



UCSW CEEC ECOLOGICAL BURN/RESTORATION

Location: Burrawang Reserve, Woy Woy, Central Coast LGA

Date: 2021-2024 Ongoing

Client: Central Coast Council

Site Description:

Burrawang Reserve is a 5 Ha isolated parcel that forms part of a broader network of important wetland/riparian corridors and remnant bushland harbouring some of the last remaining Umina Coastal Sandplain Woodland (UCSW). The UCSW is a unique and Critically Endangered Ecological Community (CEEC) with a very limited distribution occurring on the Woy Woy-Umina sandplain on the Central Coast of NSW.

The community has been extensively cleared for residential development with an estimated less than 10% of the original extent remaining. Remnants are small and isolated and face threats from weed invasion, mowing, clearing for development and other activities, and modified fire regimes. The site exhibits the most undisturbed and representative remnant remaining and is therefore critical in the ongoing protection and restoration of the community.





Project Objectives

- Establish a Management Plan and monitoring program to evaluate the effectiveness of the management actions to restore the composition and structure of UCSW and inform an adaptive management approach with particular focus on weed control and fire management.
- Working with Council to increase biodiversity values through the re-introduction of appropriate fire regimes by performing an ecological burn with the correct intensity.
- Mitigate the threat of disturbance and weed infestation post-fire
- Activation of the obligate soil stored seed bank to restore favourable species composition and structure representative of the community



Description of Works

- Management Plan and Monitoring Program for the remaining Umina Coastal Sandplain Woodland CEEC.
- Vegetation condition and fuel loading assessment.
- Flora survey 3 x 20m fire response monitoring transects across the burn zone collecting cover-abundance and vascular species data periodically.
- Pre and Post-fire native and exotic vegetation mapping, including UAV (Drones).
- Delineation and fencing of burn zone. Pre-burn removal of all exotic species and pyrophytic grasses such as *Megathyrsus maximum*
- Extensive fuel loading through significant chainsaw, brush cutting and hand removal works. This included removal of all exotic species and the thinning out and treatment of over-represented and/or fire- sensitive native species - *Glochidion ferdinandi*, *Monotoca elliptica*, *Lomandra longifolia*, *Pteridium esculentum* and *Polyscias sambuccifolia*.
- Sensitive and systematic post-fire bush regeneration within the burn zone minimising impacts from disturbance, trampling and soil compaction. Works targeted all exotic species, pyrophytic grasses and over-represented Fabaceae vines at risk of smothering native regeneration



Outcomes Achieved

- Establishment of a baseline and ongoing flora monitoring program pre- and post-fire that is currently informing an adaptive management approach between Council staff and our team.
- Working together with council staff we were able to deliver a very successful fuel loading, weed removal and ecological burn project under pressure and within tight timeframes.
- Our diligent teams intensive work has removed all exotic species within the burn zone and balanced the over-represented native vegetation and minimised any potential impacts.
- The burn was highly successful, triggering dormancy cues and activating the obligate soil-stored seed bank post-fire. We have witnessed significant increases in native species richness and diversity throughout. Vast numbers of several *Acacia* sp. recruitment proliferate. Some species such as *Bossiaea prostrata* and *Eriostemon australasius* encountered, have not been previously surveyed. Moreover, a key performance indicator, *Banksia serrata* recruitment, is prominent where it had been severely lacking.