

The 2010 Watershed Ecology Institute

Local government is the most critical stakeholder in the development and implementation of natural resource management. This is something that is well understood here in New Hampshire. One only has to think about water as an example of how critical local government is in assuring safe water resources for its residents. The management of water resources has an effect on nearly all aspects of municipal operations, from infrastructure, to recreation, to human health.

Watersheds are the functional framework for water resource management decisions because they are the ecological base of all water connections. Land management decisions in each municipality within a watershed, create a mosaic of effects directly on water resources, wildlife and quality of life issues within the watershed. For these reasons, understanding how watersheds work is a vital knowledge base for local land use boards. This summer the Watershed Ecology Institute (WEI) will be held from July 19-30 and is a great opportunity for municipal land use board members to gain that watershed perspective and knowledge.

The Watershed Ecology Institute is an undergraduate and graduate level summer program geared towards science educators and community leaders.

The course is coordinated by staff from the New Hampshire Fish and Game Department with technical support from UNH Cooperative Extension and the New Hampshire Department of Environmental Services. On each day of the workshop, specialists focus on a particular aspect of watershed ecology. Hands on, experiential learning will be emphasized in both field and classroom settings. Techniques for applying science in real-world situations will also be offered.

This 10 day Institute includes both classroom and outdoor components. The first day begins with an introduction to watersheds, non-point source pollution and watershed delineation. Day 2 topics include an introduction to GIS and GPS, land use assessment, and GIS in the classroom activities. The course goes on to cover macro-invertebrates and stream ecology on day 3, plant communities on day 4, forests and wildlife resources on day 5, pond and lake ecology on day 6, wetlands evaluation on day 7, aquatic resource management on day 8, estuarine and marine ecology on day 9, and issues discussion, project evaluation, and community involvement on day 10.

I have taught the estuarine and marine ecology day with Dr. Dave Burdick of UNH and Jackson Lab since the course first started in 1996. This day is dominated by field experiences on the rocky shore and estuarine habitats of Great Bay. And typical of the



Watershed Ecology Institute Instructor Judy Tumosa and student Harvey Best study and classify wetlands.

WEI, local relevant issues that dovetail with the theme of the day are explored through the lens of the watershed and how it functions.

This course can be taken for 2 credits from University of New Hampshire's Continuing Education Program, or as a non-credit course. UNH credit course participants are required to do a project and complete a final exam. Professional credit is also available for N.H. Consultant Foresters and N.H. Association of Natural Resource Scientists. Tuition assistance for the course may be available to teachers through staff development funds from local school districts. No person will be denied the opportunity to participate in this program because of an inability to pay.

Space is limited. If you have any questions you can call 603-271-0456 and if you'd like a brochure, email me at Steve.Miller@wildlife.nh.gov. Registration is through UNH Cooperative Extension with the registration form on the brochure.

This is great opportunity to learn with your peers about a system that binds and connects us all together through one of our most valuable natural resources – water.

Steve J. Miller
CTP Coordinator, GBNERR

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Night in a Wigwam

This March, an adventurous group of boys spent a magical winter night in the Discovery Center's newly revamped wigwam. The evening kicked off with activities and games in the Gregg Center, followed by pizza and preparation for the cold night ahead.

A dark and starry night was the perfect backdrop for the crackling campfire that awaited them, illuminating the white wigwam in the woods. The boys set up their sleeping bags on top of bear and deer hides, and sat around the fire sharing spooky tales and talking about different constellations in the winter sky.

After sticky S'mores and a lesson on managing cold and comfort while winter camping, they hiked to the edge of the marsh and watched the night sky, complete with shooting stars, satellites and raucous Canada geese settling onto the open waters of the bay.

Morning arrived before daylight and the boys stumbled out of their sleeping bags to a warm fire and hot cocoa. A noticeable sense of accomplishment

settled over the boys as they chatted about who snored, who talked and who had to get up to pee in the middle of the night! A warm breakfast of eggs, sausage, hash browns and pancakes were fed to the hungry campers before they headed out on another adventure.

Shortly after leaving the wigwam, one boy exclaimed that he had discovered an animal in the hollow of a tree. Excited staff and children ran to see what he found. The animal turned out to be a dead raccoon. The boys then played wildlife CSI, trying to determine why it had crawled into the tree and how and when it had possibly died. Further down the trail they climbed across a newly fallen ash tree and discovered a bird's nest, a witch's broom, a brown creeper and scat from a variety of different mammals. Each boy shared a little of his knowledge about the environment.

When it was time to clean up, there were many boys that stepped up to help carry loads heavier than they were. Some boys switched off and together everyone managed to get back to the Center, where they awaited their parent's arrival -- sleepy but proud of their winter night in the woods!

One staff member



Above, the boys settle in for the night...yea right! The discovery of a dead animal (right) in the hollow of a tree creates excitement and wonder in the boys.



Spotlight

Boy Scout Gives Back

This past fall a local Boy Scout chose the Great Bay Discovery Center as the benefitting organization for his Eagle project. The project was to revitalize the Native American site used for fall school programs. The wigwam, built around 8 years ago, had fallen into disrepair. The project consisted of repairing many rotted out wigwam supports and recovering much of the dome with birch bark. Six natural-looking benches were made to put inside the structure as seats which will be covered in furs. A new smoke-hole cover, fish smoker, loom, and hide stretcher were also constructed for the encampment. The project required a total of 156 hours of work but, thanks to the joint efforts of many people and local businesses, was completed in time to be used for Cultural History field trips for grade school students.



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Eric Mauer, Eagle Scout
Greenland, NH

heard a boy declare, "This is the best camping trip I have ever been on". That alone, makes an evening of giggly boys who won't fall asleep, a bumpy root mattress, and temperatures in the teens, worth every moment!

Kelle Loughlin
Education Coordinator, GBNER
Director, Great Bay Discovery Center