

Species: Dwarf Wedgemussel (*Alasmidonta heterodon*)
Global Rank: G1G2
State Rank: S1
State Wildlife Action Plan Priority: Immediate Concern Species
CCVI Rank: Highly Vulnerable
Confidence: Very High

Habitat:

Dwarf wedgemussels generally live in creek and river bottoms where sand is a component of the substrate (e.g., muddy sand, sand, sand and gravel bottoms), the current is slow to moderate, and there is little silt deposition (USFWS 1993). This species is discontinuously distributed in the Atlantic coast drainages from Maine to North Carolina (NatureServe 2010).

Current Threats:

Major threats leading to the decline of dwarf wedgemussel include impoundments, pollution, sedimentation, competition from exotic species, population-related problems, and construction projects (USFWS 1993).

Main Factors Contributing to Vulnerability Rank:

Predicted impact of land use changes designed to mitigate against climate change:
Natural gas extraction may alter the water quality of the Delaware River.

Dispersal and movement: As adults, the dwarf wedgemussel is mostly non-migratory with only limited vertical movement and possibly passive movement due to flood events (NYNHP 2010).

Predicted macro sensitivity to changes in precipitation, hydrology, or moisture regime:
Considering the range of the mean annual precipitation across the species' range in Pennsylvania, the species has experienced a very small precipitation variation in the past 50 years.

Dependence on specific disturbance regime likely to be impacted by climate change:
More intense flooding events, likely associated with climate change in Pennsylvania, may affect dwarf wedgemussel populations by altering water/habitat quality of rivers and streams (e.g., increased silt load).

Dependence on other species for propagule dispersal: Dwarf wedgemussel depends on a few fish (Johnny darter, tessellated darter, and mottled sculpin) to serve as glochidial hosts (Spoo 2008).

References:

NatureServe. 2010. NatureServe Central Databases. Arlington, Virginia. USA.

New York Natural Heritage Program. 2010. NYNHP Conservation Guide – Eastern Pearlshell.

Spoor, A. 2008. The pearly mussels of Pennsylvania. Coachwhip Publications. Landisville, Pennsylvania. 210pp.

U.S. Fish and Wildlife Service. 1993. Dwarf Wedgemussel (*Alasmidonta heterodon*) recovery plan. U.S. Fish and Wildlife Service, Hadley, Massachusetts. 52 pp.