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Establishment of Protocols for an Inventory of Esopus Creek Trout Thermal Habitat, an Exercise in Citizen Science.

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Abstract:

Trout require cold well oxygenated water to live and reproduce. Trout require cold well oxygenated water to live and reproduce.

Changes in weather patterns and events are impacting biota by changing habitat. Changes in weather may have had an effect on trout habitat by increasing water temperatures and allowing those temperatures to persist longer.

Variables governing stream temperature include air temperature, ground water quantity and temperature, stream gradient, types and amount of riparian vegetation, exposure to sunlight, stream orientation, exposed bedrock, substrate color and the amount and temperature of surface runoff. Groundwater may be the most important of these variables to trout survival.

Cool water generally occurs in areas where ground water enters the stream. Those areas are generally isolated, small and may be few. As such they are particularly vulnerable to damage or obliteration by man's activities or extreme changes in stream flow from flooding or releases. The thermal habitats in those areas need protection. That protection mandates an acknowledgement of their importance to the survival of trout populations and knowledge of thermal habitat location

This study was initiated to help determine first whether thermal habitat might be determined and reported by fishermen and secondly, the practicality of walking the stream to locate those ground water refugia.

Impact Statement:

This project provided a low cost protocol and demonstrated the feasibility of using fishermen and other concerned citizens to collect reliable data on thermal habitat that would allow maps of groundwater seeps and other thermal refuges to be documented.

Category: Conservation and Resource Management
Type of Presentation: Poster Presentation