



President's Letter to Members

I have been a member of NAEP and FAEP since 1994. I have been directly involved in the NAEP Board of Directors since 2004 as the representative of the Florida Association of Environmental Professionals (FAEP). I started getting involved at the FAEP level in 1998 when the Northwest Chapter of FAEP was formed. I came up through the ranks in FAEP until I was President and reestablished ties with NAEP for Florida in 2003.

The years since 2004 have been valuable in providing me a larger vision for the various needs that environmental professionals have throughout the United States (and internationally). I have grown professionally to see the variety of needs for environmental professionals. Within the last four years, I have started to actively pursue the goals of NAEP with the consideration that the areas of practice in the environmental professions are as vast as the underlying regulatory framework.

Getting to the office of President as a State Representative would have been historic, but it also would have removed my election from the control of the membership. I thought that your voice in my representing you was important. That is why I chose to run for an open Board position. I thank you for your votes of confidence. Thanks to the Board for their support as well.

It really was not until I was being sworn in at the Conference in Denver that I realized I was finally representing the entire membership of NAEP. As the incoming President, I want to share with you my vision for the next year.

In that light I thought I would remind us all of the NAEP mission statement.

Our mission is to be the interdisciplinary organization dedicated to developing the highest standards of ethics and proficiency in the environmental professions.

Our members are public and private sector professionals who promote excellence in decision-making in light of the environmental, social, and economic impacts of those decisions.

Our vision is to:

1. Be the primary source of unbiased information on environmental practices
2. Support the advancement of the environmental professions as a whole and our individual members in their careers

3. Encourage better decision-making that thoughtfully considers the full implications of those decisions.

At the conference we announced that NAEP was entering into a historic educational partnership with American Public University. While I was a prime mover for getting this done before the Conference, this was also an effort of the Board. We are aiming to make membership in NAEP count for something. We see this agreement as true value for all levels of membership.

In April, NAEP had our first webinar. It was an amazing success, with over 130 separate connections, we reached an estimated audience of 600 Environmental Professionals. Additionally, we provided each Chapter of NAEP with the capability to access two additional lines so that they could use the webinar as a brown bag chapter function. Nine chapters took advantage of that offering.

Our second webinar was June 15th – NEPA Legal and Policy Update. Attendees at our conferences know that this is the most attended session each year. Ron Bass, and Lucy Swartz teamed up with Cynthia Huber to provide our membership and other interested NEPA practitioners with this update.

The subject matter for future webinars is still being developed. What I want the membership to know is that we are trying to cover a wide field of professional practice. The timing of particular topics is really limited to the input we receive from the members. Tell us what you want to be covered in the webinars. Offer your professional expertise so that the entire membership can benefit from your experience.

Our next education related effort has also just been approved by the Board; the development of a newswire feed that will provide members with up to date environmental information... again, from all aspects of the professions.

Are these efforts related? I believe they are. Together, these three initiatives represent the new value NAEP is providing to all of our members and affiliates. I further believe that what we are doing is assuring the future of NAEP. Each of these three efforts is aimed at providing us all with a means to maintain our professional learning and education.

There are many of us graying (or in my case balding) members who thought they had their last classroom experience. For us this agreement with APU will allow us to keep learning. With the introduction of the APU partnership NAEP is providing us all with the capability to expand our capability to learn. For new members, this agreement provides a means to get that secondary



Using the Environmental Process to Evaluate Ordinances to Ban Plastic Bags

Ms. Marie Campbell and Dr. Laura Watson
of Sapphos Environmental, Inc.



Figure 2: Plastic Bags in Trees.

Introduction

There has been a global and local movement to control and reverse the proliferation of plastic carryout bags. Plastic carryout bags were introduced to U.S. consumers in 1977 and quickly became the primary bag choice in many of the nation's largest supermarkets (Figure 1 — see page 3). While less expensive to produce than more durable bag types, plastic carryout bags have become one of the largest components of litter blighting the nation's public spaces and waterways (Figure

2). To address the issue locally, the County of Los Angeles (County) prepared an environmental document pursuant to the California Environmental Quality Act (CEQA) to quantitatively and qualitatively evaluate whether a ban on the issuance of plastic carryout bags would result in significant adverse impacts to the environment. This article will familiarize environmental professionals with the basic process used to demonstrate that even a conservative worst-case scenario, where a majority of current users of plastic carryout bags would convert to using paper carryout bags, would result in certain benefits to the environment.

Representatives of the plastic bag industry claimed in several lawsuits against California public agencies that banning the issuance of plastic carryout bags would result in significant adverse impacts because shoppers would simply revert to using paper bags. Industry position postured that the manufacturing of plastic bags requires less water and produces less greenhouse gas emissions than the manufacturing of paper or reusable bags. The County retained Sapphos Environmental, Inc. to prepare an Environmental Impact Report (EIR) pursuant to CEQA as a means of evaluating the environmental impacts and benefits associated with adoption of an ordinance to ban the issuance of plas-

tic carryout bags. The analysis in the EIR allowed the County to make an informed decision that the benefits of using reusable bags would far outweigh any adverse impacts of the ordinance. In addition, the EIR demonstrates how CEQA can be used to put substantial evidence in the record for a controversial action. The hope is that the facts and figures will inspire consumers to walk the talk and make the switch to reusable grocery bags.

Section 1: Facts and Figures

The California Integrated Waste Management Board (CIWMB) estimates that approximately 147,038 tons of plastic grocery and other merchandise bags were disposed of in California in 2003, making up about 0.4 percent of the state's overall waste stream by weight¹ (Figure 3). CIWMB states, "plastic film, especially grocery bags, constitutes a high percentage of litter, which is unsightly, costly to clean up, especially when it enters marine environments, and causes serious negative impacts to shore birds and sea life"² (Figure 4). Currently, CIWMB estimates that less than 5 percent of plastic film in California is recycled.³

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Figure 3: Plastic Bags on Landscape.



Figure 4: Plastic Trash on Beach

- 1 California Integrated Waste Management Board. December 2004. *Statewide Waste Characterization Study*. Sacramento, CA.
- 2 California Integrated Waste Management Board. Accessed on: 1 March 2010. *Plastic Film Cooperative Recycling Initiative. Problem Statement*. Available at: <http://www.calrecycle.ca.gov/Plastics/Film/#Problem>
- 3 California Integrated Waste Management Board. Accessed on: 1 March 2010. *Plastic Film Cooperative Recycling Initiative. Problem Statement*. Available at: <http://www.calrecycle.ca.gov/Plastics/Film/#Problem>



Timeline of Plastic Bag Ordinance

1977
U.S. supermarkets offer plastic bags to customers



1988
NOAA predicts the existence of the Great Pacific Garbage Patch

1994
Denmark adopts a fee on plastic and paper bags

1996
Four out of every five grocery stores in the U.S. use plastic bags



1997
J. Moore discovers the Great Pacific Garbage Patch

2008
China implements a fee on plastic bags
City of Malibu bans plastic bags
August 12, 2008
Save the Plastic Bag Coalition vs. City of Manhattan Beach

2009
City of Palo Alto bans plastic bags
Washington, DC, bans plastic bags

2007
Belgium adopts a fee on plastic bags
San Francisco bans plastic bags
November 21
Coalition to Support Plastic Bag Recycling vs. City of Oakland

2010
Researchers discover the North Atlantic Garbage Patch
August 2010
Assembly Bill 1998 fails to pass in California
September 2010
American Samoa bans plastic bags
November 2010
County of Los Angeles adopts ordinance to ban plastic bags and place a charge of 10 cents on paper bags

2002
Ireland levies a fee on plastic bags

2003
Switzerland requires stores to charge for plastic bags
South Africa adopts a fee on plastic bags
Taiwan bans plastic bags
Bangladesh bans plastic bags

2011
Opportunity for cities within the County of Los Angeles to tier off of the County EIR





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During the 2008 International Coastal Cleanup led by the Ocean Conservancy, 400,000 volunteers picked up 6.8 million pounds of trash from lakes, rivers, streams, and ocean beaches around the world. Of the items collected, 1 in every 10 items was a plastic bag. A total of 1,377,141 plastic bags were collected during the cleanup, which was 12 percent of the total number of items collected. Plastic bags were the second most prevalent form of marine debris collected during the cleanup, after cigarettes/cigarette filters.⁴

Plastics break down into smaller pieces over time, eventually forming tiny particles of plastics that are often called microplastics.⁵ However, plastics are chemically resistant and do not biodegrade, so they persist in the marine environment (Figure 5).⁶ A 2002 study of the coastal ocean near Long Beach, California, showed that the average plastic density during the study was eight pieces per cubic meter. The average mass of plastic was two and a half times greater than that of plankton, and was even greater after a storm.⁷

A study conducted in Washington, District of Columbia, showed that plastic-bag trash accounted for 45 percent of trash collected in tributary streams, making it the most abundant type of trash in the streams, probably due to the amount of brush and vegetation in the streams that can snag the bags. More than 20 percent of trash in rivers was also attributed to plastic bags. Paper products were not found in the streams except in localized areas, and were not present downstream. The study stated that political action to eliminate the use of free plastic carryout bags would effectively remove a significant portion of trash from streams and rivers.⁸

The California Ocean Protection Council has adopted a strategy that, based on evidence that plastic carryout bags pose a significant threat to marine wildlife, recommends a fee or a ban on plastic bags as part of the top three priority actions to reduce marine debris.⁹

Section 2: Influencing Consumer Behavior

Public agencies and private organizations across the globe have implemented a variety

of programs in an attempt to control plastic bag litter, with varying levels of success. These programs have included enhanced litter cleanup, educational programs, consumer incentives, and fees or bans on plastic carryout bags. Enhanced litter-control measures are effective in addressing litter but they are typically more costly than a bag fee and do not turn consumers' behavior away from using bags.¹⁰

To address the root of the litter problem, it is essential to change the habits of the consumer. Education programs can help alter consumer habit to a certain degree. For example, in 2008, the County adopted a voluntary program to promote the use of reusable bags, increase at-store recycling of plastic bags, reduce consumption of carryout bags, increase the post-consumer recycled material content of paper bags, and promote public awareness of the effects of litter and consumer responsibility; however, the program was not successful in achieving its goals.

Despite State law, many stores in the unincorporated area of the County did not provide adequate data that would enable the County to determine if the voluntary program had met its benchmark of 30 percent reduction in the disposal of plastic carryout bags. Furthermore, although the public education and outreach aspects of the program—including the successful Brag About Your Bag Campaign—were effective in making the public aware of the environmental impacts of carryout bags and the benefits of

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Figure 5. Plastics in the Water Column.

4 Ocean Conservancy. *A Rising Tide of Ocean Debris and What We Can Do About It. International Coastal Cleanup 2009 Report*. Available at: http://www.oceanconservancy.org/pdf/A_Rising_Tide_full_lowres.pdf

5 Thompson, R. C. 7 May 2004. "Lost at Sea: Where Is All the Plastic?" In *Science*, 304 (5672): 843.

6 Andrady, Anthony L. and Mike A. Neal. 2009. "Applications and Societal Benefits of Plastics." In *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364: 1977–1984.

7 Moore, C.J., S.L. Moore, S.B. Weisberg, G.L. Lattin, and A.F. Zellers. October 2002. "A Comparison of Neustonic Plastic and Zooplankton Abundance in Southern California's Coastal Waters." In *Marine Pollution Bulletin*, 44 (10): 1035–1038.

8 Anacostia Watershed Society. December 2008. *Anacostia Watershed Trash Reduction Plan*. Prepared for: District of Columbia Department of the Environment.

9 California Ocean Protection Council. 20 November 2008. *An Implementation Strategy for the California Ocean Protection Council Resolution to Reduce and Prevent Ocean Litter*. Available at: http://www.opc.ca.gov/webmaster/ftp/pdf/opc_ocean_litter_final_strategy.pdf

10 Nolan-ITU Pty Ltd., et al. December 2002. *Environment Australia: Department of the Environment and Heritage: Plastic Shopping Bags—Analysis of Levies and Environmental Impacts: Final Report*. Sydney, Australia.



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reusable bags, they did not shift consumer behavior significantly enough to address the County's major objectives.¹¹ A study prepared for Seattle Public Utilities concluded, "some changes to consumer behavior should be expected by education alone, but the changes in consumption of disposable bags are likely to be modest if not combined with a ban or an advanced recovery fee, and the environmental benefits would be minimal."¹²

Numerous jurisdictions across the globe have implemented fees on plastic carryout bags with great success, one of the most famous of which is Ireland's PlasTax. Passed in 2002, the PlasTax is a nationwide levy of 0.15 euros on plastic shopping bags that is paid by consumers at the point of sale. The PlasTax applies to all plastic carryout bags, including biodegradable polymer bags. It does not apply to bags for fresh produce, reusable bags, or bags for goods sold on board a ship or airplane or in an area of a port or airport exclusive to intended passengers.¹³

Since implementation of the PlasTax, use of plastic carryout bags in Ireland initially declined 90 to 95 percent, and subsequently leveled off closer to 75 percent of the original value.^{14, 15}

More recently, the District of Columbia adopted an ordinance, effective on September 23, 2009, to charge consumers a fee of 5 cents for each disposable carryout bag provided at the point of sale.¹⁶ One of the first of its kind in the nation, the fee is designed to change consumer behavior and limit pollution in the Chesapeake Bay watershed.¹⁷ Regulated by the District of Columbia Department of the Environment, the ordinance requires bakeries, delicatessens, grocery stores, pharmacies, and convenience stores that sell food, as well as restaurants and street vendors, liquor stores, and "any business that sells food items," to charge for paper and plastic carryout bags.

