



Intermittent and Perennial Stream Identification for Regulatory Applications

Oct. 6-9, 2009
Piedmont/Coastal Plain Focused
Raleigh, NC

About the Workshop

This training course has been designed for environmental and engineering consultants, foresters, and landscape architects. It is conducted annually by NC State University faculty from the Department of Forestry and Environmental Resources. The course will equip natural resource professionals with the knowledge and field skills necessary to identify intermittent and perennial stream origins for correct application of various regulatory programs that affect headwaters streams. Successful completion of this course is required in order to perform stream identification assessments in Chatham County, NC. The 2009 version of this course now includes a 1/2 field exam to further strengthen the overall content of the training. Registration fee is \$695.00 per person.

Topics include: (1) stream networks, stream maps, and hydrologic functions of streams and riparian zones, (2) applications of stream ecology in stream identification, (3) the NC Division of Water Quality stream identification methodologies, (4) USACE jurisdictional stream identification and applications of the Rapanos/Carabell Guidance, (5) NC riparian buffer rules, and (6) stream identification methods approved by VA DCR Chesapeake Bay Local Assistance for determinations of water bodies with perennial flow. Extensive field training will focus on streams in the Piedmont and Coastal Plain regions of North Carolina. A rigorous written exam will be administered and a certificate of training will be issued by the NCSU Department of Forestry and Environmental Resources for all participants who successfully pass the exam. The course is very similar to the certification course provided for state agency regulatory personnel and is endorsed by the NC Division of Water Quality, Wetlands and Stormwater Branch.

This course will be valuable to environmental and forestry consultants, engineering consultants, landscape architects, and regulatory professionals whose work involves stream assessments for riparian zone rules, 404/401 regulations, and other stream regulatory programs in North Carolina and the Chesapeake Bay Preservation Act, Resource Protection Area program in Virginia. Though the field trips are specific to North Carolina conditions, this course will also be useful for professionals whose work is focused in other nearby states where headwaters streams are quite similar to those in NC.

About the Instructors

Dr. James D. Gregory is a Professor of Forestry at NC State University and Principal of Watershed Hydrology Consultants LLC. He has 32 years experience in teaching and research in watershed and wetlands hydrology. A co-chairman of the NC Stream Technical Advisory Committee with John Dorney, Dr. Gregory has assisted in the development of the stream definitions, riparian buffer rules, and the methods for classifying and identifying stream origins in NC and has conducted several perennial stream identification classes in Virginia.

John Dorney has for 15 years served as the Supervisor of the Planning and Programs section of the Wetlands and Stormwater Branch in NCDWQ where he has staff responsibility for managing the NC riparian buffer rules program and all the stream classification and identification issues related to those rules. As co-chairman of the NC Stream Technical Advisory Committee established in 1998, John has led the efforts by NCDWQ to develop consistent, science-based methods to define and identify stream origins for buffer rule applications.

Other Instructors: This course is a collaborative effort between NC State University and the NC Division of Water Quality. Principal instructors from those two organizations, Dr. James Gregory and John Dorney will be assisted by professionals from NCDWQ and other agencies who have much experience in the stream and riparian buffer programs.

Workshop Accreditation

This workshop will provide be accredited for Category 1 Continuing Forestry Education Credits from the Society of American Foresters and engineering PDH credits from the NCBEEES for engineers/surveyors. We will also pursue continuing education credits for landscape architects and appraisers if requested (indicate on registration form). Wetland scientists may self-report.

Location, Travel and Lodging

Lodging is not included in the registration fee, and you must make your own reservations. All classroom sessions of the workshop will be held in the conference room at the Ramada Blue Ridge Hotel, 1520 Blue Ridge Road, Raleigh, NC 27607 located just west of the NC State Fairgrounds. The group guest room rate is \$65.90 per night, single or double. To get the special rate, ask for the group name "NCSU Streams." Call 1-800-441-4709 for reservations before the deadline of September 25, 2009.

Equipment and Supplies Required

Unless weather is severe, field trips go on as scheduled.

Dress appropriately for rough conditions like briars, saturated soil, uncomfortable heat/humidity, rain, and biting insects.

If you have a soil auger, this may be useful, but not required.

Technical field equipment is being provided by the instructor.

Training Course Agenda

Tuesday, October 6

- 7:30 – 8:00 Registration
- 8:00 – 8:20 Welcome, Introductions, Course Overview – Jim Gregory
- 8:20 – 9:00 Surface Water Identification and Training Class: Background, Objectives, and Overview – John Dorney
- 9:00 – 10:00 Stream Networks and Hydrologic Functions of Streams – Jim Gregory
- 10:00 – 10:15 Break
- 10:15 – 11:15 Stream Biology: Role of Aquatic Animals in Stream Identification – Larry Eaton, Environmental Biologist, Wetlands and Stormwater Branch, NCDWQ
- 11:15 – 12:00 Geomorphology and the North Carolina Stream Identification Methods – Jim Gregory
- 12:00 – 1:00 Lunch at Ramada Blue Ridge
- 1:00 – 2:00 Field Identification of Intermittent and Perennial Stream Origins, NC Method – Jim Gregory
- 2:00 – 3:30 Procedures for Field Identification of Macroinvertebrates – Larry Eaton
- 3:30 – 5:00 Field Trip: Depart in vans from Ramada Blue Ridge. Piedmont rural stream in Umstead State Park – Jim Gregory, John Dorney, Larry Eaton

Wednesday, October 7

- 8:00 – 8:40 Stream Maps – Jim Gregory
- 8:40 – 9:00 Riparian Zones – Jim Gregory
- 9:00 – 10:00 North Carolina Riparian Buffer Rules – Amy Chapman, Environmental Specialist, Buffer Coordinator, Wetlands and Stormwater Branch, NCDWQ
- 10:00 – 10:15 Break
- 10:15 – 10:45 Buffer Authorizations and Variances – Amy Chapman
- 10:45 – 11:20 Urban Stream Issues
- 11:20 – 12:00 Stormwater Management and Riparian Buffer Protection Rules
- 12:00 – 1:00 Lunch at Ramada Blue Ridge
- 1:00 – 5:00 Field Trip: Depart in vans from Ramada Blue Ridge. Piedmont rural streams in Umstead State Park. Instructors: Jim Gregory; and; Larry Eaton

Thursday, October 8

- 8:00 – 5:00 Field Trip: Depart in vans from Ramada Blue Ridge.
Morning: Piedmont rural streams, Triassic Basin Soil Systems, western Wake County. Instructors: Jim Gregory, Larry Eaton
Afternoon: Coastal Plain Streams, Central Crops Res. Stn, Clayton, NC

Friday, October 9

- 8:00 – 9:00 Written Exam
- 9:15 – 1:00 Field Exam: Depart in vans from Ramada Blue Ridge. Wake County area. Jim Gregory and, Larry Eaton