



Monday 10/1 Concurrent Sessions (1)

Know Thy Audience

8 Lessons Learned from KAP Studies – Knowledge, Attitudes, and Practices

Karlyn Eckman (Minnesota Water Resources Center), Mary Blickenderfer (Minnesota Extension), Jesse Schomberg (Minnesota Sea Grant), & John Bilotta (Minnesota Extension & Sea Grant)

Evaluating the social impacts of water quality education projects challenges educators and project managers who often experience pressure to show positive results. In Minnesota, 88% of projects are never evaluated and impacts are unknown. The knowledge-attitudes-practices (KAP) method uses focused social surveys with pre/post project data for planning and evaluation. KAPs are used in international health and sanitation projects but aren't well known in the United States. We tested the KAP method on nineteen diverse projects in Minnesota, assessing it for ease of use, utility and application of study data. We conclude that it has merit and value for natural resources educators by providing evidence of project impacts and outcomes. This presentation will focus on how local leaders used KAP data to improve water management and education strategies, resulting in changes in decisions or approaches, and how natural resource professionals are using results to adjust their NEMO programs and outreach.

Expanding NEMO Runoff Curriculum for Rural Officials

Doug Malchow, University of Minnesota Extension

The University of Minnesota Extension has developed a NEMO module targeted at rural officials related to non-point runoff issues and their roles in mitigating problems related to that runoff. Approximately 1.4 million Minnesotans live in unincorporated jurisdictions while 765 of Minnesota's 861 incorporated cities have less than 10,000 residents and therefore are subject to few regulatory requirements. Additionally, 19.2 million acres of Minnesota's land surface is devoted to cropland; approximately 9% of that cropland is eroding above the soil's tolerance level due to runoff. Few jurisdictions in rural Minnesota are required by state or federal rules to meet water quality standards. This presentation will highlight discoveries we have made while developing and utilizing non-traditional NEMO programming for rural leaders, especially what motivates them to action absent regulations. This session will include a discussion with national NEMO educators about what works best when working with this non-traditional audience.

Agenda U81 - Plotting for an Educated and Engaged Public

Patrick Beggs & Christy Perrin, NC WECO

Local governments - not to be confused with the United Nations - are charged with preserving and/or increasing the quality of life in our neighborhoods. Not everyone will agree with that statement. These decisions - not to be confused with sustainable development - require

communities to engage in difficult conversations. They are best made by informed officials, an informed public, with a willingness to engage in civil discourse. They require education, outreach, and transparency of process (in addition to life, liberty, and the pursuit of happiness). And this is only if the discussion is even allowed to begin. But more on that after a coffee break. NC WECO will share their experiences with possibly working outside the bounds of the US Constitution. The basic principles of public involvement and tools from national planning and government leadership organizations will be shared.

Magnificent Mapping

The HUC-8 Watershed Assessment Tool: The Role of Water Quality, Biology, Geomorphology, Connectivity, and Hydrology in Watershed and Community Health

Sharon Pfeifer, Division of Ecological & Water Resources, MN

Department of Natural Resources, St. Paul, MN To gain a better sense of the relative health of the state's HUC-8 watersheds, the Minnesota Department of Natural Resources compiled and analyzed 32 statewide data sets to develop its Watershed Assessment Tool (WAT). WAT has many useful applications for local governments, especially low to mid-level capacity communities. Based on a comprehensive 5-component framework with 18 different indicators applied to all of the state's 81 HUC-8 watersheds, communities are able to better understand influences in the watershed that might be affecting their water quality. The tool is designed to provide a suite of useful applications: a structured way of thinking about local land and water issues; a downloadable map book for each watershed; a mapping function

that enables local decision-makers to easily create maps to represent local issues; and watershed health scores. A local example will be used to illustrate the value of a watershed level tool at the local level.

