



Status: State Endangered

Global and State Rank: G4/S1

Family: Unionidae (Freshwater Mussels)

Total Range: The round hickorynut is found north to Ontario and Michigan, east to New York and Pennsylvania, south to Mississippi and Alabama, and west to Arkansas and Illinois. It has historically been present in the Ohio, Tennessee, Cumberland and Mississippi River systems, as well as the St. Lawrence and Lake Erie/Lake St. Clair drainages. This species is sporadic in its distribution and is disappearing from many areas. Currently, it is considered critically imperiled (S1) in Illinois, Michigan and Pennsylvania. In Alabama, Indiana, Mississippi and Tennessee, the round hickorynut is considered imperiled (S2), and in New York, it is considered possibly extirpated (SH) (NatureServe).

State Distribution: The round hickorynut occurs in Michigan in the Lake St. Clair and Lake Erie drainages. Historically, it has been found in Sanilac, St. Clair, Macomb, Wayne, Monroe and Lenawee Counties. In the past twenty years, live or recently dead mussels have been found only in the Pine and Belle Rivers in St. Clair County, in Lake St. Clair in Macomb County, and in the Detroit River in Wayne County. Among these

sites, only the Pine River was thought to have a successfully reproducing population.

Recognition: As the name suggests, the round hickorynut has a near perfectly circular shell that is moderately thick and inflated. The average size is around 1 ¼ inches long, but individuals have been found up to 2 ¼ inches long. The beak is centrally located and the beak sculpture is characterized by slight, indistinct circular ridges apparent especially on young mussels. The exterior of the shell is brown, smooth, and lacks rays. Growth rings are present but not necessarily distinct.

Similar species in Michigan include the hickorynut (*Obovaria olivaria*) and the Ohio pigtoe (*Pleurobema cordatum*). The round hickorynut is distinguished from these species by its round shape and smooth, rayless shell exterior.

Best Survey Time: The best time to survey for the round hickorynut is in the summer, when turbidity and water levels are typically low.

Habitat: The round hickorynut is typically found in medium to large rivers and along the shores of Lake Erie and Lake St. Clair, near river mouths (Clarke 1981). The round hickorynut generally is found in sand and gravel substrates in areas with moderate flow



(Cummins and Mayer 1992).

Biology: Little is known of the life history of the round hickorynut. Fertilization occurs when males release sperm into the water current and females siphon in the sperm to fertilize awaiting eggs in brood pouches. The round hickorynut is a long-term breeder, holding fertilized eggs over the winter. Glochidia (the parasitic larval life stage) are released in early summer. Glochidia for this species are oval in shape and without hooks (Clarke 1981). The host fish for the glochidia is unknown. The life span of the round hickorynut is also unknown (Cummins and Mayer 1992). The round hickorynut is a filter feeder, siphoning water and extracting particulate organic matter, algae and diatoms from the river currents.

Conservation/Management: Like most mussels, the round hickorynut is sensitive to river impoundment, siltation and channel disturbance. Pollution from point (industrial and residential discharge) and non-point (siltation, herbicide and surface run-off) sources is also a great threat to mussels and should be limited. It is essential to protect not only the habitat of the round hickorynut, but also the fish species present since the host fish is yet unknown.

Research Needs: Little is known of the life history and habitat of the round hickorynut. Studies need to be completed to determine the host fish and substrate and water quality preferences of this species. Additionally, a thorough survey needs to be completed to determine the current distribution of the species in Michigan. Historical sites need to be revisited to determine the extent of populations present.

Selected References:

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