

Bugged? Tamarisk-eating beetles scour riverway for food

by Ron Georg, contributing writer

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The tiny, yellow-striped beetles released as a biological control for tamarisk along the Colorado River in 2004 and 2005 have now moved all the way up the Moab Valley, defoliating every tamarisk in their path.

"They're all over the valley," Grand County Weed Supervisor Tim Higgs said of the bushes and the beetles. "If you're seeing beetles, then look around—there's a dying tamarisk nearby."

That's because the beetles are eating themselves out of house and home. They spend much of their lives in the tamarisks, feeding on them both as larva and adults. The beetles don't have any other food source, so the adults seen flying around Moab are looking for an increasingly rare commodity—green tamarisks.

"The high numbers of beetles are what we would expect with such a mass of food," Utah State University Extension Agent Mike Johnson said. Of course, the buffet won't go on indefinitely, so the beetle population should also plummet. "For a while you're going to see the extremes—that food source could maybe be eaten in a month."

Johnson and Higgs stress that any predictions are based on known plant physiology and insect behavior. This bio-control method has been used in a number of applications, from strictly controlled research to open field sites, but the Colorado River releases were the largest. In addition to the size of the release, of course, the beetles are as much an invader as the tamarisk.

Still, while they shy from future claims, both men categorize the program's current status a success. "We're the only ones that put out the high numbers," Higgs said, "and we've the ones who've had the most success."

For instance, at the Jackson's Bottom site, near the Potash Plant west of Moab, the initial release covered 2 acres in 2005. It had grown to 14 acres a year later. "2006 is when it really took off," Johnson said. "Two weeks later, it was up to 20 acres."

Now the beetles have ranged 11 miles downstream from the site and seven miles up. They've also covered six miles down from Dewey Bridge, and Higgs speculates they could complete the distance between the Moab Valley and Dewey Bridge by the end of summer, 2008.

Researchers at the University of Utah's Entrada Field Station on the Dolores River intend to study the effects of the release on the ecosystem around the area.

The station's website anticipates an arrival in 2008 "or possibly sooner." Higgs says researchers should hurry to study the beetles' effects "because I think they're there already."

Stakeholders in the beetles' path have already been planning for the demise of the tamarisk. Public land managers, private land owners, local government entities, and conservation groups formed the Southeast Utah Tamarisk Coalition to address issues regarding tamarisk and Russian olive control, and they've just completed their plan for how to deal cooperatively with the problem.

"The first thing we'll want to tackle is what we see out of our window," Nature Conservancy Canyonlands Program Director Sue Bellagamba said. Her window looks out over the Matheson Wetlands Preserve, where the beetles have left all the tamarisks brown.

"They weren't released on our property," Bellegamba said. "But we now have the impacts of the beetle on our property. I feel that we're a little behind the eight-ball as far as what to do after the beetle."

That time should be coming soon. The beetles which don't exhaust their food source will go into hibernation about the middle of September, and they'll return to lay more eggs in the spring. The tamarisks should have recovered enough from this year's assault to green up in the spring, and the beetles will continue to feed.

After three seasons of pressure, most tamarisks succumb, according to Johnson. "Repeated defoliation reduces photosynthesis, and the plant uses stored food from the root reserve. If it's defoliated often enough, it uses up its reserves," he said.

Once that happens, the dead trees become a problem. Bellagamba says fire officials have assured the coalition that live tamarisks burn better than dead ones—they have more oil and drop more dry foliage. But fire danger isn't the only problem; the dead trees also impede the reintroduction of natural species, so they'll need to be removed.

Toward that end, Bellagamba points to the Coalition's efforts to list Russian olive and tamarisk as noxious weeds as one of the group's greatest successes. With the designation and the coalition covering the Colorado River from the Utah/Colorado border to the confluence with the San Juan River, tamarisk control and rehabilitation programs are eligible for federal funding under the Salt Cedar and Russian Olive Control Demonstration Act.

With beetles roaming downtown and tamarisks dying along the river and creek corridors, the bio-control solution can seem dramatic, even drastic. However, it's also the only thing that's made a significant dent in the tamarisk population.

"I believe that the biological control is our only effort to look at large-scale control," Bellagamba said. "The exciting part is I really never thought in my lifetime we'd get a handle on the tamarisk problem. Now we just need to follow through."

Johnson says we'll likely never be entirely rid of the tamarisk or the beetle, but that they'll find a place in the ecosystem.

"What we expect to see is a 75 to 80 percent reduction in the tamarisk," Johnson said. "What we hope for is to see a natural balance reached."