The ordinance also regulates disposable carryout bags used by retail establishments. Since implementation of this ordinance, the District of Columbia has seen a marked decrease in the number of bags consumed. In its first assessment of the new law, the District of Columbia Office of Tax and Revenue estimated that the number of bags issued by city food and grocery establishments had decreased by approximately 85 percent.¹⁸

Although fees placed upon the issuance of carryout bags can be highly effective, Assembly Bill (AB) 2449 prohibits the State of California from charging consumers for plastic carryout bags. AB 2449 is designed to increase consumer recycling of plastic carryout bags by requiring certain stores to establish a plastic carryout bag recycling program. A caveat of the bill is that it does not

allow a jurisdiction in California to implement a fee on the issuance of plastic carryout bags; therefore, a jurisdiction in California wishing to restrict the use of plastic carryout bags through an ordinance must consider a ban rather than a fee. In 2007, the County of San Francisco became the first county to ban plastic carryout bags, and the County of Los Angeles followed in 2011.

American Samoa was the first U.S. territory to ban the issuance of plastic shopping bags; the law was signed by Governor Togiola Tulafono and took effect on February 23, 2011. U.S. Environmental Protection Agency Regional Administrator for the Pacific Southwest, Jared Blumenfeld, said, "we welcome American Samoa's leadership in the Pacific islands to ban plastic shopping bags. This action will decrease the amount of plastic waste in the territory and directly protect marine and bird life in the Pacific."¹⁹ Switzerland, China, Bangladesh, Belgium, Australia, Italy, South Africa, and Taiwan are among the countries that have banned free plastic bags.

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- 11 County of Los Angeles Chief Executive Office. 5 August 2010. *Single Use Bag Reduction and Recycling Program and Expanded Polystyrene Food Containers – Final Quarterly Progress Report*. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/BoardLetters/bdls_080510_bagrpt10.pdf
- 12 Herrera et al. January 2008. *Alternatives to Disposable Shopping Bags and Food Service Items Volume I and II*. Prepared for: Seattle Public Utilities. Seattle, WA.
- 13 Nolan-ITU Pty Ltd., et al. December 2002. *Environment Australia: Department of the Environment and Heritage: Plastic Shopping Bags – Analysis of Levies and Environmental Impacts: Final Report*, p.21. Sydney, Australia.
- 14 Cadman, James, Suzanne Evans, Mike Holland and Richard Boyd. August 2005. *Proposed Plastic Bag Levy – Extended Impact Assessment: Volume 1: Main Report: Final Report*, p.7. Edinburgh, Scotland: Scottish Executive.
- 15 GHK Ltd. May 2007. *The Benefits and Effects of the Plastic Shopping Bag Charging Scheme*. Prepared for: Environmental Protection Department, Hong Kong, China.
- 16 *District of Columbia Municipal Regulations*, Title 21, Chapter 10, "Retail Establishment Carryout Bags," Section 1001.
- 17 Craig, Tim. 29 March 2010. "Bag tax raises \$150,000, but far fewer bags used." *The Washington Post*. Available at: http://voices.washingtonpost.com/dc/2010/03/bag_tax_raises_150000_but_far.html?wprss=dc
- 18 Craig, Tim. 29 March 2010. "Bag tax raises \$150,000, but far fewer bags used." *The Washington Post*. Available at: http://voices.washingtonpost.com/dc/2010/03/bag_tax_raises_150000_but_far.html?wprss=dc
- 19 United States Environmental Protection Agency. 30 September 2010. "U.S. EPA applauds American Samoa's decision to ban plastic shopping bags." Available at: <http://yosemite.epa.gov/opa/admpress.nsf/0/921A87D72D9AAFC1852577AE007394F1>



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Section 3: Litigation History

Increasingly recognizing the contribution of plastic bag litter to terrestrial and aquatic blight, numerous California public entities have proposed ordinances related to banning plastic carryout bags; however, at least 11 of these entities have faced legal challenges to date. On November 21, 2007, the Coalition to Support Plastic Bag Recycling petitioned for a Writ of Mandate against the City of Oakland for its adopted plastic bag ordinance, which was subsequently revoked. On April 21, 2009, the Save the Plastic Bag Coalition filed a lawsuit against the City of Palo Alto for adopting an ordinance banning the issuance of plastic bags without preparing an EIR. In January 2009, the Save the Plastic Bag Coalition filed formal objections with the City of Santa Monica and the City of San Jose for failing to prepare EIRs for proposed plastic bag ordinances; both the City of Santa Monica and City of San Jose subsequently agreed to prepare EIRs. The Save the Plastic Bag Coalition also filed formal legal objections with the County of Marin, County of Santa Clara, City of Encinitas, City of Morgan Hill, City of Mountain View, and the City of San Diego regarding their respective proposed plastic bag ordinances. Representatives of the plastic bag industry maintained that banning the issuance of plastic carryout bags would result in whole-scale conversion to paper bags that would have the potential to result in adverse impacts to the environment.

In July 2008, the City of Manhattan Beach adopted an ordinance to ban the distribution of plastic bags at the point of sale and prepared an Initial Study/Negative Declaration, to evaluate the effects of the ordinance [under CEQA, a Negative Declaration is the functional equivalent of an Environmental Assessment/Finding of No Significant Impact pursuant to the National Environmental Policy Act (NEPA)]. The Save the Plastic Bag Coalition filed suit against the City of Manhattan Beach under CEQA, contending that there was a fair argument that the ordinance would result in significant impacts, including deforestation, increased greenhouse gas emissions, and significant increases in water demand, all related to a projected increase in the use of paper bags. As such, the Save the Plastic Bag Coalition argued that the City of Manhattan Beach should be required to prepare an EIR pursuant to CEQA (the EIR is the functional equivalent of an Environmental Impact Statement under NEPA). In February 2009, the Los Angeles Superior Court ruled in favor of the Save the Plastic Bag Coalition in *Save the Plastic Bag Coalition v. City of Manhattan Beach*, 181 Cal. App. 4th 521 (2010). The City of Manhattan Beach appealed the decision, and was denied by the Appellate Court on January 27, 2010 (Appellate No.

B215788, Second Appellate District, Division Five). The California Supreme Court hears only approximately 2 percent of the 5,000 petitions it receives annually for review, but on April 22, 2010, the California Supreme Court granted review (No. S180720) of *Save the Plastic Bag Coalition v. City of Manhattan Beach*, which suggests the importance of the case in setting precedent for public policy on this issue.

Section 4: Case Study

In April 2007, at the same time that the City of Manhattan Beach was considering its ordinance, the County Board of Supervisors instructed the County to solicit input from both environmental protection and grocer organizations related to three data areas for evaluating the potential to reduce terrestrial and aquatic blight from litter:

- Investigate the issues of polyethylene plastic and paper sack consumption in the County
- Inventory and assess the impacts of plastic- and paper-bag recycling campaigns
- Investigate the potential impact of an ordinance to ban plastic bags

In August 2007, the County Department of Public Works submitted *An Overview of Carryout Bags in Los Angeles County*, a staff report that presented four major findings:

- Plastic bags substantially contribute to litter in the County and have other negative impacts on the environment and marine wildlife.
- Compostable carryout bags are not a practical solution to the carryout-bag issue in the County because there are no local commercial composting facilities able to process compostable carryout bags.
- Reusable bags contribute to environmental sustainability more than plastic and paper carryout bags.
- Accelerating the use of reusable bags will reduce plastic litter and redirect environmental preservation efforts towards “greener” practices.

On January 22, 2008, in light of the litigation against the City of Manhattan Beach, the County decided to prepare an EIR to study the potential environmental impacts of an ordinance to ban the issuance of plastic carryout bags. In the process, the County reached out to its 88 incorporated cities to determine the cities’ interest in adopting comparable ordinances. Eleven cities signed resolutions indicating their intent to adopt comparable ordinances. The County subsequently determined to assess the

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direct, indirect, and cumulative effects of its own proposed ordinance, and also considered the potential adoption of comparable ordinances by the 88 cities.

The County evaluated the proposed ordinance, a no-project alternative (failure to adopt an ordinance), and five action alternatives (variations that included banning both plastic and paper bags, fees on paper bags, and expanding the ban to a wider range of stores, including small grocery stores, convenience stores, and drug stores). The EIR analysis focused on 5 of the 16 environmental issue areas recommended for consideration by CEQA: air

quality, biological resources, greenhouse gas emissions, hydrology and water quality, and utilities and service systems.

The EIR considered results from litter audits and litter cleanup efforts from around the country. The potential for impacts to air quality, greenhouse gas emissions, wastewater generation, solid waste generation, water consumption, energy conservation, and water quality was evaluated using modeling results from published life cycle assessments. To better understand the propensity for consumers to change their behavior to use paper or reusable grocery bags, data was collected from over 200 grocery stores, analysis of which determined that it would be reasonable

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Ms. Marie Campbell is president of Sapphos Environmental, Inc., an environmental consulting firm specializing in environmental compliance documentation, focused technical investigations, regulatory permitting, and construction and post-construction monitoring required pursuant to the National Environmental Policy Act and the California Environmental Quality Act. She is an environmental compliance

specialist with more than 25 years of experience in managing the environmental compliance process for a wide variety of public—and private—sector projects. Most recently, the County of Los Angeles retained Ms. Campbell to provide strategic environmental guidance in the preparation of an Environmental Impact Report (EIR) for the Ordinances to Ban Plastic Carryout Bags in Los Angeles County. The EIR quantitatively and qualitatively assessed the environmental benefits and impacts associated with banning the issuance of plastic carryout plastic bags in Los Angeles County. The EIR was adopted by the County of Los Angeles in November 2010, and became the first environmental document for a plastic bag ordinance in California to not be subject to threat or action of litigation. The ordinance, scheduled to take effect in July 2011, set a precedent for California municipalities seeking to address the environmental issues associated with plastic carryout bags through public policy. Ms. Campbell currently serves on the board of directors for the National Association of Environmental Professionals, and is an active member of the Los Angeles chapter of the Association of Environmental Professionals. Ms. Campbell holds a master's degree in geography and geomorphology/biogeography from the University of California, Los Angeles.



Dr. Laura Watson is an environmental compliance specialist at Sapphos Environmental, Inc. with three years of experience in the preparation of environmental compliance documentation pursuant to the National Environmental Policy Act and California Environmental Quality Act. Dr. Watson recently served as the project manager for the Environmental Impact Report (EIR) for the Ordinances to Ban

Plastic Carryout Bags in Los Angeles County. As project manager, she co-authored and managed the preparation of the EIR, hosted public outreach meetings, responded to the public's comments on the EIR, and participated in the Board of Supervisors' hearing for the EIR and the proposed ordinance. Dr. Watson has prepared air quality and greenhouse gas emissions technical analyses for numerous projects in California, including medical facilities, capital improvement projects, and renewable energy projects. Dr. Watson is also responsible for preparing Sapphos Environmental, Inc.'s annual greenhouse gas emission inventory for submittal to The Climate Registry, which has earned Sapphos Environmental, Inc. a Climate Action Leader award for three consecutive years. Currently, she is the project manager for environmental compliance work efforts for a proposed 10,000-acre wind energy project in Kern County and a proposed 40,000-acre wind energy project in Shasta County, California. Dr. Laura Watson holds a doctor of philosophy degree in atmospheric chemistry, with an emphasis on computer modeling of urban air pollution. Dr. Watson also holds a master's degree in chemistry and is a Leadership in Energy and Environmental Design Accredited Professional. Her experiences cover the broad areas of chemistry and environmental science, but her specialization is in air quality. Before joining Sapphos Environmental, Inc., Dr. Watson served as a chemist for the South Coast Air Quality Management District.



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to estimate that a ban on the issuance of plastic carryout bags would increase consumers' use of reusable bags by at least 15 percent. Unlike NEPA, CEQA does not require the consideration of social and economic effects. However, the County retained an expert economist to evaluate the potential socioeconomic effects of banning the issuance of plastic carryout bags in response to concerns from opponents to the proposed ordinance. The socioeconomic analysis determined that the proposed ordinance would not have a disproportionate or adverse effect on lower-income individuals or families. The EIR determined that the proposed ordinance would not result in adverse impacts to biological resources and it documented the anticipated benefits to fresh and saltwater aquatic ecosystems. Furthermore, the EIR determined that the potential impacts to air quality, hydrology and water quality, and utilities and service systems would be below the threshold of significance. Finally, the EIR determined that, although the proposed ordinance would not directly cause significant emissions of greenhouse gases, the conservative worst-case scenario of whole-scale conversion to paper bags in the County and its 88 cities could indirectly contribute to cumulative increases in greenhouse gas emissions due to the disposal of paper carryout bags.

On November 16, 2010, the County adopted an ordinance to ban the issuance of plastic carryout bags and place a 10-cent charge on the issuance of paper carryout bags. In adopting the ordinance, the County made a Statement of Overriding Considerations explaining that the benefits of reducing litter outweighed the potential minor increases in greenhouse gas emissions, which would also be offset by other mitigation measures. The 30-day statute of limitations to file a CEQA lawsuit against the County's proposed ordinance has run out. There was no lawsuit filed in opposition to the certification of the EIR or to the approval of the ordinance. The County's ordinance will be implemented beginning in July 2011.

At the time of preparation of this article, three cities in the County—Calabasas, Malibu, and Santa Monica—have adopted comparable ordinances, and five additional cities have initiated efforts to adopt comparable ordinances.

Section 5: Lessons Learned

In developing public policy, past litigation can play an important role in informing decision makers about key controversial issues, which is especially true for proposed ordinances such as the County's. It is essential to scrutinize the language of a new ordinance from multiple perspectives and look beyond the policy's explicit goals and objectives. Specifically, in considering an ordinance to ban the issuance of plastic carryout bags, eagerness to achieve the expected environmental benefits must not overshadow the need to address the varying concerns and interests of stakeholders, and the potential environmental impacts that may result from adoption of such an ordinance.

