



# WATERSHED ASSESSMENT USING GPS/GIS TECHNOLOGIES

## Girl Brook, Hanover, NH

**New England Environmental, Inc. (NEE)** was contracted by the Town of Hanover to conduct a survey and evaluation of the Girl Brook Watershed. This evaluation was conducted using the latest in GPS/GIS technologies as well as using survey techniques to establish channel cross sections and profiles at certain points throughout the watershed.

Girl Brook is an important natural and community resource that collects runoff from a watershed of approximately 1,230-acres. This watershed is associated with a highly developed area that includes a college campus as well as surrounding hillsides. The brook discharges into the Connecticut River approximately two miles north of the Ledyard bridge in Hanover.

### NEE project goals completed:

- Conducted stream surveys to create cross sectional and longitudinal profiles.
- Compared profiles to a "reference reach" or stable portion of stream.
- Developed possible reasons for increased rates of erosion and sediment loading.
- Used the assessments to assist in future restorations.
- Mapped and documented all findings in GIS, photographic and video formats.
- Ultimately, provided restoration plans for the Brook.

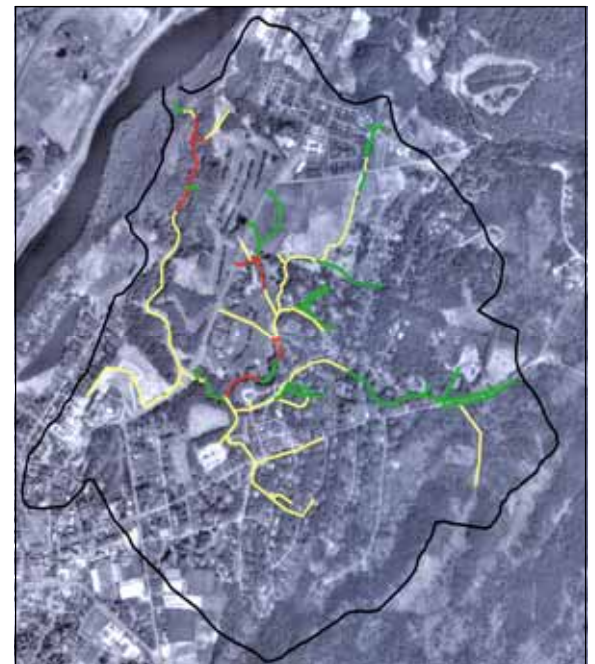


Using sub-meter GPS equipment, New England Environmental, Inc. has the capability to link on the ground field collected data, with spatial GIS data.



Cross sectional profiles were taken to classify surveyed reaches of the stream channel based on the geomorphic characteristics. Classification provides a better understanding of the entire watershed, as well as potential restoration techniques.

Video footage was recorded at highly eroded areas and geo-referenced to the field collected GPS data.



Information gathered in the field enabled NEE to develop stream assessment data. Streams shown in red are areas in need of immediate repair.

