

# After wildfires: Fighting weeds that threaten grazing, wildlife

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Much of Okanogan County has been covered in a welcome layer of snow this winter, but the fires that burned here last summer have landowners like Mike Siemon wondering if their livestock will have enough grass to graze this spring.

Wildfire damage to his property near Omak, Wash. caused his cattle feed bill to more than double despite available assistance programs, and low hay prices. In the wake of the physical and financial devastation from the fires, Siemon is questioning whether to throw in the towel.

“But with the breeding and the gentle nature of the cows, their individual personalities and me being attached to them,” he said, “well, it’s probably better just to grin and bear it.”

## Weeds add insult to injury

While fire can destroy native grasses, invasive weeds like diffuse knapweed and Dalmatian toadflax can thrive. These weeds are bad news for cattle grazing, wildlife and biodiversity.



Mike Siemon walks through invasive Dalmatian toadflax and diffuse knapweed on his property near Omak,

“The weeds take over an area and just kill it so Wash.] there’s no grass for the cows to eat,” Sieman said. “Cows don’t like it and there’s a poisonous quality to the toadflax. It’s brittle and bitter and they won’t touch it.”



Mike Sieman helps WSU biological weed control specialist Jenn Andreas collect weed samples from his land.

Even elk won’t browse the weeds.

Diffuse knapweed has a large taproot that can survive fire, plus it can produce copious seeds that can also withstand the heat. Dalmatian toadflax can resprout prolifically from its extensive root system following fire.

It remains to be seen whether the fire that burned on Sieman’s land was hot enough to destroy the diffuse knapweed on his property.

“Weeds often thrive after a fire, sometimes better than many other plants,” said WSU biological weed control

specialist Jenn Andreas. “Fire can be stimulating to the seeds and plants even if they’re burned to the ground.”

It also remains to be seen whether insects, or biocontrol agents, released on Sieman’s property to control the invasive weeds survived the fires and the winter that followed.

Dalmatian toadflax and the weevil (*Mecinus janthiniformis*) that evolved as its natural enemy are native to Europe.

Over several years and if managed properly, using biocontrol agents to control invasive weeds can be self-sustaining and save landowners money.

## Searching for signs of insect life

It’s early February and Andreas is crunching across a snow-covered field on Sieman’s land to take a first look at the situation.

She snips off a dried stem of toadflax from last year’s growth, sticking out above a foot of snow, and cuts it in half lengthwise. She peers at the inner stem and is excited to discover nestled inside a few adults of the weevil that keeps the weed in check. But she won’t know whether they are alive until she

takes samples back to her lab in Puyallup.

The adult weevils lay their eggs in May and June. The larvae feed inside the stem and overwinter as adults, emerging the following spring to feed on young toadflax shoots and start the next generation of weevils.

Andreas hopes that if the fire burned quickly enough to leave the stems standing, there's a chance some of these insects survived.

If the biocontrol agent for diffuse knapweed (*Larinus minutus*) had emerged as adults in time, they might have been able to fly away or bury themselves deep enough in the leaf litter to avoid being killed by the fire.



Adults of the weevil that feed on invasive Dalmatian toadflax overwinter inside the plant stem.

## Releasing bugs into burned areas

The biocontrol agents may have survived, but Andreas thinks it's unlikely.

"Weeds seem to survive fires very well, but the biocontrol agents do not," she said. "This is why we are planning mass releases in the burned areas this year, so we can boost their populations."

Insects from nearby areas that did not burn will likely redistribute themselves back into the burned areas pretty quickly.

"We can speed up the process with intentional releases."

It can take up to five years for the insects to get established and do their work on the weeds. For Siemon, if it means his cattle will have plenty of grass to eat, it will be worth the wait.

The WSU Integrated Weed Control Program is supported by the USDA Forest Service, the Washington Department of Agriculture, the Washington Department of Fish and Wildlife, the Washington State Weed Board, as well as county weed boards.

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