Public outreach is an essential component of any successful policy. The public's input often reveals details not previously considered that will help policy makers decide wisely. In the case of the Ordinance to Ban Plastic Carryout Bags in Los Angeles County, the majority of the commenting members of the public and grocery-store representatives stated that the ordinance would be improved if it applied to all stores, rather than just to large supermarkets, and if it restricted paper carryout bags as it did plastic carryout bags. In analyzing and modifying the proposed ordinance, the County carefully considered all comments submitted during the public comment period, including those that expressed opposition to the proposed ordinance. For example, based on the expressed concerns of representatives of the plastic bag industry regarding the level of heavy metals present in reusable bags and the potential for reusable bags to harbor bacteria if not cleaned regularly, the County created a performance standard for reusable bags, which became a crucial component of the ordinance. The EIR's comprehensive response to all public comments, both favoring and opposing the ordinance, was essential to preparing a comprehensive and thorough EIR.



Saying what we mean

An indefinite series of essays about words and phrases that do not necessarily mean what we say

Third in a series by Owen L. Schmidt

Finding of no significant impact

Way back in math class, it wasn't good enough for us simply to get the right answer. We had to show how we got the answer, as well, or we got no credit.

Government, too, has to show its work. Government shows its work by writing findings. We can construct a finding by looking at what it takes to make a successful one. The Supreme Court has defined this. Government "must examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made." *Motor Vehicle Mfrs. Assoc. v. State Farm Mut. Auto. Co.*, 463 U.S. 29, 43, 103 S.Ct. 2856, 77 L.Ed.2d 443 (1983).

So there would have to be "facts found" and there would have to be a "choice made." In between those 2, there would have to be a "rational connection" articulated by the Government. At its core, then, there are these 3 elements to a finding. The rational connection would be the satisfactory explanation, and the relevant data would consist of the facts found. All 3 elements hang together.

Turn, then, to the NEPA regulations, which define a finding of no significant impact (FONSI) as "a document by a Federal agency briefly presenting the reasons why an action ... will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared." 40 CFR 1508.13. The environmental assessment (EA) is defined as "a concise public document" which provides "evidence and analysis." 40 CFR 1508.9. Both the EA and the FONSI thus achieve their status as separate documents. The document called FONSI gives the "choice made" (not to prepare an environmental impact statement) and reasons why (the rational connection). The document called EA gives the evidence and analysis, which presumably would be the relevant data, the "facts found."

Wait a bit. Government isn't just writing documents. It's supposed to be making findings so it can show its work. Now the job is to match up what a finding is, according to the Supreme Court, and what a FONSI is, according to the NEPA regulations. They don't match. A *finding*, according to the Supreme Court, would include everything in the EA plus everything in the FONSI. Yet the FONSI is regarded as a separate document — a document called a *finding*, no less.

We don't necessarily mean what we say, and we don't necessarily say what we mean.

What we mean to say is that the EA and the FONSI together constitute a *finding*. This point is driven home perfectly well in the definition of a FONSI. A FONSI "shall include the environmental assessment or a summary of it." 40 CFR 1508.13 (second sentence).

If the FONSI *includes* the EA, they would hardly be separate documents. They would be simply one seamless document, a document that would contain all 3 elements of a finding. If the FONSI includes only a summary of the EA, of course, they would remain separate documents. But then the FONSI would not be a complete *finding* because it has only a summary of the relevant data.

The NEPA regulations split a single idea — a finding — into 2 documents, the EA and the FONSI. No reasons were given for this. It does not appear to be any sort of effort at simplifying or streamlining. It does not appear to be any sort of step toward efficiency or improvement in governance. It did not reduce paperwork (see 40 CFR 1500.4, Reducing paperwork). It did not make compliance with NEPA any faster (see 40 CFR 1500.5, Reducing delay).

Some agencies attempt to heal the split by tacking a *draft* FONSI to the back of the EA before circulating the EA for public and agency comment. This begins to look like all the elements of a finding are brought together, except that the "choice made" and the "reasons why" are tentative because the FONSI is merely a draft. Then after comment the agency will prepare a *final* FONSI. This, unfortunately, re-splits the finding into 2 documents.

The danger in all this is to begin to regard a *finding* as just the choice made, or perhaps the choice made plus the reasons why. Check it out. Download some random FONSI from the Web to see that quite often the FONSI is essentially a 1-paragraph "choice made." Or, sometimes, just the "choice made" plus the "reasons why." Too rare is the FONSI that includes all 3 elements of a *finding*.

None of this is necessary. All an agency would have to do is to "include the environmental assessment" in its document called FONSI, and the FONSI instantly becomes a complete *finding*. The NEPA regulations already provide this option. There is an EA, yes, because it is included in the FONSI. There is a finding, yes, because the document called FONSI includes all 3 elements of a finding.

If this were to be the standard practice, when the agency makes a finding it means what it says. And when the finding includes all 3 elements, the agency says what it means.

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The University of South Alabama Jag Ski: a Personal Watercraft Hydrographic Data Collection System

Bret M. Webb, Ph.D.

At the risk of being ostracized by my peers, let me share a nasty secret about field experiments and data collection: they are generally expensive, time consuming, high-risk endeavors. These realities often preclude copious data collection as part of a privately funded project as they tend to violate the client's holy trinity: fast, easy, and cheap.

Well, truth be told, those are often the goals of the engineer, too, and field investigations are rarely described using any of those adjectives. Personnel costs are high when field deployments are required, weather delays are inevitable, equipment malfunctions, computers crash... I'm sure you have had your own experiences. For all these reasons, and some I have not mentioned, the practicing engineer is less inclined to budget for, plan, and perform large field investigations as a pre-requisite to design and construction.

The private sector is not alone, though, with both the public and academic sectors finding it increasingly difficult to justify the expenses of equipment and personnel to the public or funding agency, respectively. However, there are times when field experiments are an absolute necessity, and the Department of Civil Engineering at the University of South Alabama has developed a unique platform for collecting hydrographic and environmental data in nearshore waters. The utility of this platform will be described in terms of its components and capabilities, particularly in light of the Deepwater Horizon events of 2011.

The University of South Alabama (USA) is located in Mobile, Alabama and has an enrollment of approximately 15,000 students, supports 5,200 employees, treats 250,000 patients annually through its health and medical services, and constitutes a \$2 billion annual economic impact to the community. The university offers undergraduate and graduate degrees in a variety of academic programs, and is rapidly expanding its education and research missions in the North-Central Gulf Coast region. The Department of Civil Engineering has eight tenure-track faculty members with expertise in environmental, transportation, materials, coastal, water resources, geotechnical, and structural engineering. The civil engineering program is growing by leaps and bounds with an annual 10% increase in enrollment over the past several years. The program maintains an undergraduate enrollment of nearly 250 students, and generally has fifteen to twenty graduate students actively taking courses, about half of which are in funded positions.

The department has an expanding research agenda, but maintains a central focus: civil engineering in the coastal environment. Given USA's proximity to the coast, and also to one of the nation's largest and most productive estuaries, the civil engineering department has unparalleled access to natural laboratories that augment both its educational and research capabilities. The department also supports educational and research activities through the Coastal Transportation Engineering Research and Education Center (CTEREC). The CTEREC, with a stated mission, "... to develop, conduct, coordinate, and disseminate results of research concerning engineering design of transportation systems (roads, bridges, and waterways) in environmentally sensitive coastal areas..." was made possible by funding from the United States Department of Transportation, Federal Highway Administration, and the Office of the Secretary of Transportation.

The CTEREC mission is being fulfilled in many ways through recent and ongoing research including the estimation of wave loads on bridge decks and wave-induced scour at bridge foundations. In order to support the CTEREC mission, and broaden its research capacity, a unique platform was developed for collecting hydrographic and environmental data in areas where coastal transportation infrastructure is often found. These areas, like Mobile Bay, (Figure 1) can be shallow, environmentally sensitive, and difficult to access, so a highly portable and easily deployable research vessel is a must. The selection of a personal water-

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Figure 1. The Interstate 10 Bayway bridge over Mobile Bay (Photo Courtesy: Flickr user bryanmeg).



Jag Ski

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Figure 2. The South Alabama Jag Ski and 4x4 towing vehicle.

craft, then, makes perfect sense, right? Perhaps not to a purchasing or risk management officer, but it certainly does to anyone who has operated one... although this unique vessel does not come without some limitations.

The University of South Alabama Jag Ski is a three-person Kawasaki Ultra LX personal watercraft (PWC) that is equipped with state of the art instrumentation developed by YSI, Incorporated and SonTek (Figure 2). In addition to the PWC, a Kawasaki Mule 3010 four-wheel drive utility vehicle can be used for launching and retrieval when a proper boat launch is not available. The Jag Ski, which receives its namesake from the USA mascot, the Jaguar, contains an onboard small-form PC running the Windows XP operating system, a foldable waterproof keyboard, a fully submersible touch screen LCD display, and four dry-cell 18 amp hour, 12 volt marine batteries to supply enough dedicated power for twelve to fourteen hours of data collection.

The PC, power supply, and other assorted equipment are housed in waterproof cases with internal foam padding. All external cabling and bulkhead connectors are fully submersible... which is a good thing when your research vessel is a PWC! Experience has demonstrated that items labeled water resistant and waterproof offer little protection in the corrosive, marine environment.

To be perfectly honest, using a PWC for collecting hydrography is not a new idea. There are numerous examples of PWC systems around the country (and world). Some of the earlier successful applications came from Peter Ruggiero's USGS team in the

Pacific Northwest in the mid 1990s, which subsequently lead to the development of two similar systems by Jamie MacMahan while completing his doctoral work at the University of Florida.

Lessons learned from these systems have been applied to the development of newer, more robust PWC systems around the country. More recently, state of the art PWC systems have been developed by colleagues at the University of Delaware (Dr. Jack Puleo), as well as the Stevens Institute of Technology (Dr. Jon Miller). In fact, the Jag Ski development was taking place simultaneously with these other two efforts, and much information was shared between the groups during that time. Interestingly, five noteworthy PWC systems have been developed and deployed in the past decade... all by University of Florida doctoral graduates... there must be something in the water, or maybe its just all of that sun and sand.

What perhaps makes the Jag Ski so unique in the context of PWC hydrographic data collection systems is its suite of instrumentation. Prior to the Jag Ski, the use of the PWC has been mostly limited to bathymetric surveys in nearshore waters. While it certainly has its limitations, the ability of the PWC to traverse the surfzone in hydrographic surveying cannot be rivaled by most traditional vessels. The addition of a PWC to ones hydrographic surveying deployment provides a very good overlap between land-based

surveys and those conducted in deeper waters. The Jag Ski, however, was developed to meet broader goals and objectives in the area of coastal, water resources, and environmental engineering.

The Jag Ski contains a SonTek/YSI RiverSurveyor M9 Acoustic Doppler Current Profiler (ADCP) with an integrated Real Time Kinematic Differential Global Positioning System (RTK DGPS) for georeferenced measurements (Figure 3).

The M9 ADCP has a profiling range of 6 cm to 40 m, and is capable of measuring velocity magnitudes up to



Figure 3. SonTek/YSI RiverSurveyor M9 ADCP and RTK DGPS base station.

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Jag Ski

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Figure 4. SonTek/YSI RiverSurveyor M9 ADCP head.

20 m/s. The resolution of the velocity measurements is as low as 0.001 m/s, and vertical bin sizes can be as small as 2 cm, or as large as 4 m. The horizontal resolution of your samples is a function of the reported sample rate (generally 1 Hz) and vessel speed

(preferably equal to or less than the water velocity). A nominal speed of 1 – 2 m/s is maintained when using the M9 ADCP on the Jag Ski, so a typical horizontal resolution is, accordingly, 1 – 2 m.

The M9 ADCP contains a dedicated 500 KHz vertical beam for depth measurements and bottom tracking, four slanted 1 MHz beams for sampling in deeper water, and four slanted 3 MHz beams for sampling in shallower waters (Figure 4).

This dual-frequency functionality is unique in the ADCP market, and along with its integrated GPS system for vessel-corrected measurements to account for the moving reference frame, makes it attractive for applications in Mobile Bay, our most interesting natural laboratory (Figure 5).

The bay is a broad, mostly shallow (< 4 m), drowned river mouth estuary that is incised by a navigation channel dredged to a maintenance depth of about 15 m. The depth of the channel in the main entrance to Mobile Bay can reach 20 m or more, and is flanked to the west by a broad, shallow area with depths less than 3 m. The dual frequency M9 ADCP performs well when transitioning between the two extremes.

Aside from the technical capabilities of the RiverSurveyor M9 ADCP, the instrument comes with a well-developed, integrated software package for setup and data collection. The RiverSurveyor Live (RSL) software is loaded on the onboard PC, and is fully interactive using the touch screen LCD display (Figure 6).

