

Raising rarity: how the Grey Billy-button became a pilot plant for conservation

M.J. Hirst^{1,2,*}, B. Liu¹, and R.G. Larke¹

¹Royal Botanic Gardens Victoria, Australia

²Deakin University, Australia

*Corresponding author email: megan.hirst@rbg.vic.gov.au

Successful plant conservation requires a broad approach to address the many threats that drive species toward extinction. Despite significant conservation efforts across Australia, threatened plant species continue to decline. Critical on-ground support in habitats where at-risk plants naturally occur is paramount; however, there is also a need to safeguard populations using *ex situ* strategies including living collections and seed banking to mitigate risks. Low public awareness and engagement in plant conservation may exacerbate species decline. To address this risk, Royal Botanic Gardens Victoria (RBGV) designed the Raising Rarity project, a community-based outreach programme that actively engages sectors of the Victorian community in plant science, and together addresses local plant conservation issues. The Grey Billy-button (*Craspedia canens*) is a yellow-flowered, critically endangered daisy that naturally occurs in low-lying wet depressions. It is currently restricted to a few remnant sites in southern Victoria. To develop a recovery strategy for this species, the Raising Rarity project has partnered with community groups and state government initiatives. Wild populations have been surveyed, flowering monitored, seed subsequently collected, and viability assessed. *Ex situ* living collections have been planted close to where the species naturally occurs, and flowering and seed development monitored through community outreach. It was found that cultivated seed was significantly larger than wild seed ($n=200$, $P < .0001$) from the same harvest year. Seed predation was evident in both wild and cultivated collections. The optimal germination niche was examined by testing response in both wild and cultivated collections across a broad temperature range (5–38°C) to find if cultivated seed has a greater germination response across a broader temperature range than wild collected seed. Planning is now underway for translocation activities to bolster wild populations and increase *ex situ* living collections across a greater area to address gaps in the species' natural distribution.