Mount Hope River Habitat Restoration Project

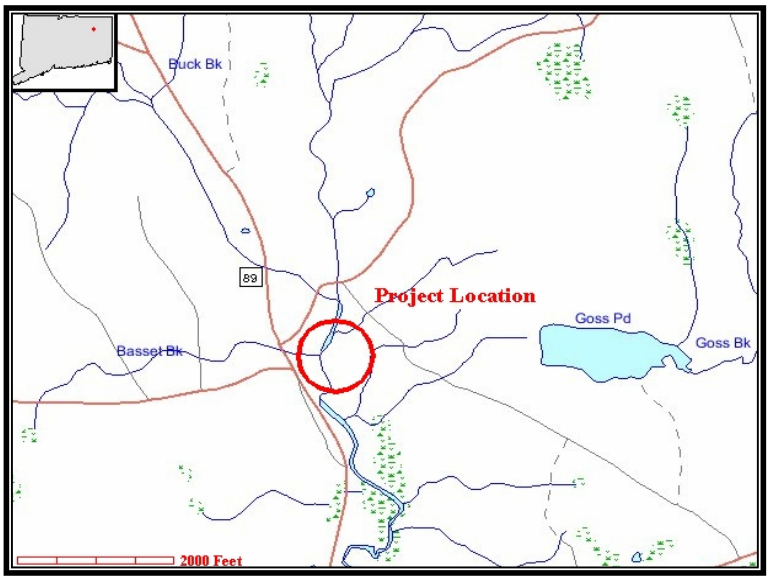
Location: Ashford, Private property

Completed: September 2006

Partners:
Department of Environmental Protection
Inland Fisheries Division
Wildlife Division, (WHAMM)
USDA
Natural Resources Conservation Service

Cost: $127,000

Engineering and Design:
Natural Resources Conservation Service



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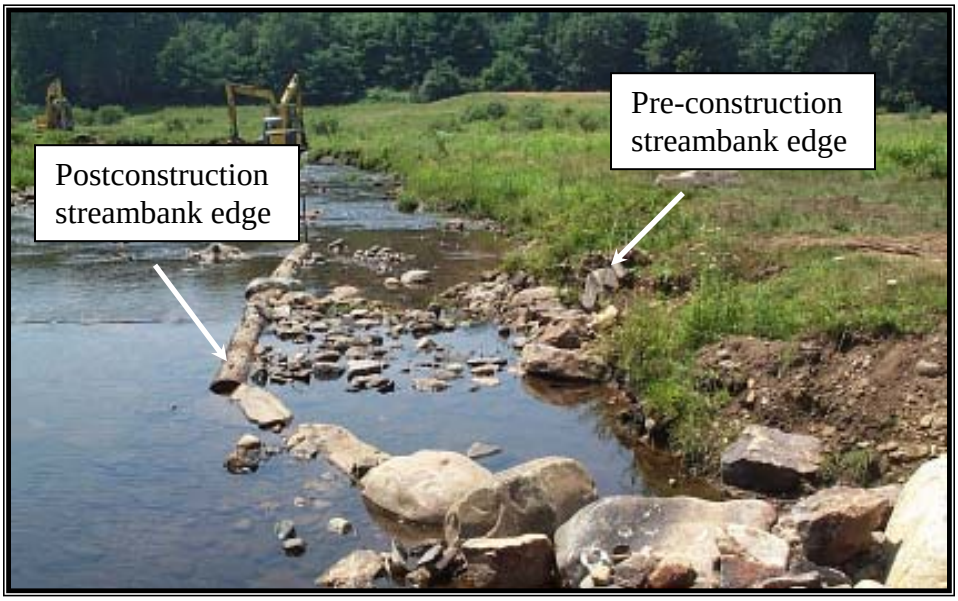
Problem/Need
Agricultural practices along an approximate 1,000 linear feet section of the Mount Hope River resulted in the alteration of a forested riparian zone. Cattle trampled portions of streambanks causing streambank instability, erosion/sedimentation and degradation of the riparian zone and instream habitats for the resident fish community. Overall objectives of the project were to: (1) Restore and stabilize over 1,000 feet of streambank and channel of the Mount Hope River, (2) Restore over 1,000 feet of a vegetative riparian buffer along the Mount Hope River with native vegetation, (3) Exclude cattle from restored riparian areas, (4) Restore instream habitats for fish and aquatic insects, and (5) Incorporate soil bioengineering and geomorphology techniques into restoration design.

Restoration Actions
Streambanks were stabilized with a combination of bank placed boulders, logs, erosion control fabric and vegetation. Three boulder cross-vane and two J-hook structures were installed to help maintain grade control for the streambed, deflect and redirect high stream flows away from streambanks and towards the stream centerline and create deep water pool habitats for fish. Tree and rootwad structures were installed along the streambank to not only protect streambanks from erosion but also provide much needed large woody debris cover habitat for fish. Restoration also involved filling much of the channel to create a restored and stable stream width ranging between 20 to 36 feet. In addition, a gentle sloped bankfull bench was created along the streambank. Over 3,200 feet of electric fencing was installed to control beef cattle access and protect restored riparian areas.

Completed construction of cross vane immediately below the upstream cattle crossing.

Photograph of cross vane during a storm event illustrating a primary function of the cross vane to redirect flow into the stream's centerline and away from the streambank.

Pre construction photograph of river demonstrating channel overwidening



Photograph comparing preconstruction streambank edge and area of channel that will be filled to create the bankfull bench.

Photograph showing final grading, reduction in channel width and creation of bankfull bench.

Photograph showing vegetation reestablishment along bankfull bench.