

SFI Biodiversity Species Fact Sheet

Dwarf Wedgemussel (*Alasmidonta heterodon*)

Globally Critically Imperiled Mussel Species; State Rank: S1 (critically imperiled) Global Rank: G2T2 (critically imperiled to imperiled)

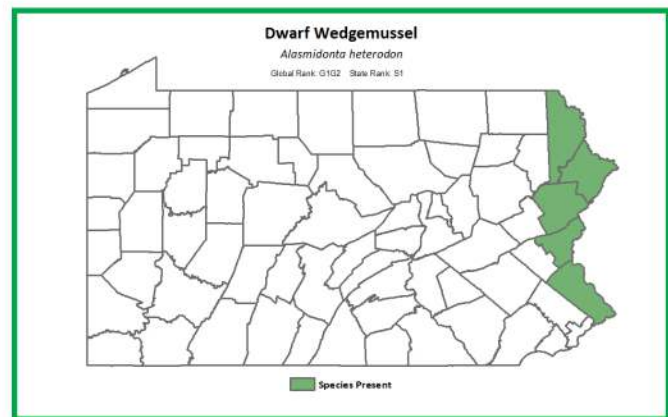
Identification

This species is a small freshwater mussel, about 1.5 inches long. Its shell is brown to yellowish-brown with greenish rays when younger. It is wedge-shaped, giving rise to the name. It is a bivalve mollusk, meaning its shell consists of two halves hinged together with teeth. The dwarf wedgemussel has a roundly pointed lower margin, and two lateral teeth on the right valve and only one on the left.



Biology-Natural History

Dwarf wedgemussels live about 10-12 years. Dwarf wedgemussel females carry eggs in their gills and receive sperm (released from males) through the gills. After eggs have been fertilized, they develop into parasitic bivalved larvae called glochidia. The newly formed glochidia are released from the female and into the water where they need to attach to a host fish to survive. The glochidia develop into juveniles while attached to a host. After metamorphosis, a juvenile mussel will be sloughed from its host, where it further develops on the stream/river bottom. Glochidia host fish species include species of darter and sculpin. These fish are small, bottom-feeders and generally sensitive to pollutants. A healthy fish assemblage is critical to viable mussel populations.



Distribution and Habitat

Dwarf wedgemussels live on the bottom of streams, creeks and rivers of varying size. They are usually found in waters with slow to moderate current that have sandy, gravelly, or firm muddy or clay sand substrate. This species ranges along the Mid-Atlantic states from New England to North Carolina. In Pennsylvania, dwarf wedgemussels are known in the northern reaches of the Delaware River.

Conservation Concerns

Since they are filter-feeders, dwarf wedgemussels need silt-free, clean streams and healthy host fish populations. The greatest threats to this species include habitat loss and degradation through water pollution and construction of impoundments. Scientists believe another reason the species is declining is that one of its hosts may be an anadromous fish species that has been blocked from some habitat areas by dams and causeways. Pollution such as chlorine and elevated levels of potassium, zinc, copper, and other pesticides are threats to this species. Other pollutants including nutrient runoff, siltation from agricultural fields or land clearing.

Management Practices

When feasible, the removal of impoundments in order to restore rivers to their natural flow would be beneficial. Dams alter the speed, oxygen levels, and silt in the water and can result in destroying habitat, unnatural water level changes, or drying out. Avoid using artificial bank stabilizing methods such as placement of riprap or pouring concrete where it can destroy the mussels' natural river bottom substrate. The U.S. Fish and Wildlife Service has suggested that reintroductions may need to be undertaken to bring low-density populations back up to viable levels and re-establish populations extirpated from certain rivers. If anyone observes this species they should call the jurisdictional agency, DCNR Bureau of Forestry at 717-787-3444.