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April 2 and 3, 2009 | NJ's Regionalized Water Budget Manual: Requirements and Recommendations

April 21 - 23, 2009 | Freshwater Wetland Construction



Photo by Dr. Gary Pierce

Office of Continuing Professional Education



**NJ's Regionalized Water Budget Manual:
 Requirements and Recommendations
 April 2 and 3, 2009
 Course Code: EH0402CC09
 Fees: \$515 before 3/18/2009; \$525 after; \$495 multiple**

Successful wetland mitigation efforts are reliant upon accurate hydrologic characterization of a mitigation site; however, it can be difficult to calculate the necessary balance of water inflows and outflows that make up a wetland's hydrologic cycle. The NJDEP's *Regionalized Water Budget Manual for Compensatory Wetland Mitigation Sites in New Jersey* provides data on the principal components of compensatory wetland mitigation projects – from the evaluation of hydrological characteristics to on-site data collection and the preparation of a water budget.

Expert instructor, **Dr. Gary Pierce**, will guide you through the techniques discussed in this *Regional Manual* and offer assistance in the practical application of these procedures. Through hands-on demonstrations and in-class algorithm exercises, Gary will increase your understanding of wetlands hydrology and provide the necessary tools for future wetland mitigation successes. Fundamental concepts of this manual were based on "Planning Hydrology for Constructed Wetlands" authored by Dr. Pierce. In addition to the NJDEP recommendations, Gary will also use his expertise to provide alternate methods (within the guidelines of the *Regional Manual*) for achieving the same successful results.

Extensive Q&A sessions will be used to guide the workshop in a direction that best serves **YOU** – so bring your questions, concerns, and individual scenarios for discussion. Come prepared with a basic understanding of the *Regional Manual*, which can be downloaded from www.cpe.rutgers.edu/waterbudget. Although provided for you in your workshop materials (along with additional resources) it is **REQUIRED** that you review the manual in advance.

The *Regionalized Water Budget Manual for Compensatory Wetland Mitigation Sites* has been a **REQUIRED** resource of the NJDEP since October 2008, and is **MANDATORY** for completing the required checklists for mitigation sites and for mitigation banks.

Freshwater Wetland Construction Techniques

April 21, 22 and 23, 2009

Course Code: EH0602CB09

Fees: \$875 before 4/7/2009; \$895 after; \$850 multiple

www.cpe.rutgers.edu



A wetland construction project requires extensive knowledge and years of experience. Gain that knowledge and consult an expert who has the experience of successful and unsuccessful construction projects. With instructor, **Dr. Gary Pierce**, you will have not only earned an education but also invaluable consulting time. Learn the techniques of successful wetland mitigation planning and construction recommended by the National Research Council and the US Army Corps of Engineers. A visit to a constructed wetland complex in central New Jersey will highlight the "real world" application of classroom methods. Please dress for fieldwork.

There are five basic steps in the process of developing a successful wetland construction plan:

PLANNING YOUR PROJECT

Before developing a wetland construction plan, you must have an understanding of the purpose of the wetland and the ultimate goals of the project. Your overall wetland plan must account for location, size, physiognomy, basic hydrologic regime and current/future land use. The proposed primary function must be specific, measurable and achievable – and structural elements must be able to support the function.

SELECTING YOUR CONSTRUCTION MODEL

You must select the proper model for construction to suit the project. The hydrogeomorphic model analyzes suitable water supply and landscape position, while the wetland construction model covers basic methodologies and water information requirements.

PREPARING YOUR WATER BUDGET AND HYDROGRAPH

Water inputs and outputs must be determined prior to implementing your water budgeting efforts. Successful hydrograph preparation is reliant upon accurate data calculation/input and skilled graphing procedures.

DETERMINING PROPER VEGETATION

Vegetation adaptation, selection, and planting are keys to any successful wetland construction plan. You must verify the adaptive modes of plants for your hydrograph, and accurately match these plants with your project. You must locate plants which match native species assemblages and select the proper planting methods.

MANIPULATING SOIL

Subgrade soils must prove suitable for the hydrogeomorphic model you develop, and the soil texture can be manipulated for percolation. Substrate soils must prove suitable to support your vegetation selections – both in texture, as well as with nutrients.

Instructor, **DR. GARY PIERCE**, owner and Principal Scientist of Froghome Environmental LLC, has over 25 years experience in wetland construction and instruction and a Ph.D. in Botany. Known for his animated teaching style and somewhat bent sense of humor (he concluded his first Rutgers course with a fully-clothed dive into a constructed wetland and has been seen with hand puppets), Gary has taught the U.S. Army Corps Engineer's course in wetland construction and restoration for 25 years. Before founding Froghome Environmental, Gary was founder and Director of Pierce Cedar Creek Institute in Hastings, Michigan and, in earlier career, founder and president of Southern Tier Consulting, which operates a wetland plant nursery, and associate professor at Niagara University.

4 CONVENIENT WAYS TO REGISTER



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Web: Please visit our website at: www.cpe.rutgers.edu for information.

Payment Policy - All students must have prearranged for payment to be admitted to the class (purchase order, check, VISA, Mastercard, American Express or money order).

Refunds - You may withdraw from this course with a full refund (minus a \$50 processing fee) provided our office is notified at least three (3) full working days prior to the start of the course. Beyond that time, registrants may be responsible for the full registration fee.

Substitutions are welcomed.

VISIT OUR WEBSITE

www.cpe.rutgers.edu

FOR MORE DETAILS ON
THESE UPCOMING COURSES!

- Introduction to Wetland Identification - May 19, 2009
- Vegetation Identification for Delineating Wetlands - May 28 and 29, 2009 (or) June 10 and 11, 2009
- Methodology for Delineating Wetlands - May 18-21, 2009 (or) June 17-20, 2009
- Advanced Wetland Delineation - May 8 and 9, 2009