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Return of the salmonfly Volunteers are helping to recolonize Logan River with the once-plentiful insects

By Arrin Newton Brunson
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HYRUM - Clad in thigh-high waders and carrying assorted fishing nets, dozens of sportsmen climbed into the chilly waters of the Blacksmith Fork River in east Cache Valley last Saturday morning.

Although their fishing poles were nowhere in sight, the volunteers quickly found what they were looking for - an abundance of salmonfly nymphs.

Members of the Cache Anglers Chapter of Trout Unlimited joined forces with bug enthusiasts from Utah State University and other volunteers from Kearns to Preston to participate in a pilot relocation project coordinated by the U.S. Forest Service and the Utah Division of Wildlife Resources.

After a couple of hours overturning rocks on the bottom of the Blacksmith Fork River with their boots, the volunteers had netted "a couple thousand" salmonflies, according to project organizer Mark Vinson, an entomologist



Ken Theis of Smithfield uses his feet to overturn rocks on the bottom of the Blacksmith Fork River and Tim King (beard) of Logan uses the net to catch the salmonflies that rush downstream. On Saturday, the volunteers gathered nearly 2,000 of the nymphs and relocated them to



Dozens of volunteers gathered approximately 2,000 salmonfly nymphs like these Saturday in the Blacksmith Fork River near Hyrum to transport them over to the Logan River. Researchers at the USU Buglab expect the nymphs to emerge, mate, and lay thousands of eggs into the Logan River, helping to reestablish the population. (Arrin Newton Brunson)

the nearby Logan River, where the salmonfly population once thrived in order to reestablish the population or at least discover the reason for its disappearance. (Arrin Newton Brunson)

with USU and the Bureau of Land Management BugLab as well as an avid angler. The species, *Pteronarcys californica* and *Pteronarcella badia*, were moved later that day to their new home in slow-moving water on the edge of the Logan River, where they once flourished above Third Dam. A few dozen salmonfly nymphs will be kept in traps in the river, where they will be monitored regularly.

"There are two species of salmonflies," Vinson said. "Both of them used to appear in the Logan [River], so we're not putting anything into the Logan that wasn't there before."

Data collected by renowned entomologist James Needham in 1926 indicate that salmonflies were the most abundant aquatic insect in the Logan River at that time. Records collected by the USU Buglab indicate that the species disappeared from the river sometime during the early to mid-1960s.

The last collection record for salmonflies in the Logan was by Nancy Erman, a graduate student at USU. She reported collecting a few *Pteronarcys* in the Logan River at the Mendon Bridge in 1966 as part of her thesis research. In more than 200 documented collection trips, between 1992 and 2004, USU researchers did not find a single salmonfly in the Logan River.

"This has been 40 years," Vinson said. "It's a mystery."

Possible, but somewhat unlikely, explanations for the salmonfly disappearance include a chemical spill, herbicide treatments for broad-scale sagebrush eradication during the '60s, and snow- and ice-melting chemicals used on Highway 89 that parallels much of the river, Vinson said. But there are no data to support those notions. What is baffling is that the species have not been able to recolonize the Logan River, which suggests a continual source of pollution or another factor that prevents their establishment, he said.

In a healthy population, each salmonfly will lay approximately 100 eggs on the river at a time.

Throughout their three- to four-year life cycle, salmonflies are a rich food source for trout, a quality that is equally attractive to anglers. That's why members of the Cache Anglers, the local chapter of Trout Unlimited, have committed to the four-year project, which calls for two relocations each year.

Club president Matt Klinger said the benefits of the relocation project will expand beyond the interests of anglers.

"Just to be able to increase the bio-mass is definitely a benefit to the river. That's something we're striving for. Our overall object is simply conservation," Klinger said. "It was encouraging to see the number of people willing to travel that distance to just



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show their concern for the environment and their willingness to volunteer some of their personal time to help out."

"Whether the species will survive in a new habitat remains to be seen," Vinson said. Researchers will check the specimens later this week and again each month.

"We don't know what we're doing. It's new ground. We're going to learn something either way," Vinson said. "We got more than 40 people out there that were interested in the Logan River. The best thing is to generate some interest for the health of the Logan River, to make people aware that they have this beautiful resource in their back yard and we need to care of it."

For more information about the salmonfly experiment, look under "Projects and Research" at <http://www.usu.edu/buglab>.

Salmonflies were once prevalent on the Logan River. Researchers do not know why they died out, but are trying to re-establish the bug's population on the river in a four-year relocation project.