Natural Heritage & Endangered
Species Program
MA Division of Fisheries & Wildlife
Route 135
Westborough, MA 01581-3337

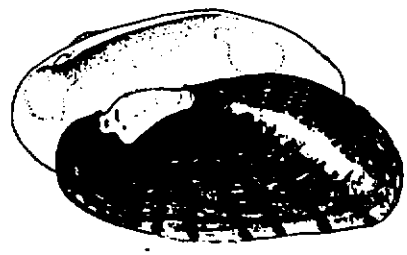
2202

Massachusetts Natural Heritage Program

MASSACHUSETTS RARE AND ENDANGERED WILDLIFE

Alasmidonta varicosa
Brook floater

DESCRIPTION The Brook floater, also known as the Swollen wedge mussel, is a medium sized freshwater mussel in the family Unionidae. Adult specimens in Massachusetts usually do not exceed 70 mm in length. The shell exterior (periostracum) varies from yellowish-green in young individuals to brownish-black in older animals. Animals with a light colored periostracum may, in addition, have a few dark rays on the surface. The shell is sculptured on the dorso-posterior surface by several low wavy ridges giving the surface a scalloped appearance. The ridges become less pronounced with increased age. The hinge of the shell has only rudimentary teeth (mere swellings) on the anterior part.

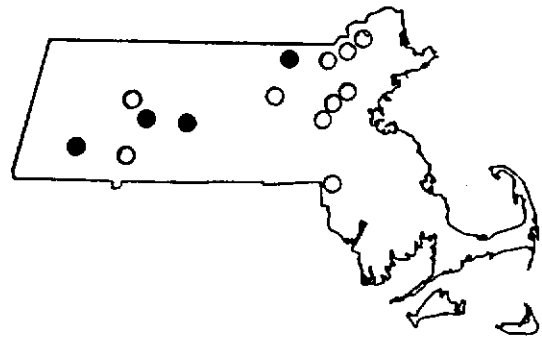


D.G. Smith, 1984

SIMILAR SPECIES The diverse genus Alasmidonta is represented in Massachusetts by three species; however, none of the other two are very similar to A. varicosa. The only other species approaching A. varicosa in shell morphology is Strophitus undulatus. The easiest method of distinguishing all four species is by examination of the hinge. The teeth of all four species are developed to differing degrees. Any established guide that includes the species occurring in Massachusetts will separate them without great difficulty.

RANGE The Brook floater is found along most of the Atlantic coast from Canada to the Carolinas. It was historically widespread in New England. In Massachusetts, the species was recorded from several streams and ponds,

RANGE



● Verified since 1978
O Reported prior to 1978

Breeding Distribution in Massachusetts by Town

1989

especially near the coast. Over the past two decades, the Brook floater has declined in Massachusetts to the point that some of the historical populations no longer exist. Recently discovered populations have, for the most part, been comprised of few individuals and some of these populations may no longer be viable.

HABITAT IN MASSACHUSETTS The species is found in small to medium sized streams with moderate to slow flow. Occasionally, specimens have been observed in small sandy bottom ponds and rarely in larger rivers. Habitats are characterized by stable substrates ranging from sand to sand-gravel with rooted aquatic vegetation usually present.

LIFE HISTORY The Brook floater is a long term breeder which means that the female deposits eggs into the marsupial demibranchs (parts of the gill apparatus) in the summer. While in the gill the eggs are incubated and develop into larvae called glochidia. The mature glochidia are released the following spring. The glochidia are obligatory parasites of fish, which host the encysted larvae while they transform into juvenile mussels. Following the parasitic phase, the juvenile mussel commences a benthic existence. The host fish for the Brook floater remains unknown, but is probably one of the few ubiquitous cyprinid minnows that inhabit Massachusetts waters.

POPULATION STATUS AND LIMITING FACTORS Recent surveys have revealed that at best only a few large healthy populations of this species remain in Massachusetts. As is the case with all freshwater mussels, alteration and pollution of the habitat are almost always causes of species decline and eventual elimination. Alteration of habitats includes damming, siltation, dredging, channeling, diversion, and flow regulation. Besides traditional forms of pollution, nutrient loading and acidic precipitation are also potential causes for reduction of population size.