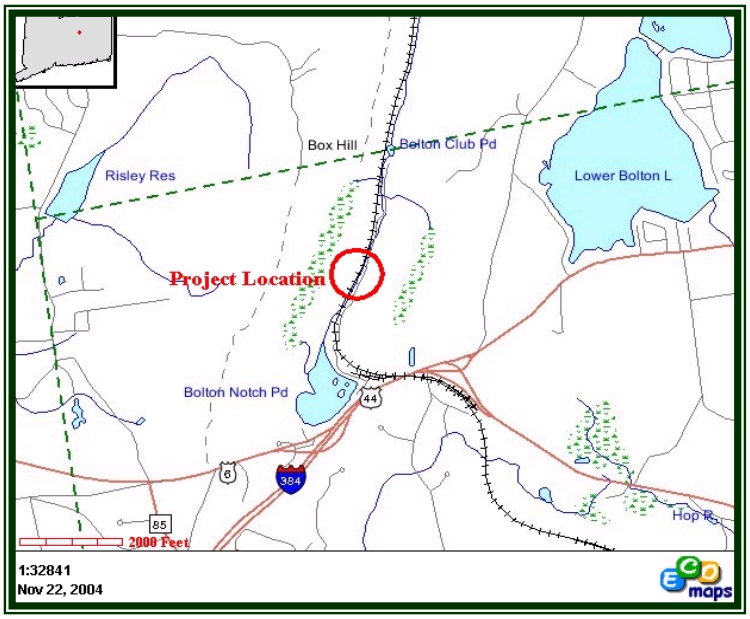
Railroad Brook Habitat Restoration Project

Location: Bolton, public property, Hop River Rails to Trails



Completed: September 2000
Partners:
Department of Environmental Protection
Inland Fisheries Division
Planning & Standards Division
Inland Water Resources Division
Tolland County Soil & Water Conservation.
District

Cost: $111,200

Engineering and Design:
Milone and MacBroom, Inc.

Project Manager/Contact Information:
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Problem/Need
Approximately 1,200 feet of Railroad Brook, a 1st order headwater stream had been channelized and relocated in the 19th century due to railroad construction. Channelization created poor, non-diverse instream habitat for a scant native brook trout population and caused the watercourse to regularly flood and erode the adjacent abandoned railroad bed resulting in excessive sedimentation.

Restoration Actions
Primary project goals were to: (1) return the channel to a more natural and stable morphometry, (2) increase and enhance instream habitats for adult brook trout, (3) monitor the brook trout community, and (4) reduce a major source of non-point source pollution. Channel restoration involved two components, recreating and relocating over 300 feet of new channel through wetlands and realignment of 900 feet of channel along the railroad bed to a more sinuous pattern. In both areas, channel hydraulic capacity was increased to contain a two-year bankfull event and reduce flooding of the railroad bed. Numerous instream fish habitat structures were installed which included lunkers, rootwads, cross-logs, deflectors and small boulders. Collectively, these structures were designed to recreate instream cover, provide variations in channel depths and flow patterns and to increase the overall availability of microhabitats. Four years of monitoring indicated that post-development density (fish/100m2) of adult brook trout brook increased 178% in the restored area.

Rough-out excavation of new channel being relocated into wetlands.

Installation of cobble and gravel substrates for new channel lining.

View of new channel relocated into wetlands immediately post restoration.

Restored channel 2 years post restoration.

Installation of modified LUNKER, a fish habitat enhancement structure designed to create undercut bank habitats.

Modified LUNKER 2 years post restoration.

Prefabricated LUNKER constructed of oak planks prior to installation.

Prefabricated LUNKERS 2 years post restoration.