

## Mussels & clams

Mussel, family *Unionidae*, Native

Zebra Mussel, *Dreissena polymorpha*, Invasive

Asiatic Clam, *Corbicula fluminea*, Invasive

Fingernail Clams, family *Sphaeriidae*, Native

One of the surprises of the Chicago River is the number of creatures that call it home. Of them one of the most fascinating and unexpected is the bivalve mollusk. These aquatic animals are all enclosed by a shell in two hinged parts, such as mussels and clams. Adult shell sizes vary from fractions of an inch to over 30 inches in length, but the majority of species do not exceed four inches. Freshwater bivalves were once common in the Chicago River, numbering over 100 species two centuries ago. Today, fewer than a dozen are commonly seen in our river.

Highly efficient, mollusks' gills have evolved into specialized organs that are used for both for breathing and capturing particulate food such as phytoplankton from the water as currents pass through. Some mollusks live buried in sediment on the riverbed and others attach themselves to rocks or other hard surfaces. Some bivalves have light-sensitive cells that detect a shadow falling over them so they can close up fast. Despite that sensitivity, they are still a favorite food of raccoons who look for them along the river and dig them out of their shells.

Before the Chicago region was developed, the Chicago River had a healthy population of mollusks but water quality degradation, sedimentation, and invasive species have depressed the populations and sensitive species have all but disappeared. Two invasive species in our river today are Asiatic clams and zebra mussels. Asiatic clams are hermaphroditic (both male and female) and start reproducing very young, releasing up to 2,000 juveniles per day, and more than 100,000 in a lifetime, outcompeting their native rivals. Zebra mussels grow in thick colonies, often growing right on top of native bivalves. In areas taken over by these mussels, water clarity increases dramatically and allows sunlight to penetrate deeper which enables the growth of bacteria, causing water quality problems.

