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Prepared in cooperation with The Nature Conservancy and Sullivan County Division of Planning and Environmental Management

Relations of Environmental Factors with Mussel-Species Richness in the Neversink River, New York

Swollen wedgemussel *(Alasmidonta varicosa)* from the Neversink River.

Significant Findings

- A 6-year study of mussel communities and their habitat in the Neversink River basin in southeastern New York found that the principal factors apparently affecting mussel-species richness were site (reach) elevation, drainage-area size, channel width, bottom-material composition, water velocity, shear stress at bankfull discharge, and water quality (acid-neutralizing capacity (ANC) and concentrations of calcium, phosphorus, and sulfate). Together these 10 factors explained as much as 94 percent of the variability in mussel-species richness across the watershed.
- The number of species in mussel communities throughout the basin typically increases in a downstream progression from zero or one species in upstream sites to as many as six species in downstream sites.
- A recently removed dam in the lower part of the river may have confined populations of two rare mussel species to lower reaches of the Neversink River; its removal in 2004 could allow those species to populate additional reaches in the upper basin.

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