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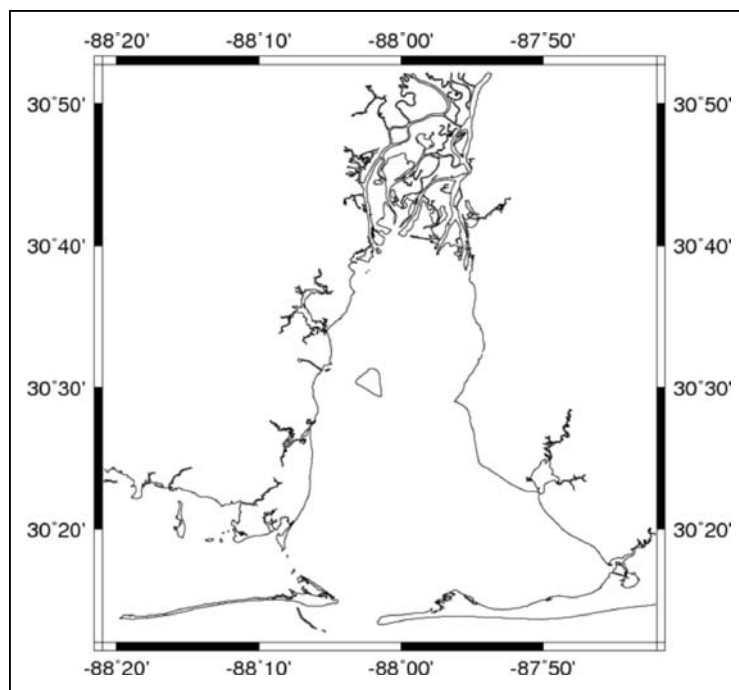


Figure 5. Overview map of Mobile Bay, Alabama.

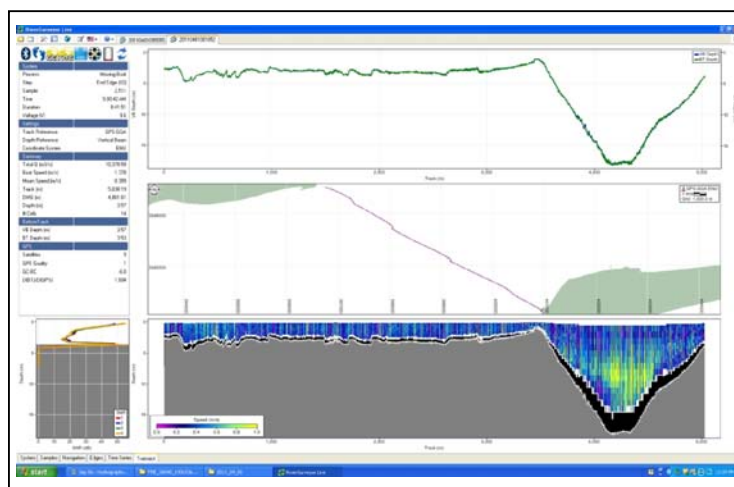


Figure 6. Screenshot of the SonTek/YSI RiverSurveyor Live software while collecting data across the entrance to Mobile Bay.



Jag Ski

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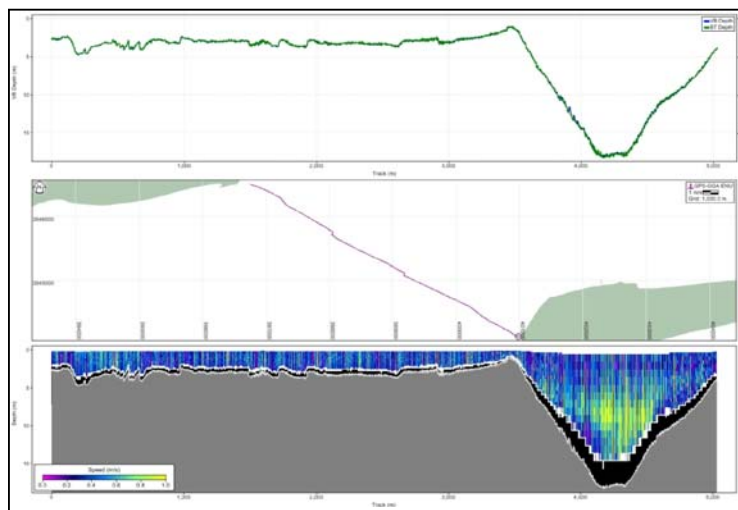


Figure 7. A publication-ready set of figures extracted from the RSL software.

Some very helpful features of the software include dynamic icons that quickly report the status of various systems, like GPS and bottom tracking, the ability to see a real-time estimate of discharge, and the integrated GIS shapefile functionality for easy navigation and spatial awareness.

Perhaps the most understated utility of the software is its publication-ready figures. With the right-click of a mouse while hovering above a figure or plot in the RSL software, one can quickly and easily define parameters, axes, and styles.

Once the figure or plot is to your liking, an additional right-click of the mouse gives you the option to copy the figure to your clipboard. A simple paste and save using any sort of graphics editing software application, like MS Paint, completes your figure preparation task.

The elapsed time for performing these tasks: less than one minute after developing some proficiency with the software (Figure 7). If further analysis of your data is required, the RSL software provides some useful options for exporting your data.

The initial research focus for the Jag Ski was fulfilled with the integration of the RiverSurveyor M9 ADCP. That one piece of equipment provides the capability to perform detailed beach profile surveys, detect and image scour holes near bridge foundations, and measure the spatial variability and magnitude of coastal and nearshore currents, as well as riverine flows. And as preparations were being made in April 2011 for upcoming field experiments in coastal Alabama during the months May – August, the explosion and subsequent sinking of the Deepwater Horizon drilling plat-

form later that month unveiled a new, and unexpected, application for the Jag Ski: environmental monitoring.

The National Science Foundation (NSF) issued a number of awards for research, instrument acquisition, and instrument development related to the 2011 Gulf oil spill through their RAPID program in the months following the initial explosion and sinking of the platform. The Jag Ski was the welcome recipient of one such award, issued through the NSF Major Research Instrumentation program.

The purpose of the award was to purchase an instrument that could be used to measure near-surface water quality parameters, as well as crude oil and refined fuels, in Alabama's coastal waters. The result is a rather unique (meaning the only one currently in existence) piece of equipment produced by YSI, Inc. called a Portable SeaKeeper 1500 (Figure 8). The Portable SeaKeeper, or PSK, is a scaled-down version of a SeaKeeper 1000 system that is

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Figure 8. The YSI Portable SeaKeeper 1500 mounted on the stern of the Jag Ski.



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Figure 9. Initial testing of the YSI PSK on a local river.

deployed on nearly 50 different vessels of opportunity around the world. Some vessels are used for research, others are operational ferries, and still others are private yachts. Each of these vessels contributes data and research to the International SeaKeepers Society, and now the Jag Ski does, too (Figure 9).

The PSK contains a YSI 6600v2 sonde, a Turner Designs C3 submersible fluorometer, a Thrane & Thrane Sailor Mini-C vessel monitoring system, a diaphragm pump, and a dedicated small-form PC running the Windows XP operating system (Figure 10). The PSK continuously draws near-surface water by way of a ram intake and pump, routes it through a manifold, and then to flow chambers attached to the YSI 6600v2 and Turner Designs C3. The YSI sonde measures temperature, specific conductivity (salinity), pH, turbidity, dissolved oxygen, and chlorophyll.

The Turner Designs fluorometer measures chromophoric dissolved organic matter (CDOM), crude oil, and refined fuels relative to a calibration standard or deionized water. The Sailor Mini-C contains a 12-channel GPS receiver, and Inmarsat-C antenna and transceiver, which provide vessel positioning and data telemetry to the SeaKeepers online data repository.

If the suite of sensors and measurement capabilities of the PSK is not enough to impress you, then perhaps the ability to collect this data while cruising at a leisurely 40 knots is!

The custom-designed ram intake and diaphragm pump allow



Figure 10. Internal components of the YSI PSK system. The YSI sonde is on the right, the Turner Designs fluorometer is the black cylinder, the flow manifold is on the left, and the onboard PC is at the bottom. The diaphragm pump is hidden behind the PC.



Figure 11. The custom-designed center-point swivel and ram intake for the YSI PSK.

for a continuous stream of water to be drawn from the near surface (about 10 cm below the surface) regardless of the speed, and the center-point swivel mounting bracket allows it to track with the vessel when turning at high speed (Figure 11).

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Jag Ski

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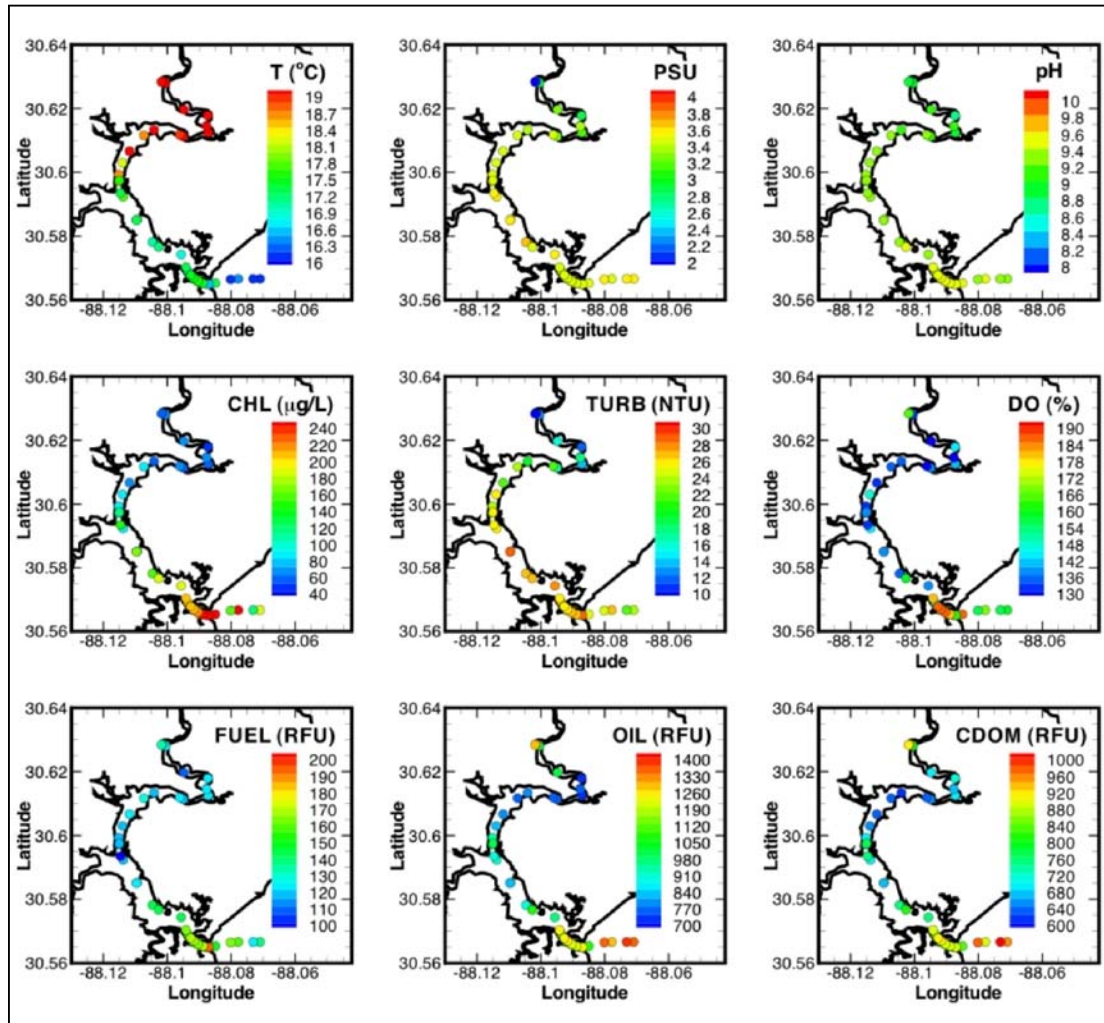


Figure 12. Representative PSK results from initial testing on Dog River, Alabama. Each colored circle represents a location sampled while continuously underway at 40 knots.

Performance of the PSK on the Jag Ski is outstanding. Representative results are included (Figure 12) from a recent deployment on a local river. The Jag Ski was launched at the north part of the river; the survey commenced down-river, into Mobile Bay, and then back to the launch point. The survey covered about 30 km in less than 45 minutes.

Each colored circle denotes a sample location. In this configuration the sampling rate was once per minute, but has recently been updated to five times per minute to improve the spatial resolution of data while traveling at high speed.

The YSI PSK system is playing an important role in the year-long BP-funded Gulf Research Initiative program that seeks to evaluate the impacts of the Deepwater Horizon events on

Alabama's coastal resources. With the YSI PSK system, the first synoptic survey of Mobile Bay's near-surface characteristics will be achieved.

The ability to map a majority of the bay's surface in less than a quarter tidal cycle provides tremendous opportunities for practical, applied research ranging from coastal and estuarine hydrodynamics to watershed management. In terms of the Gulf Research Initiative, the PSK data will be used in combination with the M9 ADCP data to describe transport pathways that are effective in communicating constituent material from the Alabama shelf, through Mobile Bay, and to the Mobile-Tensaw river delta. A number of field experiments are planned for the late spring, summer, and early fall of 2011 that will isolate the seasonal (i.e. wet/dry, warm/cool, windy/calm) and tidal (i.e. spring/neap) variability of Mobile Bay's dynamics.

Beyond the academic realm, the ability of the PSK to rapidly measure large spatial distributions of dissolved oxygen, turbidity, chlorophyll, and CDOM make it suitable for a number of environmental applications, from tracking and mapping harmful algal blooms (HAB's) to the measurement and analysis of Total Maximum Daily Loads (TMDL) in the Mobile Bay watershed.

As if the RiverSurveyor ADCP and Portable SeaKeeper were not enough, we have somehow managed to find a suitable application for another piece of YSI instrumentation. The idea of performing CTD casts (conductivity-temperature-depth) from a

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Jag Ski

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Figure 13. The YSI CastAway CTD profiler and magnetic stylus.

PWC was not practical until the recent release of the YSI CastAway CTD profiler (Figure 13).

The CastAway CTD profiler, and its related software, may be the most well-developed, wonderfully executed complement of instrumentation and software that I have ever come across (Figure 14).

