PROTECTING A RARE GEM

Increasing the resilience of alpine bogs on the Central Plateau

Fencing off fragile bogs

Alpine sphagnum bog from the air

2018

When we think about bogs, the idea of a rare, important and fragile environment may not be the first thought that springs to mind. While the ecological communities known as 'Alpine Sphagnum Bogs and Associated Fens' may be something of a mouthful, there are only a handful of these communities in Australia, scattered in small pockets across highland areas of Tasmania, Victoria, NSW and the ACT.

However, not all of these communities exist within protected reserves. In Tasmania's alpine and sub-alpine regions, bogs can be found within privately owned properties where stock are grazed and where other issues – such as feral deer, weeds and fire – pose a significant threat. Following concerns about the potential multiple land use impacts on alpine and sub-alpine bogs in the highland region of Bronte Park and Pine Tier Lagoon, a study was initiated by NRM South and implemented by Dr Anita Wild in 2015 to assess the state of and risks to this ecological community, with reports provided to individual landholders that would assist them in future management.

Recommended strategies to best manage the issues facing these fragile ecosystems include limiting access, fencing to keep out stock and invasive browsers, weed control, better placement of tracks, keeping bogs as wet as possible and reducing fuel loads next to bogs.

Wildfire damage is a major risk to alpine sphagnum bogs and can lead to drying and permanent vegetation change. Under very dry conditions, bogs are often badly burned from the fire fronts gaining hold via the drier edges of the bogs and moving across shrubby vegetation.

Since the start of the project, one of the landholders involved, the Bannister family, has implemented nearly all the recommendations that will see the bogs on their property managed and protected - with the most recent on-ground work supported through a Naturally Inspired Grant from NRM South.

The Bannister property, 'Dry Timbers', is one of 19 privately owned sites that were included in this study. The five bogs contained within the property were considered to be at moderate risk from track and vehicle disturbance, grazing from introduced mammals (deer, cattle and sheep) and past harvesting activities. There is also a significant risk from wildfire due to the increasing occurrence of dry lightning events in the region.

Since the project began, and the risks were identified, the Bannister family have been implementing the recommended actions to protect this nationally listed vegetation community. In that time, they have undertaken planned burning, weed control and developed a game management plan.

With the help of an NRM South Naturally Inspired Grant received in 2017, the Bannisters have now fenced the larger bogs on their property to exclude stock but still allow native grazers in. The next steps will involve keeping an eye on their bogs to identify any changes in weed occurrence or invasion of dryland species (such as eucalypts), putting strategies in place to close tracks, relocating new tracks (outside of the bogs) and implementing a game management plan in conjunction with adjacent landowners to control local fallow deer populations.

Listed as Endangered under the EPBC Act, Tasmania's bogs and fens are not only important because of their rarity, but also because they are the source of many of our island's river systems.

Prior to putting recommendations into action, it was important to get a snapshot of how things were looking on the ground – in this case, with images captured from the air.

As part of this study, researchers were keen to test the effectiveness of drones to see how well they captured visual data. If successful, this method could be used to monitor the change in condition of the peatland in response to management actions. Using airborne technology has the advantage of allowing researchers to stay out of these fragile zones and get a broader birds eye view of what's happening over time.

The trial was a great success, yielding images that can be digitally processed to create small-scale three-dimensional baseline models that can be used to show changes in the surface of bogs. This will be critical in measuring impacts from feral animals such as deer which are known to wallow in bogs and severely damage them. It will also highlight any invasion by trees and dryland shrub species, which is a sign that they are drying out – and at increased risk of fire.

Drone pilots Doug Thost and Ward Bremmers from Helicopter Resources preparing to capture aerial images. Due to the risk from, and to, Wedge-tailed Eagles, there was also a lookout present to warn of any eagle activity. Although none were in the project area at the time, the landowner often sees them.

A low-intensity fuel reduction burn undertaken in forest adjacent to endangered alpine bog as a result of the information in the threat assessment report. This burn was done on the north-westerly side which was the most likely direction of approach for damaging wildfires.

The study area, consisting primarily of lower altitude forested areas of the south-western plateau, covers approximately 110,000 hectares.

This project has provided the first targeted, tenure-blind risk assessment of bogs on the Pine Lagoon region of the Central Plateau.

Historic sheep shed on the Bannister property.

"Our family have known for over a century that these bogs are special places and we hope these actions will mean that future generations will be able to enjoy them also."
- Bill Bannister, landowner.

Photo credits: NRM South, Dr. Anita Wild, Helicopter Resources.

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