Their river ran dry

Mussels need workout

Since river ran dry, they've been hurting

By CHELSEA CONABOY
Monitor staff

June 09. 2006 8:00AM

TIM ROETTIGER / Fish and Wildlife Service
Susi von Oettingen of the Fish and Wildlife Services of New England cares for some of the brook floater mussels that were stranded when the Suncook River changed its course last month.

Epoxy doesn't stick to mussels very well. That's what biologists discovered as they worked to tag the 1,100 state endangered brook floater mussels abandoned in a dry riverbed when the Suncook River breached its banks during last month's flood.

The tiny numbered tags would fall off 20 minutes after the mussels, now living at the National Fish Hatchery in Nashua, were returned to the water. So, the scientists paid a visit to a nearby Home Depot, bought some super glue and hoped for the best.

Because rivers so rarely change course the way the Suncook did, leaving almost two miles of its former channel in Epsom dry, the scientists and town officials deciphering its aftermath are doing it largely through trial and error. The federal and state biologists who are caring for the mussels until they can be returned to the river are no exception.

"We're feeling our way through this," said Susi Von Oettingen of the U.S. Fish and Wildlife Service.

Von Oettingen said she has never found such a large population of the mussels. In the past, finding a few dozen at a time was like hitting a jackpot.

When Von Oettingen and Kim Tuttle, a wetlands technician with the state Fish and Game Department, discovered hundreds of the brook floaters in the old channel, they called hatchery manager Kyle Flanery and asked him to clear some space.

While they rallied people to collect the mussels, Flanery quickly rigged eight long troughs designed to hold salmon eggs and a water circulation pump.

The mussels had been in stagnant, shallow pools in the channel all weekend, where the oxygen levels dropped as the temperature of the water rose. They needed to get into cooler water as soon as possible, Flanery said.

Flanery said he has done his part to give the mussels a refuge because "it's the right thing to do."But figuring out what is best for the mussels has been a challenge.

In its 106 years in operation, the hatchery on Broad Street has never dealt with mussels. Its focus has been Atlantic salmon. The hatchery catches sea-run salmon for breeding and grows tens of thousands of fish from fry to 4-year-olds in long channels of running water covered by white tents.

About a year and a half ago, the federal government threatened to shut down the hatchery. Instead, it decided to update the hatchery's system to filter radon, carbon dioxide and nitrogen from its well water. This year, the hatchery was awarded money to start a shad breeding program.

But recent rains and high water levels have prevented the hatchery staff from catching the fish needed to start the program. The delay has been frustrating. But Flanery said the mussels have given the hatchery another focus.

A few days after the brook floaters arrived, Flanery contacted a mussel specialist in West Virginia who told him to make some changes to the setup. Instead of 400 mussels per water trough, he thinned them out to about 150 each.

He also set up a pumping system to constantly circulate food, algae shipped as concentrate from West Virginia and diluted in a blender.

"They seem really happy,"Flanery said. "We've seen lots of movements in the sand."

The mussels aren't necessarily happy about the tagging process, which involves drying them off, sanding down a corner of the shell, applying the tag and taking measurements.

Little is known about the adaptability of mussels transferred from their natural habitat. Tagging will help scientists monitor their survival and growth rates after they are returned to the river.

As Von Oettingen scooped a handful of mussels from one of the troughs, she looked at those already tagged, their pink feet dug into the sand and their numbered siphoning ends, where they pull in water and food, pointing "upstream" toward the running water.

"Mussels have been marked using super glue before," she said. "But still, these guys have been stressed."

The food, water and flow are different in the hatchery and in the river. Here they have about 2½inches of sand in which to burrow. There, they wedged themselves between big rocks and dug deeper into the river bottom.

Yet, in 2½ weeks, only nine mussels have gaped open or floated to the water surface, dead. The real success will be measured in how they fare once they're back in the river

and whether they reproduce, Von Oettingen said.

The scientists had originally hoped to return the mussels today to spots where the mussels have been found upstream of where the river jumped its banks. High water levels and slower-than-expected tagging have pushed the target off until next week.

Von Oettingen and Tuttle hope to monitor the mussels at least once a year, but they said they have limited time and money to spend on the project. Both have had to work the mussel rescue into other day-to-day activities.

Because the mussels are not on the federal endangered species list, they aren't a priority species for Fish and Wildlife funding, she said. Money is tight at Fish and Game, too, and Tuttle is busy with shoreline monitoring.

Von Oettingen says she hopes someone outside the departments will get a grant to monitor the mussels and use her teams'tagging as a foundation for research.

------ End of article

By CHELSEA CONABOY

Monitor staff