Putting Watershed Plans to Work: Developing, Implementing, and Adapting the GIS-based Presque Isle Bay Watershed Restoration, Protection, and Monitoring Plan

Sean Rafferty, Lori Boughton, Dave Skellie, & Karla Kaczmarek, PA NEMO-Lake Erie

The Presque Isle Bay Watershed Restoration, Protection, and Monitoring Plan, a cooperative effort among governmental agencies, academia, nonprofit organizations, and municipal governments, serves as the framework for restoring and protecting water resources within the Presque Isle Bay watershed and provides a model that can be adapted to other watersheds. A key component of the Plan was the development of restoration and protection prioritization models, using geospatial technologies. The models identify specific locations within watershed where limited resources can be applied to obtain the greatest benefit. The completion of the Plan, in 2010, coincided seamlessly with Congress's inaugural appropriations for the Great Lakes Restoration Initiative (GLRI) program. To date, \$996,376 of GLRI funds have been leveraged to implement two stream restoration efforts, install three rain gardens, implement the monitoring recommendations of the Plan, and adapt the Plan to the entire Lake Erie watershed in Pennsylvania. This presentation will describe the geospatial-based development of the Plan, discusses how federal funds are being leveraged to restore the watershed, and illustrate how the Plan can be adapted to other small urban watersheds.

The Expansion of the CRI-SC for South Carolina's Eight Coastal Counties

April L. Turner & Samantha M. Bruce

The CRI-SC, Community Resource Inventory-South Carolina, tool presents a list of resources for the eight coastal counties of South Carolina in the form of online map data. Initially the tool was intended for communities and planners who did not have the equipment and/or ability to use GIS in their decision-making process. As such, the CRI-SC does not require the user to have

formal mapping or GIS training and capabilities. Since the public launch of the tool it has been discovered that many of the CRI-SC users have GIS capabilities, but use the CRI-SC in order to quickly map resources and make analyses. These users have been drawn to use the CRI-SC because they can access data that has already been processed and would otherwise require much more of their time to map (e.g. 303(d) list of water quality impairments, land cover by class, and soil drainage). This presentation highlights the expanded utility and focus of this interactive web application.

Monday 10/1 Concurrent Sessions (2)

The Essentials of Planning: Factual, Actual, and Practical

John Rozum (AICP), EBM Tools Network & NOAA Coastal Services Center & Bruce Hyde (AICP), UConn CLEAR

It's difficult to work with land use decision makers if you don't have a basic understanding of land use planning. This two-hour mini-class will provide an entertaining overview of planning essentials, both factual and actual. Part One will include a look at the historical and legal basis for our current land use decision-making framework. Part Two will be devoted to instructional, and often horrific, case studies of real local land use decisions. After this course, you'll know planning from zoning from subdivision, and be able to throw around terms like "bias" and "predisposition." It's fully guaranteed to teach you something about land use you didn't know you didn't know. Taught by National NEMO Network Emeritus and legend John Rozum, and UConn's Bruce Hyde, who has over 30 years of hair-raising, spine-tingling,

face-cringing frontline local planning experience.

Water Science for Planners

Dr. Michael Dietz, CT NEMO, & Valerie Brady, Research Coordinator, MN Sea Grant

In the beginning, there was a bunch of clueless water scientists trying to connect to land use planners (see concurrent session). Today, the NEMO Network and its colleagues contain a goodly amount of planners, who just might be thirsting for a little basic water science to round out their abilities as educators. If this group includes your estimable self, this session is for you. This two hour mini-class will provide an overview of water science essentials, including but not limited to: basic hydrology; precipitation analysis; water monitoring; stream ecology; and, the impact of land uses on stream ecology and aquatic habitats. Co-taught by Dr. Mike Dietz, CT NEMO Director, and Dr. Valerie Brady, Research Coordinator for MN Sea Grant.

Tech Tools of Tomorrow Today

Nate Herold & Lori Cary-Kothera, NOAA Coastal Services Center, & Doug Walker & Amy Anderson, Placeways, Inc.

