U.S. Fish & Wildlife Service

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Genoa National Fish Hatchery News and Notes

Success! 1st Endangered Winged Mapleleaf mussels cultured.

For the first time in history, Federally endangered Winged Mapleleaf have been artificially propagated and recovered from culture cages. A process that has taken over a year to accomplish began in September 2004 when SCUBA divers and snorklers from the Minnesota Department of Natural Resources, Macalester College, the National Park Service, and the Twin Cities Field Office searched the St. Croix River, the last known location where the reproducing Winged Mapleleaf can be found. On this sunny Fall day, two females were found and determined to be gravid. The females were then taken to Macalester College where they were allowed to release their glochidia (larvae). These glochidia were then rushed to Genoa National Fish Hatchery where the Genoa NFH staff was waiting with anticipation to introduce the Winged Mapleleaf glochidia to 100 8-inch channel catfish that were being cultured just for this propose.

Juvenile Winged Mapleleaf cultured and recovered from cages placed in the St. Croix River. The tip of a car key is shown for size comparison.

For the Winged Mapleleaf to complete its life cycle, the glochidia must attach to the gills of channel catfish where they will undergo a metamorphosis while feeding on the fish's fluids, before being able to break free from the fish's gills and settle to the river bottom to begin life on their own.

Up close and personal with the first juvenile Winged Mapleleaf ever cultured and recovered from propagation cages

You may ask: What makes the Winged Mapleleaf different from other mussel species that the Mussel Coordination Team have cultured in cages in recent years? The answer is that Winged Mapleleaf glochidia attach to the gills of the channel catfish in the Fall of the year and remain attached all Winter long before dropping off the fish in the late Spring, where as glochidia from the other species being propagated attach during the Spring of the year and drop off in early Summer. To mimic the natural cycle of the Winged Mapleleaf, infested channel catfish were held at Genoa NFH in a recirculating tank with a chiller unit to duplicate water temperatures recorded from the St. Croix River. In May of 2005, as the waters of the St. Croix were warming up, the channel catfish were acclimated to the warming waters then placed in cages that were set on the bottom of the river. The channel catfish were removed in late June leaving the juvenile Winged Mapleleaf in the river to continue growing in the cages. In Early October of 2005, these cages were checked and the results were rewarding. Eleven juvenile Winged Mapleleaf were recovered from one of the culture cages. The juveniles were small measuring between 3-5 mm. Building on this success, three new gravid Winged Mapleleaf were collected in September 2005, and a total of 300 8-inch channel catfish were infested with their glochidia in efforts to produce and harvest even more Winged Mapleleaf juveniles next year in the Fall of 2006.

-Tony Brady

For additional information about any accomplishment report please contact Genoa National Fish Hatchery at 608-689-2605