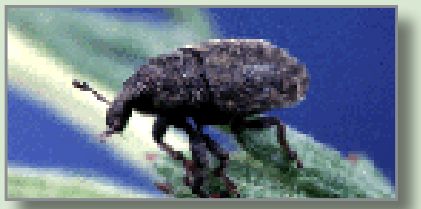
SAVING UTAH'S LANDSCAPE

Central Utah Biocontrol Group

Photo courtesy of USDA NRCS

Biocontrol agents



Sphenoptra jugoslavica

A root-boring beetle, this insect was first released in the United States in 1979. It is a flat, metallic, copper-colored, elongated beetle. The larvae have an enlarged head and a long thin body. The larvae cause a gall-like swelling in the knapweed root near the crown. It is specific to diffuse- and spotted knapweed. After the beetle population has built up for five to six years, the knapweed population may collapse with only scattered knapweed plants remaining.

Larinus minutus

A seed-feeding weevil, this insect is a brown-gray weevil with a very large, bulbous snout. They are strong fliers and disperse throughout the entire knapweed patch in several years. When the adults first emerge from the knapweed seedhead they are light gray with some yellow fuzz on their bodies. It was first released in the United States in 1991. *L. minutus* attacks both spotted- and diffuse knapweed with a slight preference for diffuse knapweed.

Photos by R. Richard

For the past nine years workers from Utah, Juab, Millard and Tooele counties have been distributing biocontrol agents as part of their noxious weed control programs. In the beginning, they combined funding sources, and then bought or collected insects known to be selective enemies of the weeds they hoped to control.

Their primary target was squarrose knapweed, which is distributed throughout the four counties. They have released a seedhead weevil, *Larinus minutus*, with good success. *Sphenoptera jugoslavica* may prove to be even more effective. A root boring weevil, the insect has moved slowly but is showing more plant injury than the seedhead weevil. "It seems to be having more impact," explains Craig Searle, the Utah County weed supervisor and leader of the group. Utah State University, with funding from BLM, has been monitoring the effectiveness and distribution of these particular insects for over 15 years. This has provided educational and summer work opportunities for students.

The biocontrol cooperative now focuses on collecting insects from areas where they are established and distributing them to places where they are not located. The group collects from 15,000 to 30,000 insects a year.

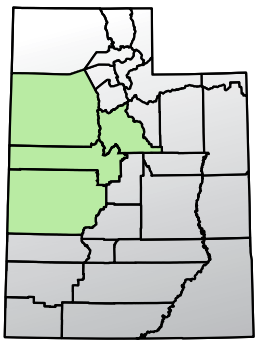
They've also expanded the plants they are treating. They now distribute insects to control purple loosestrife, bindweed, salt cedar or tamarisk, and just about any other noxious weed that has an approved biocontrol agent.

"We're seeing a 40 percent to 50 percent reduction in plant densities. The weeds that are left are not healthy," says Searle. "Native plants are starting to come back."

That's the kind of results he seeks. The weed supervisor has emphasized biocontrol in his weed management program since he began 20 years ago. To him it is the ultimate method of control.

"Chemicals are a bandaid. You have to keep spraying and you never really eradicate a plant. Biocontrol damages and weakens the noxious weeds, so that other plants have a chance to compete with them."

The result is the elimination of noxious weed monocultures which are replaced with populations where weakened invasives are mixed with beneficial native plants. A healthier more diverse plant cover is possible without spraying gallons of chemical on the landscape, he says.



Although Searle is quick to say he is not anti-chemical, he sees an important role for biocontrol agents in controlling the spread of noxious weeds.

CENTRAL UTAH BIOCONTROL GROUP

Establishing coordinates of bug releases helps weed managers monitor their effectiveness (left).Workers release insects among noxious weeds (above). Tamarisk defoliation at an APHIS insect trial site near Delta, Utah (below). Buildings are insect cages.
Photos by Craig Searle.

Steps to Success:

- The partnership made more resources available for the project.
- Networking made it possible to collect insects in one area for release in another.
- Tours of areas affected by biocontrol have educated the public and local officials.
- The organization is aware that biocontrol takes time.

Partners

- Utah County
- Juab County
- Millard County
- Tooele County
- Animal Plant Health Industry Services (APHIS)
- USDA Forest Service
- Utah Department of Agriculture and Food
- Bureau of Land Management
- Utah State University Extension Service

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