This session is all about cool tech tools to help you work with local land use officials. Techies from the NOAA Coastal Services Center, Placeways, Inc. and beyond will astound you with a display of technical fireworks.

Monday 10/1 Concurrent Sessions (3)

Site Plan Review for Stormwater

Bruce Hyde & Dr. Michael Dietz, CT NEMO

For land use decision makers, reviewing and commenting on a site plan is often “where the rubber meets the road” For water resource protection, above and beyond the basic knowledge needed to make sense of a site plan there are other skills needed. This is a hands-on-map training session, intended to teach these skills but also to give NEMOids a taste of another educational module that they might consider teaching. Included are: review of basic site plan materials and map set; tracing where the water goes; and, identifying both conventional and LID stormwater practices. Co-taught by grizzled certified planner Bruce Hyde and hydrologist extraordinaire Mike Dietz, both of UConn NEMO lineage.

Michels, EOR Inc (& the original Captain NEMO of the Northland), & Patrick Beggs, NC WECO

The ultimate goals of your program might be cleaner water and healthier communities, but in order to get there, you have to inspire/catalyze/enable changes to local plans and policies. Several NEMO programs have been incredibly successful at this difficult task, but others have found it (understandably) daunting. This session will feature an overview of the new Minnesota model ordinances, but more importantly the role of the Minnesota Northland NEMO program to roll them out in communities and the discoveries of policy tentacles the weave throughout local codes and plans that can support and hinder low impact development. It will also feature insights and tools from the Connecticut and North Carolina NEMO Programs used to help communities set policy direction in plans and review and/or change their regulations. This session also includes plenty of time for discussion of what works and what doesn't, pitfalls, lessons learned, frustrations, triumphs and whatever else is on your mind when you step into town hall.

Regulations, Ordinances and Checklists Oh My!

John Bilotta, Minnesota Northland NEMO, Jean Coleman, CR Planning (Minnesota), Jay

Tuesday 10/2 Concurrent Sessions (4)

Makin' it Work

TBA

Making Education Work with Eight (or more) Partners, Minnesota - Style

Angie Hong Water Resource Education Specialist, East Metro Water Resource Education Program

The East Metro Water Resource Education Program, which is itself a partnership of seven cities, eight watershed management organizations, one county and one conservation district, has successfully partnered with several other entities to provide NEMO education within the St. Croix Basin on a regional scale. EMWREP began by collaborating with the Metropolitan Council on a workshop to help cities update their Comprehensive Plans in 2007, and then joined forces with the Minnesota Department of Natural Resources (DNR) on a series of four workshops designed to help communities better understand their role and options in protecting the St. Croix's scenic and natural values. They have since conducted floating workshops on the St. Croix River for three years in a row, each attended by more than 100 local community decision makers. These workshops have been offered in partnership with the Minnesota and Wisconsin DNRs, the Minnesota Pollution Control Agency, Minnesota Extension, National Park Service and the non-profit St. Croix River Association. EMWREP has found a number of benefits to conducting education on a regional scale. We have saved time and money by working in partnership with other entities and have been able to involve many smaller communities that might not otherwise be included in NEMO outreach. Because of our diverse partnerships, we are able

to connect water quality to other topics of interest for our communities, such as invasive species, and we have crossed county and state boundaries. In addition, the workshops have fostered collaboration between the communities that attend, which has in turn helped us to effect change throughout the St. Croix Basin. In this presentation, we will highlight a few examples of our successful regional education efforts, provide some advice to help others develop similar relationships, and discuss some of the benefits and inherent challenges to conducting education with eight (or more) partners.

