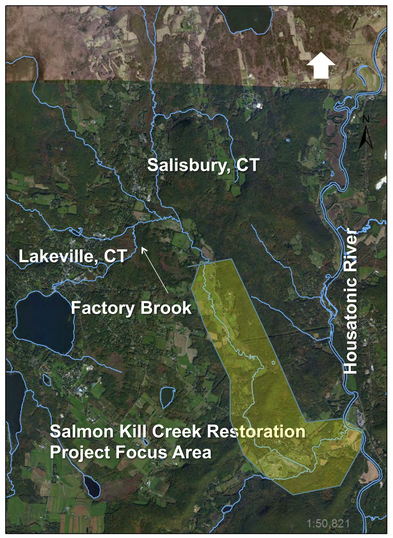
Analysis of Environmental Threats to Factory Brook

Becket Harney, Tracy Brown

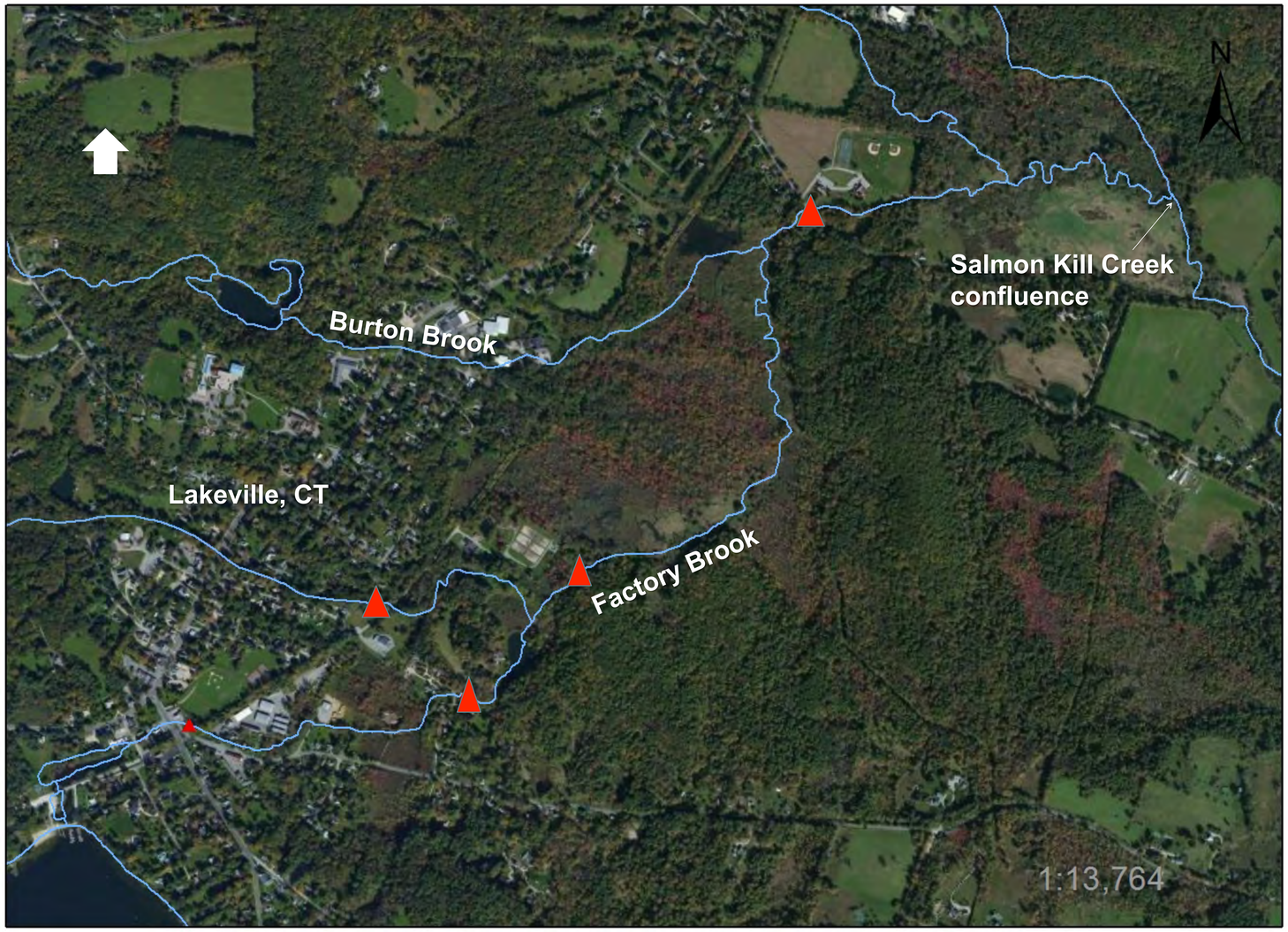
Trout Unlimited, Uconn Natural Resources Conservation Academy

ABSTRACT

In order to protect the quality of a large body of water such as the Salmon Kill Creek in Northwestern Connecticut, it is important to evaluate threats that affect the watershed as a whole. In conjunction with the Trout Unlimited's Salmon Kill Creek Restoration Project, we studied the stream health of Factory Brook, a tributary to Salmon Kill Creek. Chemical and macroinvertebrate data was used to better understand the health of Factory Brook, along with a visual tour of the stream.