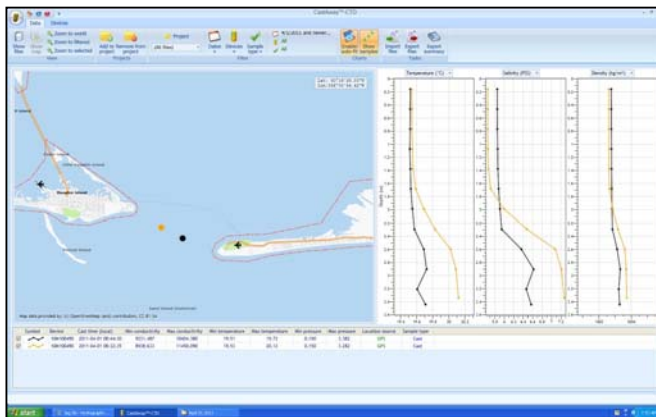


Figure 14. A screenshot from the YSI CastAway software, with location map at left and user-defined parameter plots at right.

Much like the SonTek/YSI RiverSurveyor Live software used with the M9 ADCP, the CastAway software is intuitive and capable of producing publication-ready figures with just a few clicks of the mouse (Figure 15).

The CastAway CTD has an internal GPS that logs the time and location of each cast. The user-interface is simple and intuitive, and every operation is controlled using a magnetic stylus. Data offloads are accomplished through a Bluetooth connection between the device and a PC running the CastAway software. The CastAway is ultra-portable, making it suitable for deployment from the Jag Ski.

The addition of the CastAway CTD profiler to the Jag Ski provides a much-needed complement to the near-surface data collected by the PSK. Although it is shallow, Mobile Bay is highly stratified at times. When this occurs, near-surface measurements are not representative of what may be found throughout the water column. The ability to measure the profiles of temperature, salinity, density, and other parameters, at discrete locations during a survey will provide an opportunity to describe how representative

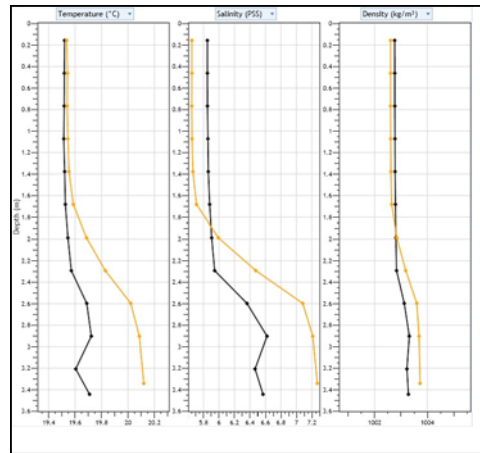


Figure 15. Publication-ready figures of temperature, salinity, and density profiles at the entrance to Mobile Bay. The orange line represents a cast location on the west side of the pass, while the black line represents a cast taken in the middle of the pass.

the PSK measurements are of the bay's waters, as well as the spatial variation of stratification around Mobile Bay.

With each successive deployment, the Jag Ski is demonstrating its utility and reliability as a suitable data collection platform in Mobile Bay's shallow waters.

Many have asked why a PWC was chosen instead of a small boat, which might provide more protection while on the water. The simple answer is that in terms of access and ease of use, the

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Dr. Bret Webb is an Assistant Professor of Civil Engineering at the University of South Alabama. Bret holds a Bachelor of Science in Civil Engineering, as well as a Master of Science and Doctor of Philosophy in Coastal & Oceanographic Engineering. Bret studied at the University of Florida in Gainesville, Florida: a leading institution in the field of coastal engineering. Bret teaches undergraduate and graduate courses

on water resources and coastal engineering in the civil engineering program at the University of South Alabama. The focus of Bret's research is coastal and estuarine hydrodynamics, which seeks to better describe the impacts of circulation, waves, and increased water levels on civil engineering infrastructure in the coastal environment. These research areas require expertise in field and lab experimentation, data analysis, and hydrodynamic modeling. Bret is currently the principal investigator on research projects sponsored by the Mississippi-Alabama Sea Grant Consortium, the National Science Foundation, and Alabama's Marine Environmental Science Consortium through British Petroleum. In addition to his university duties, Bret enjoys providing his technical expertise through volunteer activities with the Mobile Bay National Estuary Program and the Mobile Area Education Foundation.



“Greening” Education: What I Learned About American Public University and Corporate Social Responsibility

By: Wesley Holmes

Toward the end of my graduate coursework with American Public University System (APUS) the Program Director of the Environmental Science Program, Dr. Carol A. Pollio, asked if I would be interested in working with her on a research project for the University. Our project would focus on the construction and development of the University's new Academic Center in Charles Town, West Virginia. The 45,000 square feet (ft²) development was to be constructed on a designated Brownfield site and would also pursue certification under the US Green Building Council's Leadership in Energy & Environmental Design (LEED) Program. We were charged with following the project, documenting its progress, and reporting on the environmental aspects of the University's most ambitious effort toward sustainability to date.

I was flattered. I had been studying in the Environmental Policy and Management Master of Science Program for the last couple of years, hoping to turn my background in parks and resource management into a career in the sustainable development industry. Throughout the program, much of my work focused on sustainability issues and I had been studying the LEED rating system independently. I was well versed in climate change, toxicology, watershed management, landscape ecology and the many environmental issues that sustainable planning and development are intended to address. I was ready to take on this project. I expected that the work would merely reinforce the lessons I'd learned on environmental planning and the benefits of sustainable practices, and it has.

What I wish to convey here is the unexpected lessons from the endeavor. Going well beyond my education in environmental issues, this project gave me a crash course in blogging, a real world lesson on the impact of Corporate Social Responsibility and an overarching lesson on the transformative power of the internet.

Learning to Be a Blogger

For the University's first new construction project, APUS undertook an ambitious proposal by a local developer to convert a 1.39 acre Brownfield property into a three story 45,000 ft² office space. My role was to observe and record this process and assess the environmental impact of the project. The APUS green building web site (<http://apus-green-building.com/>) is dedicated to following the progress of the Academic Center construction. Writing weekly blogs has been one of my primary responsibilities for the past year. The idea of the blog is to provide APUS staff, students, and the curious with regular updates on the construction process. It was a format where people could ask questions about the technology being used and how it would impact the surrounding environment.

Prior to this project I had no blogging experience. My initial plan was to write an article about each of the LEED rating system credits. They are broken down into categories that address land use, water quality, energy and atmosphere, materials and resources

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Jag Ski

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Figure 16. The South Alabama Jag Ski underway on Dog River.

PWC cannot be rivaled. The PWC is easy to launch and retrieve by yourself, it can be towed by just about any vehicle, and it is much more agile traversing the surfzone than any other craft on the water.

In terms of weather conditions, the limitations of the ADCP tend to be more restrictive than the capabilities of the PWC. It is difficult to obtain quality ADCP measurements when the waves are 1 m or greater, but one can still safely operate the PWC in those conditions. Finally, the cost of the PWC is much less than an outboard center console vessel of any significant size. But what really matters most is that, while one could certainly put all of this instrumentation on a larger vessel and collect the same data... it just wouldn't be as cool (Figure 16).



“Greening” Education *Continued from page 17*

and indoor environmental quality. I tried to match each phase of development with its corresponding LEED credit and look at the environmental issues these implements are designed to address. For example, as the land was prepped and graded for development, I delved into land use issues and trends and the merits of APUS selection to site the new building on a Brownfield versus undeveloped land. Finding information on the environmental implications of construction was easy. I had no trouble putting together a detailed and lengthy write up. But in doing so, I had taken the same approach that I would for a typical graduate research paper. I had embraced the tweaked real-estate mantra of graduate school - “citation, citation, citation”. I soon learned that writing for graduate school and writing for a blog were distinctly different enterprises.

Throughout my education, I learned to obey the rules of grammar as dictated by the pompous little red book handed out at the beginning of each English course. Learning to write clearly, professionally, devoid of the casual tone and colloquialisms of southern conversation to which I was accustomed. It was quite frustrating at times and it took years for me to relent. After submitting my first article to be reviewed I found out that I now had the opposite problem. My writing was too formal and overly technical. My audience was different, as my editors would inform me, for a blog I would do better to keep the tone casual and the language common. Write in a fashion that would, if not appeal, at least be accessible to the casual reader who knew nothing of the intricacies of habitat fragmentation and groundwater trans-flow. So after years of learning to write formally, I now had to learn how to loosen up and write casually.

With expectations for weekly articles, I felt like a reporter. I spent much of my time sending out emails and making phone calls to the architects, contractors, sub-contractors, engineers and project supervisors. Each week I would hound these professionals for details on their work and then tie those efforts to relevant environmental issues and make an article out of it. To make the articles more informative and eye catching, I wanted to incorporate pictures, videos and charts and there was still an inescapable need to cite my environmental claims. Again, I found myself in unknown territory. Over the years I produced hundreds of papers, power points, spreadsheets and graphs. Web publishing, I would find, is a little more involved. There are extra steps in web publishing that I would need to get familiar with. So I got to know WordPress.

I’ve always considered myself to be computer literate. I can search and email and use all the office software available. In 5th

grade I had no trouble getting my Wagon Train across the river with minimal loss of cattle. But I confess I felt, initially, out of my depth. I started simple with links. Links would be my citations. One of the main purposes of the web site was to create a resource of green building information. So every time I made an environmental claim, I made sure to set a hyperlink to its source and, as I’d seen on other sites, I liked to set a small bank of useful links at the bottom of each article. It only took about three weeks and fifty hyperlinks before I finally learned that I could set the hyperlink to open in a new page instead of directing my reader away from apus-green-building.com.

Then I started working with pictures and videos and found myself dabbling in graphic design. I spent hours trying to find the right image that looked good and conveyed the idea and (following a primer on copyright law from my editor) was also public domain. I’d spend an extra hour trying to make the page layout look good, setting in pictures so they would be surrounded by text, just like a magazine. This was only the beginning. When I started embedding videos and widgets, things started getting complicated. Pictures were too large or too small. Video screens were running off the margin. Do I want those videos to play automatically or should they wait until someone clicks on them? I had to learn a little html code.

Html code, I came to understand, tells a web page how to look and how to function. Looking at an html version of an article I had written was like looking at an ant hill that’s been stepped on. Suddenly there are hundreds more words and letters and numbers in and out and surrounding all the work that had seemed so orderly moments ago. At times it was dizzying.

Saying that the internet has transformed the way we learn, educate and advocate is an unnecessary banality. I can say that learning how to master this medium should now fall under the heading of essential skills for environmental professionals. I got into environmental studies because I love the outdoors and I wanted to do something to protect our wild lands and change the way our built environment interacts with our natural environment. This project has opened my eyes to entirely new possibilities on how I can best do that. From my laptop, I have created a resource to demystify the intent and potential of sustainable development. In the same place, readers can link to dozens of technical resources to find out more about their local environment and find commercial resources that will help them consume less and have less impact.

Working on the green building web site revealed unrecognized skills and opened up previously unconsidered career paths.

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“Greening” Education *Continued from page 18*

I found that learning how to blog, how to create a multidimensional multimedia learning tool accessible to everyone, has been the most valuable skill I have developed on this project. For years I had been working in piecemeal advocacy, giving tours and talking to groups of one, five, sometimes thirty visitors in state parks and preserves and outdoor learning centers. In a fraction of the time, I found an outlet to convey more information to potentially millions. It's been transformative.

The transformative power of new media became all the more apparent as I got to know American Public University System.

Getting to Know APUS — Seeing Corporate Social Responsibility

The concept of corporate social responsibility (CSR) means that organizations have moral, ethical, and philanthropic responsibilities in addition to their responsibilities to earn a fair return for investors and comply with the law. A traditional view of the corporation suggests that its primary, if not sole, responsibility is to its owners, or stockholders. However, CSR requires an organization to adopt a broader view of its responsibilities to include not only stockholders, but many other constituencies as well, including employees, suppliers, customers, the local community, local, state, and federal governments, environmental groups, and other special interest groups.

The research project we are conducting highlights the University's efforts to build a low impact high efficiency “green” building; an effort which directly addresses all the aforementioned stakeholders. Over the course of this project, I came to learn that before their foray into new construction, APUS had already set high standards for responsible, community-oriented growth and sustainable development.

Having pursued my Bachelors through a traditional “brick and mortar” institution, the affordability and practicality of online education appealed to me for my graduate work. The virtual campus format certainly did create a perception of modernity in my mind's eye. When I imagined what the physical structure of my school might look like, I usually thought of large banks of computer servers and hardware. The chance to make an in-depth examination of the school I had spent the last few years attending held much appeal to me. I was looking forward to getting to meet the people behind my computer screen. About a month after I signed on to the project, I was invited to attend the groundbreaking ceremony for the Academic Center. I arrived the day before

the event to meet the University President, Dr. Wallace Boston, and talk to him about the project and why APUS decided to go green.

I was expecting to find APUS offices in a typical, modern office park complex. A long stretch of big boxes made of steel and concrete surrounded by acres of asphalt. It was this expectation that raised in me a small measure of concern as my rental car GPS directed me to the center of this little old town in the north-eastern panhandle of West Virginia. I had been thrown off guard by the charming scenery along most of my ride in from the airport in D.C. I was passing through little Germanic looking villages nestled amongst rolling hills of pasture and vineyard when I pulled into Charles Town.

Driving around Charles Town one can't help but to feel steeped in history. Founded by George Washington's younger brother Charles in 1786, the old downtown is surrounded by historic homes and structures that line its quaint, quiet streets. The federalist stone work and colonial columns fill the imagination with visions of agrarian gentry living. It unnerved me initially. I felt like I was in the wrong place and I had a meeting with my school's President in 15 minutes. But the voice of the GPS was confident “Turn left, drive 100 ft and turn right to your destination”.