Oregon's LID Academy; "You may rely on it" for Education and Technical Assistance

Derek Godwin, OSU Extension Service, Megan Kleibacker, Oregon Sea Grant Extension, & Maria Cahill, Green Girl Land Development Solutions

Oregon is "a state of many small cities" addressing TMDL requirements through their land use planning and management practices but without the regulatory driver of an NPDES permit. They lack capacity to integrate low impact development (LID) practices, designs and planning into their communities. They were tired of seeking help and hearing "outlook not so good." Oregon Sea Grant Extension developed an LID Academy for a cohort group of planners, engineers, public works staff and other professionals from small cities. The program includes a series of trainings, consulting assistance on specific projects, and a large amount of publicly available and regionally responsive on-line technical materials and guidance for participants to adapt and use. Participants work on projects throughout the trainings along with their elected officials and department staff to incorporate these practices into their TMDL and stormwater plans and

related guidance documents. Oregon's water quality future? "Outlook good."

Riparian Corridor Designs for Resource Managers

Juliana Barrett, Connecticut Sea Grant College Program & Dept. of Extension, University of Connecticut

Resource managers have access to a great deal of information on riparian corridors from federal, state and local resources. While these resources discuss riparian functions and values, there is often little offered in terms of appropriate regional or local riparian plants and landscape designs. To assist resource managers and municipal officials with on the ground management and restoration of riparian corridors, we are developing a table of native plants appropriate for riparian corridors in Connecticut, landscape design templates, and a series of fact sheets on preparing an area for planting. Working with a plant scientist and a graduate student in Landscape Architecture, we will develop riparian planting designs based on three different slopes and soil types, and different cover types. This will give resource managers a place to start in visualizing a riparian corridor project, and the designs can be easily amended to allow for individual site needs.

Tentacular Tools & Technology

The CHARMing We Table

Steven Mikulencak, Texas Coastal Watershed Program (TX NEMO)

Abstract to come.

Rain Gardens: There's an App for THAT?

Dr. Michael Dietz, CT NEMO

Precipitation patterns are shifting across the United States, largely due to human-induced climate change. In the Northeast, annual precipitation totals are increasing, and there are more high-intensity events occurring. Climate change will stress infrastructure of these cities even more. Rain gardens/bioretenion areas show good performance in reducing stormwater runoff and associated pollutants. We all know this, but did you know that 46% of all American adults now own a smartphone? Educators need to be innovative and creative in utilizing these technologies to provide information and training in the mobile environment. The goal of this project was to develop a smart phone app to provide guidance on designing and installing a rain garden. We see the rain garden app as both a stand-alone resource, and as a follow-up "pocket companion" for face-to-face trainees as they begin to construct rain gardens of their own. The app is currently focused on CT, but we hope (with your help) to make it national soon.

A Web-based Tool to Aid in Plant Selection for LID Projects

Susan Donaldson & Melody Hefner, NEMO Nevada

It comes as a shock to many, but the plants that thrive in the Great Basin environment are quite different from those used in Low Impact Development (LID) projects in many wetter places. Previous to this project, most of the plant lists that were available focused on plant materials that were not suitable for the western Nevada/Great Basin ecosystem. We found that many LID projects were incorporating materials

unlikely to be successful and sustainable, or ones that required more water than we have. To assist local planners and designers in expanding their plant palettes, we created an online searchable database of (mostly) native plants suitable for placement in the bottom, sides or upland areas of infiltration basins and other LID practices. Working with our web designer and local plant experts, we first developed a list of suitable species, and then constructed the database. Print copies are also available. The tool has become the most-used element of our NEMO website, driving traffic our way and increasing our exposure, while also (hopefully) teaching participants more about NEMO and water quality protection.

