



Title: Stream Restoration Training and Demonstration in Southeastern USA

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Organization: North Carolina State University

State: NC **Region:** Southern

Year of Funding: 2000

Theme: Environmental Restoration

Situation: Natural stream functions in many areas of the Southeastern USA are threatened by changes in watershed hydrology and land use, resulting in unstable streams with poor habitat and water quality. Causes of impairment include channelization, stormwater, road crossings, sediment, and loss of riparian vegetation. Resource management agencies are promoting a natural channel design approach for restoring unstable streams. This paper describes training workshops and field demonstrations to meet the educational needs of designers, contractors, funding agencies, and regulators.

Objectives: Objectives are to teach resource professionals how to apply natural channel design principles, and to demonstrate stream restoration practices to improve stream functions and water quality.

Methods: A series of introductory and advanced hands-on training workshops have been conducted throughout the Southeast, with over 1500 participants since 2000. Stream restoration demonstration projects are being implemented under various land use conditions to integrate teaching and applied research. Designers and resource managers are using these projects as models for restoration and mitigation.

Partnerships: Partners include US EPA Region 4, USDA-NRCS, USGS, US Army Corps of Engineers, US Fish and Wildlife Service, state water quality agencies, local governments, local watershed organizations, businesses, and landowners.

Research: Research is being conducted at NCSU, Clemson, Auburn, and other Universities to identify specific technologies for restoring natural stream functions in Southeastern streams. Research results are transferred directly to University students and natural resource professionals through workshops, field days, tours, and web sites.

Resources: Funding provided by the CSREES 406 program to the Southern Region has been leveraged with funding from US EPA and several local organizations to conduct training throughout the Southeast.

Results: Results include increased understanding of watershed impacts to natural stream functions, improved watershed management to protect streams, improved designs to restored impaired stream channels, and improved stream health and water quality in restored streams.



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