



Bossiaea fragrans

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Critically endangered

Target: protect and improve habitat, and reduce impact from pests

The *Saving our Species* (SoS) conservation project for *Bossiaea fragrans* has reduced impacts from feral goats through exclusion fencing, controlled weeds, monitored species condition and abundance, and collected seed for potential future translocations and ex situ conservation.

Bossiaea fragrans is a critically endangered shrub only known to occur in Abercrombie Karst Conservation Reserve (KCR) and an adjacent travelling stock reserve. Threats to the species include disturbance and grazing by feral goats, seed predation, competition from serrated tussock grass and other weeds, and its highly restricted distribution and small population size. Outcomes of the project include:

- **fencing 26 mature plants and 42 seedlings** across three locations
- controlling weeds in areas adjacent to subpopulations
- **collection and preservation of 1729 seeds** since 2011.

Trajectory: decreasing

Exclusion fencing enhanced the annual growth of plants in comparison to unfenced plants. Control of feral goats and significant recent rainfall has reduced goat browsing and facilitated an increase in annual growth rate. Unfortunately, overall, the population has decreased, with a large number of plants that were exposed to drought and browsing having perished.



Partners

The *Bossiaea fragrans* conservation project is led by the SoS program in partnership with NSW National Parks and Wildlife Service (NPWS), Central Tablelands Local Land Services and the Australian Botanic Gardens Mount Annan.

What did we find?

Since 2014, tagged plants have been monitored across eight locations. Each year data is collected on plant growth, browsing impacts and reproduction.

Plants exposed to intense browsing, in combination with prolonged drought, showed a high rate of mortality. In 2015 a trial caging of individual plants was initiated at one location to understand the effect of excluding browsing on plants. In 2017 and again in 2019 larger exclosures were erected around groups of mature plants. Plants within fenced areas protected from browsing by goats survived the drought and are now resprouting.

The next steps for this project include developing a translocation plan, and expanding fencing to encompass mature plants and seedlings that have recently germinated.



Bossiaea fragrans. Photo: Jackie Miles/DPIE

Finding the culprit

- Species monitoring found a majority of unfenced plants were subject to severe browsing.
- Wildlife surveillance cameras were set up at five locations within Abercrombie KCR to determine the culprit herbivores.
- SoS engaged 419 volunteers, via the DigiVol platform, to review 33,015 images.
- The results demonstrated that feral goats were the main browsing species, with minor impacts from swamp wallabies and kangaroos.
- NPWS undertakes an annual aerial cull to remove feral goats and other pest species from the reserve.
- Surveillance is ongoing at four sites to monitor feral goat activity.



A feral goat browsing on a *Bossiaea fragrans*. Photo credit: Jessica Peterie/DPIE

Saving our Species is a NSW Government flagship program delivered by the Environment, Energy and Science Group in the Department of Planning, Industry and Environment. To find out more about threatened species in New South Wales and the *Saving our Species* program, visit the [Saving our Species Program webpage](#).