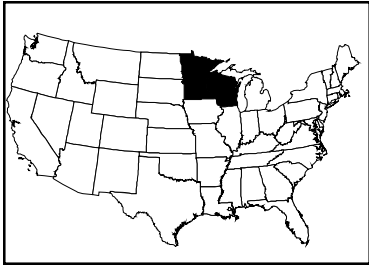




## Endangered Species Facts



*The winged mapleleaf is found only in the St. Croix along the Wisconsin and Minnesota border.*



**T**he winged mapleleaf mussel is an *endangered species*. Endangered species are animals and plants that are in danger of becoming extinct. *Threatened species* are animals and plants that are likely to become endangered in the foreseeable future. Identifying, protecting and restoring endangered and threatened species is the primary objective of the U.S. Fish and Wildlife Service's endangered species program.

### What is the winged mapleleaf?

**Scientific Name** - *Quadrula fragosa*

**Appearance** - Winged mapleleaf mussels grow up to four inches long. They have thick shells that are greenish brown, chestnut, or dark brown in color. Their shell, like that of a few other native freshwater mussel species, has several rows of bumps running from the hinge (umbo) to the edge of the shell. The patterns of these rows of bumps, or tubercles, help biologists differentiate this from other, similar mussel species. Faint rays are visible in small shells.

**Range** - The range of the winged mapleleaf once included 13 states where it was found in large rivers and streams that flow into the Mississippi River and in one river that flows into the Missouri River. Today it is only found in the St. Croix River on the border between Minnesota and Wisconsin.

**Habitat** - The one remaining population of winged mapleleaf is found in riffles with clean gravel, sand, or rubble bottoms and in clear, high quality water. In the past, it may also have been found in large rivers and streams on mud, mud-covered gravel, and gravel bottoms.

**Feeding Habits** - To feed, the winged mapleleaf siphons in water and filters out food particles. It is thought that most of the particles that are actually used as food are phyto- and zooplankton – tiny organisms that drift with river currents.

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## What is the winged mapleleaf? (cont'd.)

**Reproduction** - Winged mapleleaf reproduction is similar to many other freshwater mussels. The males shed sperm into the water. Eggs on the gills of females are fertilized when sperm is collected as the female siphons in water. After fertilization, the females store the developing larvae (glochidia) in their gills until they're expelled into the river current. These glochidia must attach to the gills or fins of a fish to complete development. Glochidia can only develop on certain species of fish which are called host fish. The host fish for winged mapleleaf is not known, although current research is getting close to answering this question. Glochidia continue growing on the fish and transform into juveniles, then they drop off and land on the river bottom where they mature into adults. The lifespan of the winged mapleleaf is not known, but the oldest known individual in the St. Croix is 22 years old.

## Why is the winged mapleleaf endangered?

**Catastrophic Events** - Because only one population of winged mapleleaf remains, a single catastrophic event could wipe out this species. Catastrophic events that could eliminate the winged mapleleaf include a toxic spill, a severe drought, or disease.

**Zebra Mussels** - Zebra mussels are an exotic species of mussel that threaten freshwater mussels in the Mississippi River watershed. Zebra mussels were inadvertently introduced into North America during the late 1980's and became established in the lower St. Croix River in 2000. They attach to any hard surface and breed so prolifically that they smother or otherwise harm native freshwater mussels. It is essential to the conservation of winged mapleleaf mussel that zebra mussels are not allowed to invade this species' sole remaining habitat.

**Land Use Changes** - The remaining population of winged mapleleaf is near the major metropolitan area of Minneapolis and St. Paul, Minnesota. As sprawl from this urban area continues, more and more of the St. Croix River watershed will be developed, which could result in increasing levels of contaminants and sediments in run-off that drains into the river.

## What is being done to prevent extinction of the winged mapleleaf?

**Listing** - The winged mapleleaf was added to the U.S. List of Endangered and Threatened Wildlife and Plants on July 22, 1991. It is illegal to harm, harass, collect, or kill the mussel. Scientific studies with winged mapleleaf or take that is incidental to an otherwise legal activity may be allowed by obtaining a permit from the U.S. Fish and Wildlife Service.

**Recovery Plan** - A recovery plan has been prepared for the winged mapleleaf. It identifies and prioritizes actions that are necessary to recovery this species.

**Habitat Protection** - Xcel Energy, which operates a dam just upstream of the only known population of winged mapleleaf, is coordinating with the Minnesota and Wisconsin DNR's and the U.S. Fish & Wildlife Service to insure instream flow levels that protect this mussel. In addition, the National Park Service, the states of Minnesota and Wisconsin, the U.S. Army Corps of Engineers, and others are cooperating with the U.S. Fish and Wildlife Service to keep zebra mussels out of habitat occupied by winged mapleleaf in the St. Croix River.

## What can I do to help prevent the extinction of species?

**Learn** - Learn more about the winged mapleleaf and other endangered and threatened species. Understand how the destruction of habitat leads to loss of endangered and threatened species and our nation's plant and animal diversity. Tell others about what you have learned.

**Join** - Join a conservation group; many have local chapters.

**Protect** - Protect water quality by minimizing use of lawn chemicals (i.e., fertilizers, herbicides, and insecticides), recycling used car oil, and properly disposing of paint and other toxic household products. If you boat, do whatever you can to prevent spreading zebra mussels within or between water bodies.