

Austral Toadflax (*Thesium australe*)

Now you see me...now you don't!

Conservation status

Commonwealth EPBC Act 1999 – Vulnerable

Queensland – Vulnerable

Victoria – Threatened

Tasmania – Extinct

Description

Leaves and stems – hairless almost fleshy appearance, yellow-green, wiry, can be up to 40 cm long. Stems radiate out from a central rootstock.

Thesium australe is hemiparasitic (i.e., it is not parasitic during all the stages of its lifecycle)

Grows mainly on or in association with kangaroo grass (*Themeda triandra*)

Flowers – small white, axial, 5 petals

Mostly flowers in spring and summer, but has been observed flowering and fruiting all year in Queensland

Threats

Inappropriate fire regimes

Lack of disturbance and resultant mid and upper canopy thickening

Overgrazing

Development and infrastructure

Weeds



Location

The project location is located on a private property on the Eastern Darling Downs, 50 km from Toowoomba. The site is the subject of an offset agreement for *Thesium australe* which is being managed by Brisbane based firm Ausecology. As part of the offset agreement, Ausecology are managing weeds and vegetation thickening as well as conducting trials to determine the effects of slashing and burning on *Thesium*.

An ephemeral nature

At the outset of the offset agreement, *Thesium australe* was identified in significant quantities in various locations on the property. After suffering significant drought conditions through 2018 and 2019, all of the *Thesium* disappeared. In 2020–21 and 2021–22 there were successive La Nina events impacting Queensland, but still the *Thesium* had not returned. Then in 2022–23, which was also a La Nina year, and along with a very wet spring, there were notably mild temperatures in the lead up to summer with not a single day above 30°C prior to Christmas and only a couple of days above 30°C in January. During that summer, the *Thesium* returned with a vengeance, even in paddocks that were constantly grazed, and with new sites/occurrences being found on the property on a regular basis. Then in spring and the lead up to summer in 2023–24, it was notably hot and dry and the *Thesium* all but disappeared again. There are currently a handful of plants in a few known locations.

Project Aims

To determine the relationship between temperature, rainfall and the abundance of known occurrences of *Thesium australe* on the Eastern Darling Downs in Southern Queensland

Methodology

- Eight sites of known occurrences of *Thesium australe* will be marked by a central peg.
- A circular 50 m² monitoring area will be established around each central peg.
- All *Thesium* specimens occurring inside each monitoring area will be flagged and counted.
- Each site will be monitored regularly with official counts being conducted a minimum of once per season (i.e., October, January, April, and July).
- Temperature and rainfall data will be collected daily.
- Land management practices and any other impactful events for each site will also be recorded.
- Population counts will be compared to the temperature and rainfall data collected for a minimum of five years, and if possible, ongoing thereafter.