Sure enough, set in front of an old three story brick house just off the town's main street is a blue sign reading “American Public University System - Office of Admissions”. So, with a small sigh of relief, but still an air of confusion, I parked the car and strolled up to the door. As I approached the door, I noticed it had magnetic key card locks. That got my attention, a high-tech lock on a late 1800s home. I took a moment to look around. I saw the same blue APUS sign on an even older looking building across the street, two more just down the road, and yet another on the opposite corner. All the buildings were old structures, most looked like old homes. My curiosity was definitely piqued.

I was informed that my interview with President Boston would be conducted in the white house across the street, the oldest looking of those I'd seen. I was let inside to set up with the videographer. While we waited, I talked with the University's Director of Facilities who explained that the building we were in had once been the home of an attorney in the trial of John Brown. The abolitionist who undertook the raid on Harpers Ferry had been tried and executed just down the street from our location in 1859. Over the course of our talk and my subsequent interview with President Boston, it became clear that the decidedly un-modern facade of my modern high tech online university

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“Greening” Education *Continued from page 19*

was a very deliberate and conscientious decision by the University.

APUS currently owns nine properties in Charles Town. Six of these properties are registered as historic. Two are renovated from previous businesses, including a more than 50 year old grocery store and a former sprinkler factory currently under renovation. In fact, since relocating to Charles Town, despite substantial growth and expansion of their operation, the Academic Center is the only new construction APUS has brought to the community. To me this was, just to put it simply, very cool. This is nothing like I imagined the facilities would be for an online college. Living in an historic community myself, I have come to develop a real affection for historic towns and as an environmental professional, I believe that historic preservation and conservation go hand in hand. Bringing new life to traditional infrastructure preserves existing green space, promotes development density and community connectivity and brings, often times much needed economic relief to communities. Rebuilding and revitalizing these communities is a very important step in addressing issues surrounding land use trends and unsustainable suburban expansion around large urban cores.

The transformative effect of internet technology and its ability to bring new economic opportunity to these communities is frequently noted in literature and it has become a popular talking point in Washington. This is one of the first instances where I have actually seen this transformation in practice. Where others saw blight and excess expense in developing in the historic downtown area, this online college, catering to military and public service professionals, saw an opportunity. Their decision to set up in this town instead of an office park, not only brought hundreds of low impact jobs to a community, it made a huge contribution to the City efforts to revitalize their underutilized down town district.

The reason I was affected by this, and the reason I sound like such a cheerleader now, is due to the fact that before coming to Charles Town I had never heard anything about this. In my initial research of the school and as a student for over two years, I never heard anything about the University's revitalization and historic preservation efforts. In fact, I had to pull this information out of my hosts. From this I took the sense that APUS did not undertake this growth dynamic because it is fashionable and green has become a good marketing angle. As the school has grown, they have matched their need for expansion with the city's need for revitalization. The new construction project was just the latest and largest effort by APUS to further their commitment to Corporate Social Responsibility.

Conclusions and Realizations

About half way through my graduate program it struck me just how much paper I had not used. I wrote hundreds of pages. I had read probably thousands more. But virtually no ink had touched paper. Then I thought about how many commutes to campus I didn't make, how many parking spaces were not needed. I then considered the extrapolation of that across APUS 70,000+ students and faculty.

It was a flash, an epiphany. The impact of online education on resource conservation and logistics is nothing short of astounding. To see this transformative power transfer to the physical face of a community was all the more amazing. Through the internet, APUS has found a way to bring affordable, life enriching education to thousands all over the world. In their success, they have found a way to enrich the community around them. In my work on this project, I have seen the essence of sustainability; preserving the past while providing a path for the future.

Note: At the time of this publication the APU Academic Center is having its electrical and hydrological systems reviewed by the build-ings commissioning agent. Following the final performance review, paperwork will be filed with the US Green Building Council for certification. Once all the data is in, Dr. Pollio and I will write our formal paper on the building's performance and environmental impact. For those who are curious about how the building was designed and its performance, keep your eyes peeled for our paper later this year (2011) and checkout apus-green-building.com.



Wesley Holmes is a recent graduate of American Public University, receiving his Masters of Environmental Policy and Management in 2010. Wesley decided to pursue his graduate degree while working with Georgia State Parks. As a working professional, Wesley was searching for a program that would allow him to pursue his studies without deviating from his career path or piling up substantial debts. APUS' 100% online program, specifically tailored to the needs of service professionals and military service people, offered the flexibility and affordability he was looking for. Since graduating, Wesley's degree has opened up many new opportunities in sustainable development planning as well as freelance work in environmental policy analysis and writing.

"Wes will be awarded the American Public University Alumni Service Award in June 2011 for his contributions to the field of sustainability as the project manager for the "APUS Goes for the Gold!" LEED Certified Academic Center Research Project.



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Thank you,
Gary F. Kelman, Chair

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



Board of Directors Meeting Summary—April 25 and April 30, 2011

A successful 36th Annual Conference complements a reinvigorated Board

By Harold Draper, NAEP Vice President

The NAEP Board of Directors met in association with the Denver annual meeting in an increasingly upbeat note, based on improving financial performance, good attendance at the conference, and new initiatives and partnerships with chapters and affiliates. As we build bridges of friendship within the Board and within national working groups, the stature of the association is increasing. With increased stability, we have launched a new webinar series, and chapters are holding networking and social events around the webinars. Coming soon will be a NEPA online community where we can post questions and share documents. Building on the success of the past, the Board renewed the management contract with Bower Management Services for three years.

The **Member Benefits Committee**, chaired by Ron Lamb, presented a formal proposal for a new partnership with Environment and Energy Publishing LLC. On a biweekly basis, the new 'National Desk' newsletter would take six current articles from E&E publications and distribute them to members. The Board voted to move forward with the agreement and to roll out the new publication.

The **By-Laws Review Committee** presented proposed changes to the by-laws. These would reflect current operating practices and update chapter affiliation language. These were also approved by the Board with minor changes. In addition, the Board approved two new student chapters, American Public University and Nova Southeastern University, and authorized a third, Texas A&M University, once by-law changes are made.

The **Education, Research and Science Working Group**, chaired by Marie Campbell, discussed the success of the first webinar (on CEQ Mitigation and Monitoring Guidance) and reviewed plans for a future webinar on the NEPA legal and policy update, which is scheduled for June 15.

The new chair of the **Chapters Committee**, Bill Plumpton, was announced. Bill stated that he would continue monthly chapter conference calls and revitalize the chapter start-up kit. The committee is planning for a 2012 chapters retreat.

Environmental and Energy Policy Committee chair Judith Charles stated that the National Energy Symposium at the annual meeting was a big success. Next year, the committee plans to have an energy boot camp at the annual meeting.

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NAEP and APU Proudly Announce the Launch of a Co-Branded Library Portal to Benefit NAEP Members

National Association of Environmental Professionals (NAEP) and American Public University (APU) are proud to announce the launch of the co-branded library portal, in support of the partnership announced at the NAEP Conference this past April. Our shared vision is to build a co-branded portal to become the premiere library portal for NAEP members, offering an on-going collaborative collection of valuable resources for environmental professionals.

Below are some examples of resources you will find in the NAEP/APU library portal:

- Real-Time News from the Council on Environmental Quality, Environmental Protection Agency, National Oceanic and Atmospheric Administration, Environmental News Network, Scientific American, etc.
- Dig down into issues and resources for: Air, Soil, Biodiversity, Sustainability & Human Ecology, Water, Energy, Climate

Change, NEPA, Hazardous Waste Management, Environmental Mitigation & Reclamation, etc.

- Access to open journals and databases such as Environmental Research Letters, USFWS Mitigation Policy, Reclamation Documents, Environmental Law Institute, DOE- NEPA Compliance, EPA NEPA Compliance, etc.
- Videos, mobile apps, podcasts, research tips, and social networking.
- Employment resources and discussion boards.

NAEP and APU hope this will become the premiere library portal to NAEP members as members are encouraged to use the portal as the "center" for accessing a variety of resources and sharing information. The portal is available to NAEP members by

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Board of Directors

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Internet Committee chair Carolyn Henn reported that the Linked In group is up and running and active, with 500 members. The committee is continuing to work on association web site development and plans to present a plan for enhancements.

Our publishing partner, **Cambridge University Press**, reported that our *Environmental Practice* journal was rebranded in 2010. In addition to doubling in size since 2008, there is new on-line functionality in which members can log in and download articles. Go to the NAEP website, log in to the members-only

section, and go to the Cambridge journals site to register and access the journal on-line.

With regard to future annual meetings, the Board voted to accept the recommendations of the **Permanent Conference Committee** that the 2013 annual meeting be held in Los Angeles and the 2014 annual meeting be held in Florida. Planning for the 2012 meeting in Portland, Oregon is well underway. Note that abstracts are due by September 30, 2011. Submit your abstract using the online form at www.naep.org.

The next Board of Directors meeting will be held in Chicago on July 16, 2011, and will be hosted by DePaul University.

NAEP and APU

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login only which will be sent separately via e-mail. For detailed information on what's available on the library portal, please visit the link below.

<https://naep.memberclicks.net/assets/naepapuannouncementppt042811forwebsite.pdf>

Join NAEP and APU for an Online Open House on July 20th at 8:00 pm EST

Register to learn more about how NAEP and APU can help further develop your professional skills through online education

Join American Public University (APU) and the National Association of Environmental Professionals (NAEP) on Wednesday, July 20, 2011 from 8:00pm – 9:00pm EST for this special “open house” event. This live, interactive presentation will feature Dr. Carol Pollio, program director, environmental sciences, for the American Public University as a speaker. She has 33 years of experience as an environmental professional, including deployment during last year's Deepwater Horizon oil spill as the US Coast Guard Reserve Liaison Officer to Santa Rosa County, Fla.

The event will include an opportunity to ask questions directly to the Program Director and will explore:

- What online learning is about and its rewards
- APU highly regarded faculty credentials and experience
- The opportunity to further your education to better meet the needs of our employer
- Curriculum that is at the forefront of our industry

- Knowledge and availability of the environmental online courses, degree, certificates
- Get your questions answered: anything from curriculum, financial aid, or how does the online classroom work
- Background and benefits of APU: affordable, flexible and high-quality education
- Transfer credit and Prior Learning Assessment

American Public University's online courses, certificates, and degree programs cover the full spectrum of environmental policy & management, stewardship of natural resources, pollution management and global environmental sustainability. For more information, please visit www.studyatapu.com/naep.

Register Today! - Click this link

<http://apus.adobeconnect.com/e31425489/event/registration.html>

A final message from NAEP President Paul Looney regarding the APU Open House

Our relationship with APU offers our members access to a variety of quality online programs, with concentrations ranging from environmental sustainability and planning to global environmental management. Whether you currently work as a project manager, policy analyst or in another environmental capacity, you will now have access to flexible coursework designed to help you meet your professional goals.

American Public University has all the makings of the educational opportunity we have long desired. Therefore, I encourage you to register for this open house and learn more about APU and the relevancy of their programs to our endeavors.

Paul Looney, NAEP President



Chapter Affiliation Update — June 2011

We are now entering the sixth month of the new Chapter Affiliation Agreement and it has been and will continue to be an exciting time for NAEP, the Chapters and the Members of both. The goal of the Chapter Affiliation Agreement was pretty simple – create a partnership between NAEP and the Chapters so we can both service our members better and grow. While the goal was simple the process was very involved and required getting input from NAEP, Chapters and the Members. The process started at a Chapter Planning Retreat in 2007. The next Chapter Planning Retreat is being planned for 2012 and will further cement the relationship between the Chapters and NAEP.

There are many different reasons a Chapter chooses to affiliate:

- Links to a National organization
- Networking Opportunities and Sharing of ideas with other Chapter Leaders
- Access to NAEP educational opportunities
- To provide additional benefits to their members by providing discounted registration fees and publications to its members

The benefits of being an affiliated Chapter or a Member of an affiliated Chapter are many:

- Registration discount to the Annual Meeting
- Discounts for training opportunities (like the webinars)
- Access to the NAEP newsletter
- There are also many new benefits that are being finalized as we speak and they will be introduced during the Summer and Fall:
 - NAEP is creating an NAEP National Desk that will be sent to your Chapter Leaders and forwarded to you every two weeks. This is a new publication will include approx. 6 articles that are of interest to professionals working in the industry.
 - NAEP has entered into an educational partnership with American Public University and they will be offering three free webinars on topics of interest to the members of NAEP and the Chapters and three Open House

events per year where NAEP members who are interested can get to know the faculty and learn about the courses being offered.

We are also discussing new benefits and will be introducing new benefits each year.

Currently we have 12 Chapters that have affiliated with NAEP. We thank these chapters for supporting the development of this important partnership. The Affiliated Chapters are listed below:

- Alaska AEP
- Arizona AEP
- California AEP
- Florida AEP
- Georgia AEP
- Hawaii AEP
- Illinois AEP
- Mid-America AEP
- Mid-Atlantic Region of Environmental Professionals
- North Carolina AEP
- Northwest AEP
- Rocky Mountain AEP

There are some chapters still evaluating this agreement and discussing the opportunity to affiliate with their membership. These chapters are:

- North Texas AEP
- Pennsylvania AEP
- Texas AEP

Two of our previously Affiliated Chapters have decided not to affiliate with NAEP. We wish them great success and look forward to partnering with them in the future.

- Indiana AEP
- Michigan AEP

This is truly an exciting time to be a part of NAEP or an NAEP Chapter and if you are not already a member we hope you will consider join NAEP and/or a chapter.

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And you're one click away from making it happen.



Introduce your talented staff to a quality education that will take them to the next level. APU offers online environmental degree programs with concentrations in Global Environmental Management, Environmental Sustainability, Environmental Planning, and more. You may also want to take a class for professional development or field certification.

