

REDUCING AND ERADICATING INVASIVE WEEDS ON LORD HOWE ISLAND

overview of the project

This project, conducted by the Lord Howe Island Board, successfully treated 42 percent of the Island for weeds. With 14,000 hours of bush restoration, over one million weeds have been removed over an area of approximately 522 hectares.

Through this project the Lord Howe Island Board changed its philosophy on environmental weed management from one of continual control to one of eradication. The weed eradication program has treated or cleared nearly half a million cherry guava plants (90 percent of all mature plants) and 6,100 kilograms of asparagus fern and madeira vine. The Island Board is committed to 10 years of ongoing weed maintenance.



Weeding team at Lord Howe Island

how the project was carried out

Weed mapping carried out on Lord Howe Island showed that the extent and seriousness of the weed problem was beyond the capacity of local agencies and the community to manage. To prevent further damage to this unique environment, an intensive weed management program was implemented. The weed removal program had three main objectives:

- eradication of bitou bush by aerial spraying of cliff areas
- research into the best treatment of tiger lily
- reduction of the cherry guava population to manageable levels.

The weed eradication strategy involved dividing all accessible areas of the Island into manageable working units, of approximately five hectares. Each block (131 in total) was systematically searched and major environmental weeds were removed. A helicopter contract sprayer was employed to spray bitou bush on inaccessible areas of the Island, followed by bush regeneration contractors abseiling into these areas to search for and treat any remaining weeds.

Another highly invasive weed on the Island is *Lilium formosum* (tiger lily). As little information exists on this species a PhD student was engaged to study the tiger lily. The study involved investigating germination ecology, the existence of soil seed banks, responses to disturbance and the impacts of this species on the Island ecology. Island managers now have a better understanding of this weed and how to manage it, but to date have not undertaken any weed control.

To aid the fight against weeds the Island managers designed a program that involved five groups of volunteers from the mainland (Friends of Lord Howe). The five groups were made up of approximately 20 people who undertook weed treatments at sites across the Island for one week each year. The volunteers undertook weed eradication work in the mornings and were then free to partake in nature excursions and other activities in the afternoon. The volunteers, both local and visiting, were given the job of eradicating madeira vine and asparagus fern.

outcomes now and in the future

The funding for this project broke the cycle of the increasing upward trend of weed populations on the Island and has provided a catalyst for long-term eradication of noxious weed species. This project has also played a pivotal role in assisting managers of other islands to understand the importance of weed eradication and the processes involved.

Through the course of the project a database was developed to record the time taken to treat each area, the number of weeds present and the maturity of the weeds. This data has allowed ease of reporting and will be useful for future management.

benefits, challenges & lessons learned

During this project, the Board was also able to attract funding from the Northern Rivers CMA and the Natural Heritage Trust. These funds will help maintain the impetus and resources required to complete eradication and continue follow-up suppression.

A benefit of this program has been that all mature weed trees/plants were rapidly removed from the weed population thus stopping them from reproducing. This was followed by the removal of any emergent seedlings. The seed bank for these weeds is likely to be exhausted in approximately 10 years.

Cherry guava has a long cultural association on the Island, its fruit is a popular base for home-made jam and jelly. This resulted in parts of the community opposing its eradication. Following a long period of community consultation the cherry guava plants will need to be removed by all residents due to the risk of reinvasion and spread on the island.