Project Study Area

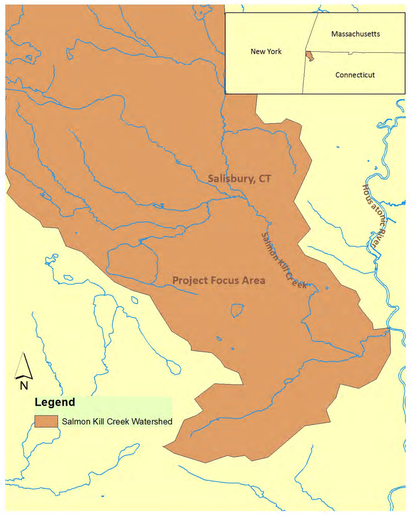


Factory Brook

= Data Collection Point

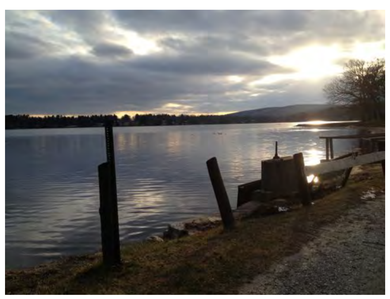
BACKGROUND

My work with Trout Unlimited has allowed me to understand the processes undertaken in order to restore and maintain freshwater habitat for native species such as Brook Trout. While the Trout Unlimited project will focus exclusively on the mainstem of the Salmon Kill in their restoration efforts, my project analyzed the environmental threats to Factory Brook as a way of gauging the health of the headwaters. By studying the health of all streams in the watershed, the overall condition of habitats in the area can be improved.



Salmon Kill Watershed

RESEARCH



Lakeville Lake, Factory Brook Headwaters

Chemical ~~data~~ and macroinvertebrate data suggests that Factory brook is relatively healthy. Recent macronvertebrate samples reveal the presence of *Hydropsychidae trichoptera,* a species of the Tricoptera family. Members of the Tricoptera family are considered an indicator of stream quality due to their low tolerance for water pollution (Hilsenhoff).

The most recent tests reveal the pH of Factory Brook to be acceptable to Brook Trout.

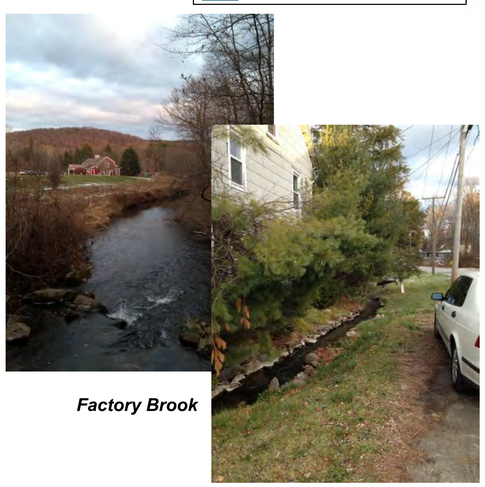
Nitrogen levels in Factory Brook appear to be acceptable for wildlife.

Larval Hydropsychidae trichoptera, a species of net-spinning caddisflies

POTENTIAL THREATS

Factory Brook's health is endangered by urban development, antiquated storm water management and the presence of invasive species. There is little to no vegetative buffer zone for long reaches of the stream, and stormwater runs directory off roads or is piped directly from parking lots into Factory Brook, potentially bringing harmful pollutants to the stream. The upstream habitat quality of the stream is most affected where the creek is piped underground and runs adjacent to the road. The quality appears to improve after its confluence with Burton Brook, below the town of Salisbury, CT.

Invasive species such as *Phragmities australis* and *Polygonum cuspidatum,* Japanese Knotweed , were found along Factory Brook. The quality of the stream should be monitored , stormwater management evaluated and weed control efforts continued in order to maintain and improve habitat for wildlife on Factory Brook .



Factory Brook

An invasive colony of Phragmites australis

REFERENCES

Inspiration and help for this project came from Tracy Brown of Trout Unlimited, who provided project guidance. The project is part of a the Salmon Kill Restoration Project coordinated by Trout Unlimited. Data was gathered and provided to Trout Unlimited by C. Bellucci of DEEP. Data represented here belongs to DEEP and its interpretation belongs to Becket Harney. William L. Hilsenhoff's "An Improved Biotic Index of Organic Stream Pollution" was also utilized to interpret of macroinvertebrate date.