



**Course on:
Wetland Delineation and Jurisdictional Determination**

May 26-29, 2015

**New Hanover County Cooperative Extension Center
6206 Oleander Drive, Wilmington, NC 28403**

Course Planned and Conducted by:

**James D. Gregory, Ph.D., CPSS, PWS
Principal/Senior Scientist
Watershed Hydrology Consultants LLC
Wilmington, NC
www.wathydro.com**

**With Additional Sponsorship and Administration by:
Forestry & Environmental Outreach Program
NC State University Department of
Forestry and Environmental Resources**

<http://forestry.ces.ncsu.edu/forestry-and-environmental-outreach-program/>

About the Course

This course is designed to equip natural resource professionals with the knowledge and field skills necessary for delineation of wetlands and for applying U.S. Army Corps of Engineers (Corps) regulations and guidance in making jurisdictional determinations. The Corps of Engineers Wetlands Delineation Manual (1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0) (November 2010), other Corps guidance documents, and extensive handouts prepared by the instructors will be used in the course.

Topics include: (1) systems of wetlands classification, (2) basic science of wetland hydrology, hydric soils, and hydrophytic plants, (3) identification and delineation of jurisdictional wetlands in accordance with Corps methods, and (4) Corps guidance on jurisdictional determinations of Waters of the U.S. The course includes extensive field practice in representative wetland types of the Southeastern Coastal Plain of North Carolina. The Cape Fear Region of North Carolina (Brunswick, New Hanover, and Pender Counties) provides practice in assessing many different types of hydrogeomorphic wetland types and wetland vegetation communities; and sandy, clayey, and organic hydric soil types.

Who Should Attend?

This course will be valuable to environmental and forestry consultants, engineers, landscape architects, appraisers, and regulatory professionals whose work involves jurisdictional wetland determinations and/or implementation of wetland mitigation. Natural resource professionals who simply wish a better understanding of wetland science and wetland regulation will also benefit.

About the Instructors

Dr. James D. Gregory is Professor Emeritus of Forestry at NC State University and Principal/Senior Scientist of Watershed Hydrology Consultants LLC (WatHydro), Wilmington, NC. He has over 33 years faculty experience in teaching and research in watershed and wetlands hydrology and forest water management and has been active in environmental and hydrological consulting since 2005. He has extensive experience in studying the hydrologic characteristics of forested wetlands in the Southeastern Coastal Plain and is knowledgeable in the science of wetlands hydrology and wetlands soils. Dr. Gregory has taught the Corps wetland delineation methodology numerous times since the early 1990s. He is a Certified Professional Soil Scientist and Professional Wetland Scientist.

Dr. John B. Taggart is Associate Professor of Environmental Studies at the University of North Carolina Wilmington with prior employment as manager of the NC National Estuarine Research Reserve Program and coastal plain biologist for the NC Division of Parks and Recreation. He has over 35 years of work and research experience with plant taxonomy/ecology and natural resource management. Specific areas of interest include protected areas stewardship, pine savanna vegetation, listed species monitoring, and plant/soil relationships.

Registration Fee

The registration fee is \$975.00 and includes course instruction, training materials produced by the instructors, all lunches, morning and afternoon refreshment breaks, and training certificate. The registration form is the last page of this brochure. *Class size is limited, so early registration is encouraged.*

Training Materials and Equipment

The handouts produced by the instructors will be provided in a course reference notebook. The following publications will be used extensively in the course and participants should bring their own bound copy, if available. WatHydro will provide bound copies of the needed publications at the prices listed below which is the cost of printing and binding. Digital files of the publications in pdf format are available at the web sites listed. Bound publications may be ordered on the registration form below. Ample paper copies of the delineation and jurisdictional determination forms will be provided in the course reference book.

Publications (1) and (2) below will be used in the field practicum and participants should have a bound copy of each for that purpose. For publications (3) and (4), digital copies on a portable computer may be referred to during the classroom instruction.

- (1): \$89.00. U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0).
http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/AGCP_regsupV2.pdf
- (2): \$15.00. U.S. Army Corps of Engineers. 2014. Atlantic and Gulf Coastal Plain, 2014 Regional Wetland Plant List. <http://rsgisias.crrel.usace.army.mil/NWPL/>. *NOTE – If a 2015 list is published by May 1, 2015 it will be used in the course.*
<http://rsgisias.crrel.usace.army.mil/NWPL/>

(3): \$23.00. U.S. Army Corps of Engineers. 1987. Corps of Engineers Wetlands Delineation Manual (online edition). <http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf>

(4): \$35.00. U.S. Army Corps of Engineers. May 30, 2007. U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook (including appendices A-H).
<http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/RelatedResources/CWAGuidance.asp>

Logistics

The classroom portion (May 26-27) of this four-day course will be held in the classroom at the New Hanover County Cooperative Extension Center, 6206 Oleander Drive, Wilmington, NC 28403. The field sites have ample parking and participants will drive personal vehicles and meet at the field sites on May 28-29. The field trips will be held regardless of weather conditions. Some of the wetlands to be visited may have standing water, so rubber knee boots are recommended. All participants should bring a soil auger and Munsell Soil Color Book.

