

CAPE BYRON LITTORAL RAINFOREST RESTORATION PROJECT

overview of the project

The Cape Byron Littoral Rainforest Restoration Project involved 800 hours of bush regeneration work which restored 15 hectares of degraded Littoral Rainforest vegetation at Cosy Corner on Tallow Beach, within the Cape Byron State Conservation Area. This area had previously been disturbed by sand mining and was heavily infested with a variety of weeds and native vines, which were inhibiting the development of juvenile plants and degrading the native canopy.

The project was conducted by the Cape Byron Headland Reserve Trust who used cutting edge and best practice techniques to restore the structural and floristic diversity of this site. Over a 15 month period 2.5 hectares of Bitou Bush, one hectare of couch and 0.25 hectares of lantana were treated. Over 2,800 Winter Senna plants were also eradicated and 850 vine stems cut. The weed control and higher than expected natural resilience at this site has resulted in an estimated 8,000 native tree, shrub and grass seedlings naturally regenerating.



Cape Byron Littoral Rainforest after initial restoration work

how the project was carried out

A whole ecosystem approach was taken for the restoration of this site. An assessment of the native and weed species diversity, distribution and abundance was carried out, and the site was split into eight management zones determined by the weed type, the severity of infestation and the health of the native community.

The bush regeneration techniques involved rapid and broadscale reductions of the mature weed load followed by re-treatment of areas that had been recolonised from seed stocks in the ground. Weeding methods included hand pulling, cutting and painting with herbicides, and spraying herbicides.

Two hundred metres of shade cloth fencing has been erected to protect the restored areas from human traffic. Signage was established to encourage community support for the protection of the regenerated areas and to direct people away from walking on restored areas. Over 500 hours of professional bush regeneration work were undertaken, in addition to the 290 community volunteer hours contributed to the project.

During clearing, some bitou bush skeletons were retained to provide animal habitat, maintain dune stability and prevent wind shear at the site. Small amounts of lantana were also left as a food source for wallabies. These weed remnants will be removed over the next few years, as the native vegetation becomes more established.

outcomes now and in the future

The removal of the weed species has reduced the competition for nutrients, light and water. This has allowed approximately 2,000 existing saplings and mature trees to be released from the

smothering effects of the weed species. The reduction of weeds in the understorey has also allowed approximately 8,000 native plants to germinate. The weeds had created monocultures in this area and their removal has allowed floristic diversity to return to the site via natural regeneration.

A management strategy and restoration work plan has been produced to map out the ongoing maintenance of this site. It is expected that it will take three to ten years for native vegetation to become effectively established and provide suitable habitat for fauna.

benefits, challenges & lessons learned

This project has shown that sites with high resilience can be worked at a greater scale and pace than sites with a reduced capacity to naturally regenerate. Rapid and broad scale weed removal reduced the potential for re-infestation, due to the adjoining weed seed sources being removed. This method reduces both the cost and time spent on rehabilitation. Plants were allowed to naturally establish and it was discovered that they grew faster and were more structurally sound and resilient than planted specimens, which has aided the success of this project.

Grazing wallabies presented a challenge for this project as they were eating the newly germinating plants and saplings, particularly juvenile Tuckeroo, which is a desired species for the restoration of the littoral rainforest. In order to protect the Tuckeroo seventy tree guards were installed around the saplings and small amounts of lantana were left as a food source for the wallabies.