NAEP chose APU as the premiere education provider to NAEP members.

Learn more about one of the best values in online education www.studyatAPU.com/naep



Text "APU" to 44144 for more info.
Message and data rates may apply.

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Affiliation Update

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For the NAEP member who is a regular dues paying member, I want to thank you for your contribution to our mission. I will further encourage you to commit some of your valuable time to make this a better Association.

For those who are directly involved in the continuing success of our Association, thank you for your time and for your dedication. Your contributions are tremendously important.

For the affiliated member (or those state Chapter members in a chapter that is still considering affiliation), I hope you are seeing

the increasing value to you being provided by our new initiatives. We are trying to be relevant to all professionals; we welcome input to make that effort more effective. Let your individual voice be heard by your Boards of Directors that the benefits being provided have professional and personal value to you. They need that input to make an informed decision.

Finally, for those Chapters who have chosen at this time to separate from the parent organization, we are here, we are welcoming, and we look forward to your return.

Please feel free to email me with any questions at naep@naep.org.

*Tim Bower, CAE
NAEP Managing Director*



Environmental Practice

The journal of the National Association of Environmental Professionals

GREEN INFRASTRUCTURE vol. 14 no. 1 (March 2012)

Green Infrastructure (GI) may be defined as an interconnected network of natural areas and open spaces as well as technologies and practices that use natural systems – or engineered systems that mimic natural processes – to enhance overall environmental quality, conserve ecosystem functions and natural capital, sustain clean air and water, and provide social and economic benefits to people and communities.

Manuscripts are sought with an emphasis on GI planning, policy development, and implementation at regional, community, neighborhood and site-specific scales.

Manuscripts highlighting case studies and best practices in all areas of GI are particularly encouraged. Specific topics and themes that could be addressed include, but are not limited to: (i) using GI to address open space, water quality (e.g. Clean Water Act) and stormwater management needs; (ii) barriers to development and/or implementation of GI plans, and how to overcome them; (iii) performance data on GI best practices, particularly hydrologic and pollutant-removal performance; (iv) mapping and planning GI networks; (v) national and state policy on GI, with particular emphasis on incorporating GI into permitting and enforcement plans. (vi) strategies for communicating the environmental, social and economic benefits of GI; (vii) mechanisms for financing GI plans; (viii) planning, design and cost-benefit analysis tools and frameworks to allow communities and practitioners to make informed decisions on development and implementation of GI programs and practices; (ix) national and state policy on GI.

**Deadline for submittals is
August 15, 2011 to
dcarro17@depaul.edu**

**Sample issues of the journal
can be found at:**

[http://journals.cambridge.org/action/
displayJournal?jid=ENP](http://journals.cambridge.org/action/displayJournal?jid=ENP)

Guidelines for publication can be found at:
<http://journals.cambridge.org/action/>

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



2011 Awards Committee, Status Report 6/1/11

The Awards Committee has selected the winners of the 2011 Environmental Excellence Awards. These awards represent eight categories of accomplishment and a President's Award for special recognition. The committee had the pleasure to review many high quality and interesting nominations. All were indicative of on-the-ground accomplishment and quality performance in a wide variety of topics and circumstances. Large, small, and in-between projects demonstrated accomplished success in melding divergent interests early in project planning and execution. These projects often overcome substantial obstacles among conflicting interests, substantial finances and technical hurdles, and emergent and long-standing environmental issues. The accomplished successes are noteworthy. Each speaks to real improvement and consummate environmental performance.

The Award Committee members are continuing their exempla-

ry and much appreciated work. Conference attendee should take the opportunity to dialog with Award Committee members. They have some firsthand information about the many interesting projects underway nationwide. The Awards Committee members are:

Nick Stas

Jim Melton

Helene K Merkel

Connie E. Chitwood

At the Conference in Denver, Jim Melton and Bob Cunningham discussed specific improvements in the awards program. Such items as: categories of awards; processing of nominations; selection of nominations; improved integration of award winning projects in the agenda of future NAEP Conferences; and other items should be addressed with the Board. The Environmental Excellence Awards Program is gaining a much stronger voice in the active environmental improvements and professional development of participants and can play a greater role for NAEP members.

Robert S. Cunningham
Environmental Excellence Awards Committee Chair

Chapter's Committee Report

After five years of leadership, John Irving has stepped down as the chair of the Chapter's Committee. John helped organize and facilitate the first NAEP Chapter's retreat in 2007, helped develop and implement a standardized chapter affiliation agreement, helped bring chapter representatives and presidents and other environmental professionals across the country together, and so much more. The entire Chapters Committee and the NAEP thanks John for all of his years of service and leadership to the Chapters and NAEP and everyone wishes him the best in his new pursuit to start an Idaho chapter or subchapter in the near future.

The Chapter's Committee met regularly from January through May and spent the majority of its time developing and prioritizing a list of possible additional benefits and services from NAEP to affiliated chapters. At the conclusion of the process of identifying and prioritizing possible additional benefits and services, the chapter committee's two highest priorities for future discussions are 1) develop training opportunities for NAEP and chapter member use, including management and logistical sup-

port, and 2) help an existing chapter grow its membership. These two priorities will be considered more fully in the chapter committee meetings in the coming months.

A few chapters requested NAEP's assistance to manage their membership databases and provide other management support. While NAEP is not equipped to provide direct assistance to chapters at this time, it can provide guidance and best practices and NAEP will contact those chapters that requested NAEP's assistance to manage their membership databases and other management support and offer guidance in the near future.

Additional short-term activities of the Chapter's Committee are to start initial planning for the 2012 chapters retreat, starting a chapter newsletter exchange, increasing chapter representatives and presidents participation in Board of Director meetings, and more.

Bill Plumpton is the new chair of the Chapter's Committee. 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 at wplumpton@gfnet.com



Andrew Fillion is 2011 Zirzow Student Award Recipient

Audrey Binder, CEP

Andrew Fillion, a graduate student at Colorado State University - Fort Collins, was selected as this year's Zirzow Student Award winner, at the 2011 National Association of Environmental Professionals (NAEP) Annual Conference in Denver, Colorado. Andrew is working on his Master of Science degree in Construction Management and Information Systems in the Department of Construction Management, and was nominated by Dr. Mehmet Ozbek of Colorado State University's Department of Construction Management, for his distinguished environmental work and his academic achievement.

After getting his Bachelors Degree in Political Science in 2003, from the University of Colorado - Boulder, Andrew moved to San Diego, California where he worked for Cement Cutting, Inc. for five years. His current Master's degree focus is to develop a framework to evaluate environmental commitment tracking programs for use at state Departments' of Transportation (DOT). This involves providing a comprehensive analysis of other state DOTs' commitment tracking systems and providing a recommendation as to which program would be most appropriate to implement at the Colorado Department of Transportation.

In addition to his professional duties Andrew has been active in community service projects, including working with disabled

children in a community interactive program, as a volunteer and fundraiser; and has been active in the Surfrider Foundation Beach Cleanup program in San Diego County.

He enjoys golfing and attending Colorado Rockies Baseball games when he is not busy working on his studies.

Andrew is the 11th recipient of the Zirzow Student Award, presented in honor of Charles F. Zirzow, one of the founding members of the NAEP, who passed away in 1997. Mr. Zirzow had a long and distinguished career in both the public and private sectors, including a distinguished career in the U.S. Navy. Among his many accomplishments to the NAEP, was the development of the Environmental Professional Certification Program, built on the premise that environmental learning is a lifetime process. The Zirzow Student Award was established in 2001, and is presented to a deserving college student or recent graduate, who has been recognized by their department for their academic achievement.

Andrew was formally recognized at NAEP's Award and Keynote Luncheon on April 28, 2011. The Zirzow Award includes his Conference fee, a one-year NAEP Student Membership, a cash award, and a Certificate of Recognition. Andrew's faculty advisor, Dr. Mehmet Ozbek and guest Colleen O'Malley were also in attendance. The award was presented by Audrey Binder, Zirzow Awards Committee Chair, and by NAEP President, Ron Deverman.

Permanent Conference Committee Report

Permanent Conference Committee (PCC) – The PCC is currently searching for a conference location for the 2015 Annual Conference. Groups interested in hosting the conference in 2015 should contact Lynn McLeod at mcleod@battelle.org. Currently the 2013 conference is scheduled for LA, with the California AEP and 2014 in Florida with the FLEP. 2016 is tentatively scheduled for Yellowstone National Park as it will be the 100 Anniversary of the park. Hosting an Annual Conference is a great fundraiser for your chapter and lots of fun.



California Association of Environmental Professionals (AEP)

The CAEP serves environmental professionals in the state of California. AEP is a non-profit organization of professionals working to improve their skills as environmental and resource managers. Since its formation in 1974, AEP has grown to over 1,700 members: planners, environmental scientists, biologists, lawyers, noise specialists, transportation planners, paralegals, archeologists, geologists, engineers, visual analysts, and other professionals in numerous disciplines. There are nine regional AEP chapters serving members in California. For more information go to www.califaep.org.

AEP is dedicated to the enhancement, maintenance and protection of the natural and human environment, as well as the

continued improvement of the environmental profession and its members.

Each Chapter is having monthly programs. Go to www.califaep.org to see what's new and upcoming.

AEP has published the 2011 CEQA Handbook. It is available in electronic format by contacting AEP Lynne Bynder at Association of Environmental Professionals, c/o

Lynne C. Bynder, CMP
Meetings Xceptional
40747 Baranda Court
Palm Desert, CA 92260

e-mail: califaep@gmail.com Phone: (760) 340-4499

The 2012 AEP Conference is being planned. A call for papers is out and all environmental professionals are encouraged to submit a paper to be selected for a Panel program at the conference. Go to califaep.org and look under events to get information on the 2012 annual conference.

AEP wishes all our environmental colleagues a great summer with hopefully some fun time to relax and enjoy yourselves.

President's Letter

Continued from page 1

degree. For the mid-career person looking for a way to enhance their career, the APU agreement will provide the availability of specific course work or certificate programs that could make you more valuable to your company or agency. As part of our agreement, we also anticipate providing customized coursework specific to various fields of the environmental professions. As a new agreement, this is remarkably flexible and it applies to all levels of student.

Our webinars will continue that same education experience for the many years in the future. With an expanded subject repertoire, each of us will get the opportunity to learn about another aspect of the profession from the comfort of our office.

The newswire feeds will keep us all up to date and knowledgeable about current happenings, current regulatory changes, and current legal decisions.

The NAEP Board has listened to the membership and we have acted to help our members get ahead through education opportunities as well as the networking opportunities.

We are not stopping here. Our new Committee Chair for

Student Chapters is developing a program for not only attracting student members, but a means whereby those students can participate in NAEP. A student program that will demonstrate that NAEP membership is an entrée to future employment and advancement. In conjunction with the Career Development Committee, I think the coming years will be filled with new graduating members, developing mid management members, and the experienced members who will be there to guide and provide input to the processes we put in place.

In light of the Conference theme, I think this is very close to seventh generation thinking. If you will permit me to paraphrase a quote I found that is attributed to the Iroquois constitution:

In all of your deliberations in the Confederate Council, in your efforts at law making, in all your official acts, self interest shall be cast into oblivion. ...return to the way of the Great Law which is just and right. Look and listen for the welfare of the whole people and have always in view not only the present but also the coming generations...— the unborn of the future Nation.

I believe that we have the Board of Directors to continue along this path of enlightenment and progress. I hope you will travel the same path with us as we begin our new journey toward a sustainable future as an Association.



Florida Association of Environmental Professionals Chapter Report

The Florida Association of Environmental Professionals (www.FAEP-FL.org) provides numerous monthly networking and educational sessions throughout the state via the Central (www.CFAEP.org), Northeast (www.NEFAEP.org), Northwest (www.faeptnwfl.org), South (www.SFAEP.org), Southwest (www.SWFAEP.org), Tallahassee (www.sites.google.com/site/faeptallahassee), Tampa Bay (www.TBAEP.org), and Treasure Coast (www.sites.google.com/site/tccfaep) Local Chapters. To see a list of upcoming events, please visit the local chapter website for your area, or visit the "Happenings" section on the FAEP website (www.FAEP-FL.org) for a full list of events throughout the state.

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NAEP E-News Reader Contest

For those of you who made it through this issue of the E-News, I hope you have seen a common thread through many of these articles. In fact, I more than hope it, I am going to challenge you to see that this issue actually had some commonality in many of the articles. The subject is continued learning or education. While there is not that specific wording in each article (those of you who were reaching for the search button on the Adobe reader) the theme is here.

My challenge to the readers is based on the Car Talk guys. Send your entry on a clean crisp \$100 bill to me...wait, that might not be a good idea. OK, send an email to naep@naep.org with the subject line NAEP Readers contest. In the email list the titles of each article that references the idea of continued learning or education. We will make a random drawing of all of the correct answers. The winner will get a one-year NAEP membership. The deadline for entries is July 29, 2011.

Paul B. Looney, President, NAEP



Illinois Association of Environmental Professionals Chapter Report

President: Robert Sliwinski, Vice President/NAEP Representative: Greg Merritt, Treasurer: Christopher B. Burke, Past President: Nathan Quaglia, Board Members at Large: Richard Hayes, Ron Deverman (NAEP Immediate Past-President), Suzanne Wootton D'Souza, Dr. James Montgomery, Newsletter Editor: Eric Sikora, Executive Administrator: Debra Hatchett, Website: www.iaepnetwork.org

Membership Update

IAEP currently has 135 members of which are 115 general, 7 national, 5 student and 8 are corporate.