Lunches on all four days of the course, morning and afternoon refreshments breaks while in the classroom, and bottled water on the field trips will be provided.

Lodging is not included in the registration fee. You must make your own hotel reservations.

Wetland Training Certification

The wetland delineation and jurisdictional determination instruction in this course is structured in accordance with the concepts, definitions, methods, and data provided in:

- Corps of Engineers Wetlands Delineation Manual 1987, online edition
- Atlantic and Gulf Coastal Plain Supplement to the Wetlands delineation manual
- Guidance documents from HQ USACE referenced in the online edition of the Manual
- USACE Regulatory Guidance Letters and Field Memos relating to wetland delineation
- USACE Guidance documents on jurisdictional determination
- Supplemental references on hydrophytic plants and hydric soils and information available at the WWW sites referenced in the online edition of the Manual.

Students who successfully complete the course will receive a certificate of training in wetland delineation from Watershed Hydrology Consultants LLC.

Accreditation

Foresters: Continuing Forestry Education (CFE) credits have been requested from the Society of American Foresters - credits will be posted online at www.ncsu.edu/feop once approved.

Engineers: Professional Development Hours (PDH) from the North Carolina Board of Examiners for Engineers and Surveyors have been requested.

Agenda

Tuesday May 26, 2015

Registration: 8:00 a.m.

Morning Session: 8:30 am - 12:00 pm

Course introduction

Overview of Waters of the U.S. and the Corps' wetland delineation program

Wetlands: definitions and classification, principles of delineation and assessment

Hydrology: the science of wetland hydrology and application in wetland delineation; hydrology of NC wetlands

Afternoon Session: 1:00 pm - 5:00 pm

Hydrology (continued)

Desktop and field soils assessment

Hydric soils: the science of reduced soils and application in wetland delineation; hydric soils of NC

Evening Session: 7:00 pm - 8:30 pm

Hydric soils (continued)

Wednesday May 27, 2015

Morning Session: 8:00 am - 12:00 pm

Principles of hydrophytic vegetation: the science of wetland plants and plant communities and application in wetland delineation

Wetland determination and delineation field methods

Afternoon Session: 1:00 pm - 5:00 pm

Difficult wetland situations and hydrologic assessments

Jurisdictional determinations – Corps guidance and the jurisdictional determination form

Overview of the field practicum

Thursday May 28, 2015

8:00 am – 5:00 pm. Field practicum at wetland sites in the Cape Fear Region

Friday May 29, 2015

8:00 am – 5:00 pm. Field practicum at wetland sites in the Cape Fear Region

Registration

Please register for the course on the registration form on the following page. Include a personal or business check for the registration fee plus publications ordered and mail the registration form and check to: Watershed Hydrology Consultants LLC, 1114 Upper Reach Drive, Wilmington, NC 28409. Credit cards are not accepted. The registration deadline is May 15, 2015. Cancellations made before May 15, 2015 will receive a full refund less a \$50.00 service charge. Refunds cannot be given for cancellations after May 15, 2015 (except in extenuating circumstances) - in this case it is recommended you send a substitute.

Questions

Please direct all questions about the course to:

Dr. James D. Gregory

Watershed Hydrology Consultants LLC

Wilmington, NC

910-550-4811, wathydro@reagan.com



Registration Form

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Name (last, first)	
Organization	
Organization Address:	
Mailing Address (if different from above)	
Email Address	
Office Phone	
Cell Phone	
Special Diet Concerns	
Check Printed and Bound Publications Ordered	
	\$89.00. U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0).
	\$15.00. U.S. Army Corps of Engineers. 2014. Atlantic and Gulf Coastal Plain, 2014 Regional Wetland Plant List.
	\$23.00. U.S. Army Corps of Engineers. 1987. Corps of Engineers Wetlands Delineation Manual (on-line edition).
	\$35.00. U.S. Army Corps of Engineers. May 30, 2007. U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook (including appendices A-H).

Please include a personal or business check for the registration fee of \$975.00 plus cost of publications ordered and mail the registration form and check to: Watershed Hydrology Consultants LLC, 1114 Upper Reach Drive, Wilmington, NC 28409. Credit cards are not accepted.

For questions, contact Dr. James D. Gregory, Watershed Hydrology Consultants LLC, 910-550-4811; wathydro@reagan.com