff

For information on NWAEP events please go to our website at http://www.nwaep.org/ .

IAEP Spring Seminar: Sustainability, Placemaking and Creative end use for Brownfields

Consultants, environmental professionals and engineers that conduct brownfields studies, remediation projects, are encouraged to attend this seminar.

SPEAKER – Mr. Robert Colangelo

Robert V. Colangelo is an environmental expert and entrepreneur with more than 25 years of experience. He is guided by the realization that environmental change cannot solely be controlled by legislation and regulatory enforcement; rather, it requires market based economic drivers to be sustainable. Mr. Colangelo is a pioneer in the brownfield industry and an internationally-known expert in the reclamation of unused former industrial sites. As a principal and partner, he has redeveloped more than one million square feet of brownfield property. He has provided expert testimony before Congress numerous times on environmental issues and been an appointee to EPA advisory committees. He is the author of books and numerous publications on the brownfield industry, and co-developed the Rasher-Colangelo formula for estimating value of environmentally impaired properties. Mr. Colangelo has consulted to Canada's National Round Table on the Economy and Environment and provided litigation support as an expert witness regarding the impact of environmental hazards on financing and property values.

Date **Friday, March 30, 2012**
11:30 am to 12:30 pm
Sign up limited to 20 people

Location **Lower Level Conference Room**
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road
Rosemont, Illinois 60018
(847) 823-0500

Cost **Free for Members (pizza costs extra)**
$35 for Non-members (Includes 1 year membership)

This is a first come first serve seminar and reservations are required.

Reservations must be received by March 27, 2012. IAEP will be providing certificates for 1 Professional Development Hour to attendees. Email info@iaepnetwork.org for reservation form.

Please Donate to the James Roberts Scholarship Fund

You may not have known him.

Yet you were certainly influenced by him.

Honor his legacy.

Donate to the James Roberts Scholarship Fund TODAY.

Jim Roberts travelled far and wide to espouse the worth of living an ethical life, including the way you performed your job. He lived the Code of Ethics and Standards of Practice for Environmental Professionals.

NAEP has developed the James Roberts Scholarship Fund to assist promising individuals while they are still in school. This is your opportunity to preserve and extend the legacy of Jim Roberts.

All donations are tax-deductible. Go to NAEP.org and click Scholarship Foundations to make your contribution. You can also donate when you renew your NAEP membership.

Thank you,
Gary F. Kelman, Chair

James Roberts Scholarship Committee
Mel Willis
John Perkins
Bruce Hasbrouck
Teri Hasbrouck

Become a Certified Environmental Professional (CEP)

OBTAIN THE RECOGNITION YOUR CAREER DESERVES:

- *Do you have an environmental certification? Good*
- *Does this environmental certification measure your experience and depth of knowledge, not just facts? Yes*
- *Does this environmental certification include an objective peer review of your abilities? Yes*
- *Is your environmental certification accredited by a third-party certifying body? Yes*
- *Then your environmental certification must be a CEP from The Academy of Board Certified Environmental Professionals (ABCEP).*

Certification is available in five areas:

- Assessment
- Documentation
- Operations
- Planning
- Research/Education

Beginning in 1979, experienced environmental professionals were able to become certified through a comprehensive peer review addressing years of experience, responsibility, and knowledge. Certifications are nationally-recognized and available for a wide range of eligible professionals including:

- Federal/state/local agency staff - Consultants - Researchers - Compliance managers
- Enforcement officials - Activists

Initially offered as a certification through the National Association of Environmental Professionals (NAEP), the Academy of Board Certified Environmental Professionals (ABCEP) established organizational independence in 1993. In 1999 ABCEP became a nonprofit organization. In 2005, the ABCEP achieved accreditation by the Council of Engineering and Scientific Specialty Boards (CESB – www.cesb.org)

The ABCEP CEP brings heightened confidence in the professional quality of documents, evaluations, and decisions. Certified individuals satisfy the professional requirements outlined by the USEPA, ASTM, and other regulatory agencies, providing assurance to employers and customers. For the individual, certification increases opportunities for promotions, marketability, and career advancement. Certified individuals maintain their knowledge, experience, and credentials through continuing education, teaching, mentoring, publishing papers, and complying with the Code of Ethics.

Become a CEP-IT: The ABCEP offers mentoring and a CEP-In Training (CEP-IT) designation to junior and mid-level professionals developing towards CEP eligibility. The CEP-IT increases individual and firm marketability, enhanced career opportunities, and enhanced networking opportunities.

More Information: Contact ABCEP at office@abcep.org; www.abcep.org; or 1.866.767.8073 Do you have an upcoming meeting and need a speaker? Speaker opportunities by CEPs about ABCEP are available in certain geographic locations.

Call for papers for publication in the scholarly journal:

Environmental Practice

The journal of the National Association of Environmental Professionals

HYDROFRACTURING *("Hydrofracking")*
vol. 14 no. 4 (December 2012)

Hydrofracturing ("hydrofracking") involves injecting water under high pressure into a bedrock formation via a wellbore. This process removes sediment and rock fragments from existing fissures and fractures and also increases their size and extent. While hydrofracking technology has been in use since the 1940's, the refinement of the technology for horizontal drilling has recently gotten to the point where aiming a drill string toward a particular formation and depth has become more reliable. The combination of old and new technology has provided the environmental community with a real-time dilemma of how to provide for energy independence while protecting natural resources.

Manuscripts are sought with an emphasis on the legal, environmental, ecological, social, political and human health aspects of hydrofracking. Manuscripts highlighting case studies and best practices in all areas of hydrofracking are particularly encouraged. Specific topics and themes that could be addressed include, but are not limited to: **(i)** public policy efforts being pursued to minimize environmental damage resulting from hydrofracking; **(ii)** impacts of hydrofracking on groundwater and surface water resources; **(iii)** aspects related to the permitting of hydrofracking well site locations; **(iv)** impacts of hydrofracking and alternative/green energy development on terrestrial ecosystems; **(v)** critique or defense of USEPA's new study plan to evaluate the effects of hydrofracking on groundwater; **(vi)** hydrofracking and NEPA – what is the role of environmental review? **(vii)** Hydrofracking is an extraction technique that was invented decades ago but which has suddenly exploded into the national consciousness. Why? Who or what is driving this narrative? **(viii)** If, as some suggest, natural gas is the 'bridge' to a green energy future and energy independence, is hydrofracking worth the cost?

Deadline for submittals is
May 15, 2012 to
dcarro17@depaul.edu

Sample issues of the journal can be found at:

http://journals.cambridge.org/action/displayJournal?jid=ENP

Guidelines for publication can be found at:
http://journals.cambridge.org/action/displayMoreInfo?jid=ENP&type=ifc

The editorial office of *Environmental Practice* is located at DePaul University.

For questions, please contact Dan Carroll, Managing Editor, at 773-325-2298, or by email at dcarro17@depaul.edu