Adapting the StormUlator for the Pacific Northwest and the Development of Alternative Storm Water Factsheets for On-site Training of Construction and Maintenance Workers

Dr. Timothy Lawrence, University of Washington Extension

In 2008, in collaboration with the California State Water Resources Board – Storm Water Division, we developed an awareness tool to help determine options for meeting pre and post construction volume and rate requirements in the State of California. Dubbed the “StormUlator” at U6 in Monterey it continues to be used by communities, property owners, students, and regulators. In 2010 it was incorporated into the California construction permit and was named the “coolest named” storm water calculator by the City of New York in 2011. A Washington version has just been released and has been incorporated into an awareness campaign that includes the NEMO National LID Atlas and a series of one page fact sheets for on-site training. This presentation will discuss the evolution of the StormUlator, how it is being used, and how it along with the LID Atlas and on-site factsheets are increasing the awareness of alternative storm water management to critical audiences in the State of Washington.

Tuesday 1 0/2 Plenary Session (2) Low Impact Double Feature

In this never before attempted Plenary Double Feature, we feature 2 renowned stormwater practitioners who are making it all happen in two very different states. The speakers will highlight the programs and approaches they have used to make their states national leaders. Both of these guys are not just Ph.Ds, but Ph.D.s who are also certified P.E.s, so they know how get down in the trenches and get things done. Plus, they are both very entertaining speakers.

Dr. William Hunt from North Carolina State University is Runoff Royalty – a Guru of Green Infrastructure and a Swami of Stormwater Practices. Bill is the architect of an integrated statewide research and extension program that is the envy of the stormwater world. Although Bill is a very longtime FON (Friend of NEMO), this will be his first NEMO U! Come hear Bill describe his latest research on low impact development, explain how that research informs state policy and extension education and the

impacts that have resulted, and reveal, for the first time, how the heck he does it all.

Dr. Chris Obropta from Rutgers University is single-handedly remaking the Garden State (NJ) into the Rain Garden State. He and his team have implemented innovative solutions to water

quality issues that have served as models for others around the country, including the aforementioned Guru of Green Infrastructure and your friendly neighborhood NEMO Hub. He will delight the audience with tales of how he is getting it done in ultra-urban areas that mere mortals fear to tread.

Wednesday 10/3 Plenary Session (Combined NEMO & Great Lakes Sea Grant Network)

The World Outside: What They Say About Why Our Work Matters

Eric Eckl, Water Words that Work, LLC.

Join us for a journey through conservation insights from social scientists and market

researchers. The findings are sometimes heartening, sometimes frustrating—but always fascinating! You’ll learn what polls, surveys, focus groups, and other research tools teach us—and how they mislead us—about the public’s attitudes towards nature protection, pollution control, and the professionals in the field.

Wednesday 10/3 Concurrent Training Workshops (1)

Tech: ArcGIS.com

Cary Chadwick & Emily Wilson, University of Connecticut CLEAR

This workshop will explore a relatively new, free resource for creating online maps to display your data and information – ArcGIS Online. ArcGIS Online is a free web-based platform for building and customizing maps for websites that is similar to Google Earth or Google My Maps. However, it is more feature rich than Google Maps and allows the user to build on a wider variety of base maps, operational layers and existing user data. ArcGIS Online is integrated with the most popular desktop GIS, ArcGIS 10, which makes it easy to transfer existing GIS data to an interactive web environment. There is also an

ArcGIS application (“app”) for Apple, Android and Windows mobile devices that can be used to edit or add to an ArcGIS mashup using your tablet or smartphone. Through a combination of instruction and hands on exercises, participants will learn how to navigate ArcGIS Online, create an interactive mapping mashup, access ArcGIS Online’s mapping services, and add/edit data using the ArcGIS mobile app.

The Watershed Game (Full Day Training)

John Bilotta, Jesse Schomberg, & Cindy Hagley, Northland NEMO

The Watershed Game (WSG) is an interactive, hands-on simulation developed for use in NEMO programs to teach local leaders and participants the application of plans, practices, and policies to meet clean water goals while accommodating community growth. Participants will leave with a strong ability to organize, facilitate, and use the Watershed Game (WSG) for a NEMO workshop and other educational programs. Participants will increase their skills at developing and communicating learning objectives to target audiences and use the WSG to teach to those and accomplish them. Minnesota Extension and Sea Grant Staff will share their successful strategies and experiences with the WSG including best practices and things to avoid as a result of their 40+ trained facilitators they have been working with across the state and the nation. Must participate in the full-day of training.

