

Prepared in cooperation with the
 Pike County, PA
 The Nature Conservancy

Assessing American Eel Populations In Tributaries to the Upper Delaware River

A long-term collaborative investigation is improving our understanding of local American eel populations in tributaries to the Upper Delaware River in Pennsylvania, New Jersey, and New York

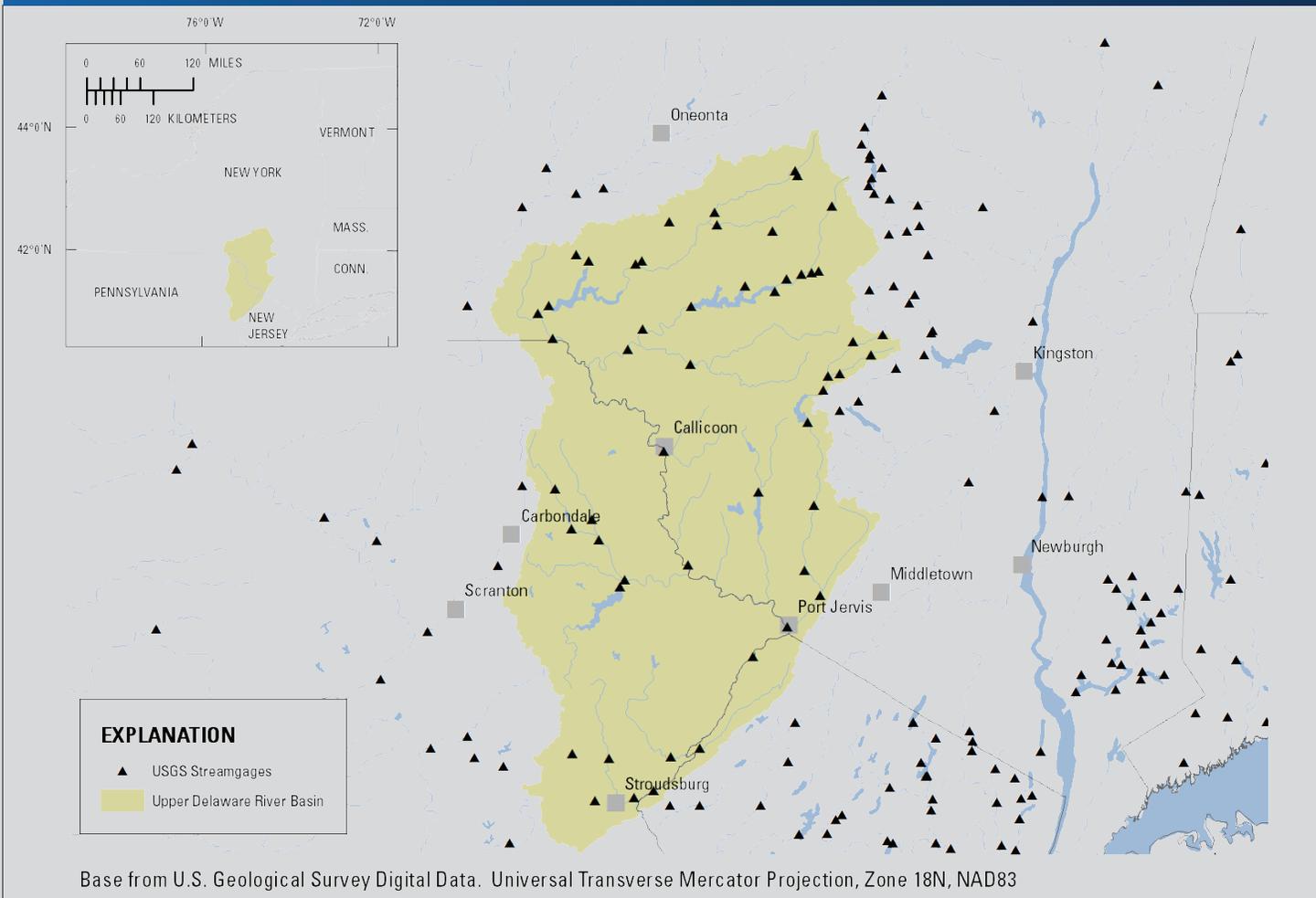
and to characterize fish assemblages in tributaries to the Upper Delaware River in New York, Pennsylvania, and New Jersey. The focus of this research and monitoring program has recently shifted toward studies of the rapidly declining American eel (*Anguilla rostrata*) populations in rivers of the tri-state region. There are many factors that could potentially cause the observed declines in local and continental

Background

The **U.S. Geological Survey (USGS)** has worked in cooperation with **The Nature Conservancy**

(**TNC**) over the past 11 years to study the effects of channel geomorphology and impoundments on the distribution of common and rare mussels in the Neversink River

Upper Delaware River Basin



populations of American eel, however, specific causes and effects remain only speculative. The USGS and The Nature Conservancy sampled local eel populations in headwater streams of the region during 2006 to 2008 in efforts to quantify local population densities and biomass, document life history strategies, assess their interrelations with other fish species, and to define the effects of selected factors (including the Neversink Reservoir) on resident eel populations.

Objectives

This study continues a long-term

collaborative investigation between the USGS and TNC, along with Pike County PA in an effort to improve our understanding of local American eel populations, their life-history strategies, and the factors which affect local populations in tributaries to the Upper Delaware River in Pennsylvania, New Jersey, and New York.

Approach

The USGS, TNC, and [Pike County](#) plan to continue analysis of prior survey data and to initiate a long-term eel monitoring program

in three tributaries to the upper Delaware River during 2011. Planned activities will help define the effects of the Neversink Reservoir on local eel populations and the interrelations among eel and salmonid populations, fish communities, and selected landscape features. This study will (a) assess, summarize, and interpret fish-community (survey) data collected from tributaries to the Upper Delaware River in New York, Pennsylvania, and New Jersey between 2006 and 2008 and (b) evaluate the effects of the Neversink Reservoir on local eel populations (and other fish species) in one sub-basin. In addition, annual inventories of local eel populations will be conducted at sites such as, the Neversink River at Oakland Valley NY, Flatbrook near Flatbrookville, NJ, and the Big Bushkill Creek near Bushkill, PA. Current and historic fishery data will be used to prepare at least one journal manuscript to evaluate the effects of near-normal (historic) hydrologic regimes and altered water-release strategies on the physical habitat, water quality, local eel populations, and the biodiversity of native fish communities upstream and downstream from the Neversink reservoir.

American Eel (*Anguilla Rostrata*)



Primary Researchers

Barry Baldigo
U.S. Geological Survey
425 Jordan Rd
Troy, NY 12180
(518) 285-5605
bbaldigo@usgs.gov

Mari-beth Delucia
The Nature Conservancy
(845) 858-2883
mdelucia@tnc.org

For Additional Information

Visit the New York Water Science Center Web site at:

<http://ny.water.usgs.gov>

Or contact Ward O. Freeman, Director
(518) 285-5665 dc_ny@usgs.gov

Project overview and related links:

<http://ny.cf.er.usgs.gov/nyprojectsearch/projects/2457-EF700.html>