

wind, water, or getting caught up in mud moved by people, animals or machines. (You can help prevent the spread of hawkweeds and other weeds by making sure your boots and vehicle tyres are clean before you enter national parks and other natural areas.)

**They're quick to move into disturbed areas** – hawkweeds sprout quickly in soil that has been exposed by works of some kind, which means they are quick to spread along roadsides and ski fields, and in disturbed pasture areas. And once they start growing, they are there to stay ...

**They can poison their enemies** – hawkweeds are **allelopathic**, meaning they release chemicals into the surrounding soil, which

can stop other plants from growing nearby. Killing your competitors is an accepted tactic in the world of weeds!

It's this tendency to kill all nearby plants that makes hawkweeds so dangerous. In New Zealand, hawkweeds have invaded millions of hectares of land, pushing native plants out of **alpine** areas, and destroying productive pastures, forcing farmers to abandon their grazing land. It's too late now to eradicate hawkweeds from New Zealand – the infested areas are simply too big – but here in Australia, we still have a chance. This is why Sally, Connor and Hillary's work is so important – working as a team, we can maybe get rid of these nasty daisies once and for all!

Hillary Cherry is a weed-management specialist who works with the New South Wales National Parks and Wildlife Service. 'The dogs are just one part of a big program,' says Hillary. 'We have teams of volunteers that come and help us do surveillance, and field officers who go out just about every day. They stand in a line, a metre apart, in an "emu parade" – they walk all the way through an area thought to be infested with hawkweed, and look for new plants.

Even the most careful human search of an area can miss these plants, which is where Sally and Connor come in. 'Their noses are so sensitive that they're able to smell even the smallest seedlings,' says Hillary. 'We bring the dogs through and double-check that we haven't missed a plant.'

There are two types of hawkweed in Kosciuszko National Park: orange hawkweed (*Hieracium auranticum*), which is scattered on the mid to lower slopes, and mouse-ear hawkweed (*Hieracium pilosella*), which is found in the high alpine zone, well above the tree line (where no trees grow). Sally and Connor are trained to sniff out both.

## On the mountain with a botanist puppy

The back door opens, and Hillary walks out into the backyard. Sally and Connor, who have been awake for ages, start to leap about like wild things. As working dogs, they sleep in kennels, and are not allowed inside. They've been out of their kennels for the last hour, chasing each other, play-fighting, rolling and tumbling, excited to be out and about in the beautiful weather.

Both of them are hoping Hillary will pick them for today's work, but only one goes in the field at a time. Hillary has tried taking them both out at once, but has found that the dog sitting in the truck gets jealous, and barks all day!

Today is Sally's lucky day – Connor went out yesterday, so today, it's her turn. Hillary locks her in her travel kennel on the back of the ute and, ignoring Connor's cries, they head off to an area in the park where orange hawkweed has been found before.

'Australia doesn't have a lot of alpine regions, so we really are trying very hard to protect the ones we have here,' says Hillary. The hawkweeds mostly push their way into open grasslands or pastures, but they can also invade the **sub-alpine** woodlands. 'They'll come in underneath really dense shrubs. They start out slowly, but then start to change the environment – they could potentially change whole ecosystems, from shrublands to grasslands or herblands.'

Once they arrive, Hillary lets Sally out of her travel kennel. Today they're looking for hawkweed near an alpine bog (wet, spongy ground) – one of the dogs' favourite places, as there's a stream nearby they sometimes get to swim in at the end of a hot work day. Alpine bogs are an endangered vegetation community – this means there are very few of them left – so it's especially important to make sure they are not destroyed by these aggressive plant invaders.



Sally looks out over the peaks of Mount Kosciuszko National Park.