Gearing up for Change: Climate Training for Outreach Professionals

Diane Desotelle, MN Sea Grant Climate Change Extension Educator, Laura Holladay, MI Sea Grant Climate Specialist, & Molly Woloszyn, IL-IN Sea Grant Extension Climatologist

“Climate Change” is the buzz phrase these days, and the Great Lakes Sea Grant Network has been working to find ways to reach out to communities in the region and encourage them to learn, plan, and adapt to a changing climate. This workshop is designed to provide information for outreach/extension educators who may be interested in incorporating climate education, adaptation planning, and tool implementation into the work they do with local and regional communities. The workshop will begin with an introduction to climate science basics, including historical climate trends in the Great Lakes region and the unique ways that climate change may impact the region. Participants will get a

feel for the concepts of variation and uncertainty around climate change, which are important for interpreting climate data and model projections. We will provide suggestions for helping communities make decisions under uncertainty, as well as how to communicate important climate information to general audiences without being too heavy on the science jargon. Finally, we will share examples of a climate readiness assessment survey that has been tested in a couple communities, and the feedback received. A brief discussion on available tools for vulnerability assessments and climate adaptation will round out the workshop. Participants will leave with ideas for incorporating climate information into the work they already do as well as with a better understanding of ways that communities can adapt to a changing climate.

Social Science and Great Lakes Coastal Management: The Basics

Great Lakes Social Science Network: Chris Ellis, Social Scientist, NOAA Coastal Services Center & Caitie McCoy, Environmental Social Scientist, Illinois-Indiana Sea Grant

It’s difficult to think of a coastal management issue that is not in some way related to humans and our activities – either in cause or effects. This block will help participants better understand and integrate social science disciplines to address coastal resource management issues. This workshop is best suited for those interested in learning the basics of changing human knowledge, attitudes, policies and behavior. Participants will leave with new knowledge, confidence and skill to apply to their own projects. Each time block includes a presentation of concepts and a related exercise for participants to apply the concepts learned.

Wednesday 10/3 Concurrent Training Workshops (2)

Tech: The Charming WeTable

Steven Mikulencak (Texas SeaGrant/Texas NEMO), Amy Anderson, & Doug Walker (Placeways, LLC)

The weTable is a new workshop tool that turns any table-top into a functioning computer interface. It allows for a whole new level of workshop collaboration where participants can explore and interact with digital data, maps, and online resources. A laptop, projector, Nintendo Wii mote, and a hand-held light pen come together to create this interactive and collaborative environment. For example, the weTable enabled groups to develop GIS-based land development scenarios, where participants with no GIS experience interacted with mapping data, made changes to where development is placed, and got real time feedback about impacts. This training will help participants understand how to set up their own weTable, learn about the technology (and costs) involved, and learn about its potential for public workshops. Then, working in groups, participants will have hands on experience with the weTable by utilizing the CHARM (Community Health and Resources Management) model to create land development scenarios in ArcGIS and CommunityViz.

Water Words that Work

Eric Eckl, Water Words that Work, LLC.

Make a splash with your communications! Relearn the language that everyday citizens use and you'll become more confident and successful as you set out to enlighten the

uninformed and persuade the undecided to take a stand or take action on behalf of our rivers, lakes, and oceans. Water Words That Work, Part 1: Reconnect with the perspective that everyday citizens have on nature protection and pollution control, and discover the shocking secret of what motivates them to take action. Water Words That Work, Part 2: Master steps 1 through 4 of the Environmental Message Method, a step-by-step process for transforming professional language into action language that will help make your next fundraising, issue advocacy, and behavior change campaign a success.