Recap of the April, May and June Seminars



Scott Marlow presents updates to the BDE Manual for IAEP members

On April 20, 2011, Scott Marlow from the Illinois Department of Transportation presented "Updates to the Bureau of Design and Environment (BDE) Manual". Twenty-four attendees were provided a guided tour of the update to the BDE manual

including the environment, NPDES and Stormwater sections. The BDE manual is guidance to any consulting company that conducts work for the Illinois Department of Transportation projects, from Environmental Impact Statements to Planning to Engineering.

On May 19, 2011 Jennifer Clarke from the Illinois Environmental Protection Agency presented "Total Maximum Daily Loads and Load Reduction Strategies". Ms. Clarke provided an overview of the TMDL program in Illinois including water sampling methods, identification of impaired waters (303d), water quality standards, and examples of watershed projects/organizations that are working towards reducing TMDLs in local watersheds. Although chemical data is important to determine if TMDLs are being reduced, biological data (fish and or aquatic macro-invertebrates) that shows good water quality can be used to show stream improvements without the need for chemical data.



Jennifer Clarke presents on TMDL's



Ron Deverman provides IAEP members with an update on NAEP activities prior to the June 10 Regulatory Wetland Seminar

On June 10, 2011 IAEP held a seminar on "Wetland Regulatory Update" presented by Leesa Beal, Chief of the Regulatory Branch of the U.S. Army Corps of Engineers - Chicago District. Ms. Beal presented on updates regarding the current regional permit program including an evaluation of possible regional permits for land based and aquatic based alternative energy projects. Additionally, Ms. Beal elaborated on initiatives

to evaluate current services by the Chicago District in an effort to provide better service for permit applicants. The seminar was held at Café Zalute in Rosemont, IL.

On July 15, IAEP will welcome the NAEP Board by taking an architectural tour along the Chicago River in Chicago.

Environmental Practice Submission Information

In the months to come, *Environmental Practice* will be publishing theme issues on the subject of Transportation, Energy, and Environmental Justice. The editorial office is still accepting manuscripts on Energy and Environmental Justice, and submissions can be sent to managing editor Dan Carroll at dcarro17@depaul.edu. For more information on submitting to *Environmental Practice*, please visit the journal's website, at the following URL:

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



Mid-Atlantic Region Environmental Professionals Chapter Report

After months of planning and hours of hard work, MAREP's full day seminar was a huge success! MAREP hosted a full-day technical seminar and networking event on June 10, 2011 at The Universities at Shady Grove, USG Conference Center entitled: *"TMDL for the Chesapeake Watershed: What You Need to Know Straight from the Experts."* Speakers from several of the Region's major local jurisdictions and engineering firms presented on their recent efforts and plans to address the Chesapeake Bay TMDL and Watershed Implementation Plan (WIP) process.

In December 2010, the U.S. Environmental Protection Agency established the Chesapeake Bay Total Maximum Daily Load (TMDL), a historic and comprehensive "pollution diet" with rigorous accountability measures to initiate sweeping actions

to restore clean water in the Chesapeake Bay and the region's streams, creeks and rivers. The new TMDL will impact multiple aspects of environmental cleanup and management: storm water, wetlands, agricultural use, wastewater, cross-county waterways, etc. Check out our website to learn more. www.marepweb.org.

For a chapter that is only a year old we are very excited to be able to host a seminar so soon. This is a great opportunity to get MAREP and NAEP's name out there and grow our membership even more.

Even though we've been busy planning the seminar, we did find time to have a networking event in April. One of MAREP's very first members, Astrid Caldas, gave a presentation on the importance of Climate Action Plans (CAPs), what components a basic CAP should have, and measures and challenges for CAP implementation, using the Maryland CAP as an example.

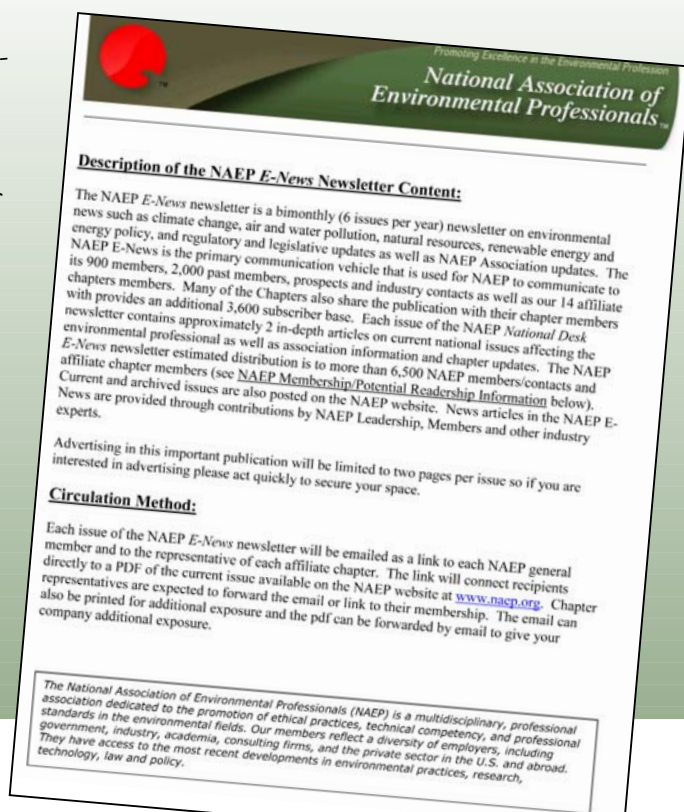
In addition to being an active MAREP member, Astrid is a Climate Change and Wildlife Science Fellow for Defenders of Wildlife, a Research Associate for the Smithsonian Institution and on the Board of Directors for the Green Building Institute. Astrid has published over 30 articles in peer-reviewed journals, informational materials, book chapters, and commentaries in professional newsletters.

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 2011 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 2011 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 advertising opportunities or to reserve your space please contact Tim Bower at 856-283-7816 or by email at naep@naep.org.





Rocky Mountain Association of Environmental Professionals Chapter Report

The Rocky Mountain Association of Environmental Professionals (RMAEP) is a non-profit professional society of members in six western states: Colorado, Idaho, Montana, Nevada, Utah, and Wyoming. For information about all our upcoming events, and to become a member, please visit our website at www.rmaep.org.

Recent Events:

In May, RMAEP co-hosted a networking event with the Colorado Renewable Energy Society (CRES), Women in Sustainable Energy (WISE) and CORE. It was a great opportunity for RMAEP members to connect and network with other environmental and energy professionals at the Uptown Tavern in Denver, Colorado.

On June 15 RMAEP hosted the webinar from NAEP. NAEP offered the webinar on NEPA Legal and Policy updates, on Wednesday, June 15, 2011 at 11:00 a.m. (MST). The webinar was free for RMAEP members who participated at a central location provided by RMAEP!

On June 23, RMAEP held our June meeting in conjunction with Geotech's Annual Field Days. The meeting topic was Patents and Intellectual Property, or, *"I just invented a new technology, can I make some money off this?"* Liz Harding of Holland & Hart LLP gave an overview of intellectual property law to help recognize what inventions are patentable and what steps you can take to monetize your inventions. Special thanks go

to Geotech for providing food, drinks, the venue and lots of great information.

Upcoming Events:

RMAEP July meeting: July 20, 2011, 11:30 a.m. – 1:00 p.m. "Produced Water: Waste or Resource?", presented by Laurie Heath, Registered Environmental Manager with TriHydro Corporation. Ms. Heath has managed various energy development projects over 10 years of environmental project management experience. She has extensive experience with environmental resource project management, regulatory compliance, implementation of waste management and reuse programs, produced water treatment and management, and risk assessment services. She is a University of Wyoming graduate with a Bachelor of Science – Medical Technology (1985) and Masters of Science – Zoology and Physiology (2007).

RMAEP August Field Trip: August 10, 2011, 3:30 p.m., Tour of the Argo Tunnel. The Argo Tunnel is a 4.16 mile mine drainage and access tunnel with its portal in Idaho Springs, CO. Join RMAEP for a tour of the tunnel, and enjoy happy hour at the Golden City Brewery afterward.

Envirofest 2011, September 22, 2011 Envirofest is an exciting opportunity for environmental professionals to network, learn, and share ideas and dialogue with environmental and engineering organizations, consulting firms, government agencies, academic institutions, and job seekers. For Envirofest 2011, our prestigious keynote speaker, Jonathan Trent, Bioengineer researcher at NASA Ames Research Center will talk about the OMEGA (Offshore Membrane Enclosures for Growing Algae) project. This innovative project provides sustainable, carbon neutral biofuels, as well as food, fertilizer, and other useful products, while treating wastewater and sequestering carbon dioxide. It provides these products and services without competing with agriculture for land, fertilizer or freshwater. RMAEP will provide updates about Envirofest over the next several months. If you are interested in sponsoring this event, please contact Katie Rockman at katie.rockman@pacelabs.com.

Update on Member Benefits

NAEP is continuing efforts to develop new member benefits in response to the NAEP member survey and BOD Strategic Action Plan. NAEP is partnering with E&E news (www.eenews.net) to bring NAEP members a biweekly newsletter (26 issues per year) containing in-depth, original reporting on national environmental news affecting the environmental professional. Articles will be sourced from Greenwire, ClimateWire, Environment & Energy Daily, and Land Letter. The NAEP National Desk will be emailed to NAEP members and affiliate chapter representatives. Advertising sponsors will be accepted to offset the costs of this new member benefit. If you're interested in helping with this initiative, or to see the draft newsletter prospectus, contact NAEP (naep@bowermanagementservices.com) or NAEP Member Benefits Chair Ron Lamb (ronaldlamb@comcast.net).



Academy of Board Certified Environmental Professionals at the NAEP 2011 Conference

The Academy of Board Certified Environmental Professionals provided strongest-ever support for the 2011 NAEP Annual Conference. CEPs participated in monthly teleconference meetings of the NAEP Conference Planning Committee throughout 2010-2011. The ABCEP banner and exhibit space at the conference attracted record numbers of environmental professionals seeking information on how to become a CEP and CEP-IT. This year, twenty environmental professionals took one of the most important steps of their professional careers by, and now are on their way to becoming CEPs!

ABCEP helped to launch first day of the conference by presenting the prestigious Dr. Richard J. Kramer, CEP Memorial Award for Environmental Excellence to Richard McGucken, CEP. Dick was recognized for his many years of dedicated service to the environmental profession. He has been a long-time ABCEP Trustee and ABCEP Officer with many contributions including development of Financial Procedures for ABCEP. He is now holds CEP Emeritus status and is the current Editor of the ABCEP Newsletter. Congratulations, Dick! Nominations for next year's Kramer Award will be accepted starting this fall. Please look for the announcement in our newsletter.

CEPs developed and presented two conference sessions. The first, "Get a Job! Enhance Your Prospects by Becoming a CEP", provided the basics of becoming a CEP, and engaged the audience with CEPs who are active and successful in their profession. There was lively debate and no shortage of opinions in this highly

energized session chaired by Heidi Pruess, ABCEP Secretary. Co-presenters included Jennifer Lundberg, Sun Temple Helgren, and Joe Trnka. All four gave us insight into their reasons for seeking the CEP and the boost that it has given their careers.

The second ABCEP presentation was titled, "Body of Knowledge for Environmental Professionals". Chaired by Richard Burke, ABCEP President Elect, contributors and co-presenters for this session included Don Deis, Peter Havens, Gary Kelman, Robert Michaels, and Jim Yawn. This session touched on the basics of becoming a CEP, highlighted the five areas of ABCEP certification, and focused on the types and sources of knowledge with which all CEPs are expected to be familiar. The audience learned that the Body of Knowledge is a dynamic resource that is annually updated by ABCEP. If you are interested in helping to update this valuable resource for CEPs, contact Richard at richard.burke@arcadis-us.com.

The ABCEP/NAEP partnership is strong and growing. There was best-ever participation in ABCEP sessions, and interest in CEP and CEP-IT programs was the highest in recent memory. ABCEP will continue to support NAEP as a Partner who helps us to grow and support ABCEP and NAEP Members. For more information about ABCEP, see the recently enhanced website at www.abcep.org.

*Jim Yawn, CEP, LEED AP
ABCEP Immediate Past President*

Walt Disney Imagineering, jim.yawn@disney.com

Quest for Papers

I have gotten feedback concerning what the ENews has become. I am encouraged to hear that the article selection so far has been good. The articles this month have a pretty wide range of interests, but I believe that is what we need to have to make this a valuable publication for the members.

We still have not touched on all of the areas of practice in this multidisciplinary profession. I know that there are almost entire Chapters that have a specific emphasis that still have not provided their voice to this shared publication.

We are still experimenting with different features and I believe we have a hit with the member spotlights so far. Next issue should have another. In that light, I would like the members to know that each of you is likely to get a call from me asking you to tell us about yourself. I want the membership to know the volunteers that make this a great association and I also want those who possibly cannot afford the time to volunteer to be able to tell us who the membership actually is.

Your idea for an article will definitely help make this a full spectrum publication. I encourage you to write an original article or a well considered response to something published here. Controversial issues are welcome. I want to start receiving letters to the editor to help round out the information presented and to keep us all involved.

As the Editor I am only the facilitator, I depend on the membership to help make this a premier publication of the premier Environmental Professional Association.

Here is what I am looking for: approximately 2,500 to 3,500 words, MS word format. The content is up to you. Pictures are welcome. I would also like a short bio of you and a recent photograph so folks know who is speaking.

Keep the articles and ideas coming; there is ALWAYS room for your voice. If you are not sure whether your idea or article can be included, please contact me and we can flesh it out together. This newsletter is getting better and I want all of us to feel we are a part of this.

*Paul B. Looney, CEP, CSE, PWS,
NAEP Newsletter Editor, plooney@volkert.com*



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 non-profit 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.