

Engaging the community as volunteers – the case of Lord Howe Island World Heritage Area

Stephen Wills

The Lord Howe Island Group (LHIG) is an area of spectacularly beautiful island landscapes and rich terrestrial and marine ecosystems located 760 kilometres north east of Sydney, Australia. It is justly famous for the dramatic scenery of its large turquoise coral lagoon nestling beneath the soaring 875 metre sheer volcanic pinnacles of Mt Gower and Lidgbird. In 1982, the LHIG was inscribed on the World Heritage List under the United Nations World Heritage Convention in recognition of its superlative natural phenomena and its rich terrestrial and marine biodiversity as an outstanding example of an island ecosystem developed from submarine volcanic activity.

The LHIG World Heritage Property covers an area of 146,300 hectares comprised of Lord Howe Island, and 28 smaller islets and rocks and 145,000 hectares of marine environment. Lord Howe Island, the largest island in the group, has an area of 1,455 hectares and is the only island within the group on which settlement has occurred with a permanent population of approximately 380 residents. Prior to its discovery in 1788 and subsequent settlement in 1834, Lord Howe Island and the other islands in the group remained isolated from human influences.

Feral animals and introduced plants have had a significant impact on the island. Pigs and goats, which were introduced to Lord Howe Island in the 1800's for food, caused extensive damage and threatened populations of native species. Rats arrived on the island in 1918 and have since been responsible for the extinction of five bird species and up to ten species of endemic beetle.

Since the 1970's the Lord Howe Island Board (the Board), with the support of the NSW and Australian Governments, has successfully eradicated a range of invasive species from the island, including cats and pigs (DECC NSW, 2007). The Weed Eradication Program commenced in 2004 and is an island-wide program to eradicate priority invasive weeds from the Island.

Biodiversity and Threats

The island was inscribed on the World Heritage List in recognition of its superlative natural phenomena and its rich biodiversity. Typical of remote oceanic islands, Lord Howe supports a high number of endemic species. There are 239 species of indigenous vascular plants recorded, of which 113 (47%) are endemic, including five endemic vascular plant genera (Hunter, 2002).



Sooty Terns on Blinky Beach Lord Howe Island. Photo © Lord Howe Island Board



Rainforest, Mt Gower. Photo © Michael Legge Wilkinson

Also characteristic of such islands the terrestrial vertebrate fauna is dominated by birds. One hundred and eighty two species of birds are recorded, of which 20 are resident land birds, 14 are breeding seabirds, 17 are regular visitors and 120 are vagrants (McAllan et al., 2004). Lord Howe Island is reputed to have more sea bird species breeding in higher numbers than anywhere else in Australia (P. Fullagar, in Hutton, 1998).

The terrestrial invertebrate fauna of the Group is characterised by relatively high species richness and high endemism with up to 60% of some groups comprising endemic species. More than 1600 terrestrial invertebrate species have been recorded to date (Cassis et al., 2003).

Islands, due to their evolution in isolation, are more vulnerable to alien plant invasions and more likely to suffer catastrophic biodiversity loss as a result of invasions (de Poorter et al., 2005). The island group has suffered significant species loss due to the impacts of human activities and exotic species introductions. Nine species of land bird and one species of sea bird have disappeared from Lord Howe Island (Hutton, 1991), while two species of plants are presumed to be extinct.

Several invertebrate species, including two threatened species (Lord Howe Island Wood-feeding Cockroach and Lord Howe Island Phasmid) are locally extinct on the main island and are now confined to offshore islands.

Weed invasion is a major issue for the islands' biodiversity, and affects all vegetation communities to some extent. There are over 670 species of introduced plants on the island, and approximately 40% (271) of these can be defined as weeds. Thirteen species are classified as very invasive and pose a serious threat to habitats (Smith, 2002).

Weed Eradication Program

In recognition of the threat posed by weeds the Board commenced an island-wide weed eradication program (program). It has grown into an interesting example of how human engagement can assist in management. Commenced in 2004, the program is guided by a Weed Management Strategy prepared in 2006 and a Biodiversity Management Plan prepared in 2007. The program will run for 30 years, requiring significant resources in the first ten years to remove dense infestations of priority weeds.



The Island has been mapped into 414 management blocks over nine main landscapes. The program requires the systematic grid search and control of weeds from each management block. The aim is to treat each block every second year to prevent weeds growing to maturity. Follow up visits will continue until soil seed stores are exhausted.

Priority weeds targeted for eradication include bridal creeper, cherry guava, climbing asparagus, ground asparagus, ochna, glory lily, lantana, bitou bush and small-leaved privet. Significant progress has been made to date. For example, over 645,000 cherry guava plants, recognised as one of the top 100 invasive species on the IUCN Global Species Database, have been removed from the Island to date. Species that have been eradicated so far include cats claw creeper and tipuana.

Volunteers

The program has grown into an interesting example of how human engagement can assist in management. Over \$4 million has been invested in the program since 2004. Funding has been provided by the NSW

Environmental Trust, the Commonwealth Government's "Caring for our Country" grant program, the Northern Rivers Catchment Management Authority and the Lord Howe Island Board.

Volunteers have contributed substantially to the program, with over 35,000 hours being volunteered, through the Board volunteer program and the Friends of Lord Howe Island.

Lord Howe Island Board Volunteers

The Board's volunteer program provides an exceptional opportunity to actively participate in the protection of the Island's unique environment. The volunteer program is run throughout the year with the Board supporting up to ten volunteer positions per year with additional positions supported through external grants. Volunteers are generally required to commit to a minimum of 20 days work over a 28 day period. The volunteers work a standard working day alongside the Board's professional weed team.

Interested volunteers are requested to submit an application which is assessed to determine suitability to participate in the program. As the work is physically



Lord Howe Island is the southernmost nesting island in the world for Masked Booby. Photo © Michael Legge Wilkinson, Lord Howe Island Board)

demanding volunteers are required to demonstrate a high level of fitness, confidence in working at heights and an interest in the conservation of the Island's environment.

In return the Board provides return airfares from the mainland, a basic food allowance and shared accommodation at the Island's Research Facility. All volunteers are also provided with an induction which sets out safe work practices, weed identification and weeding techniques.

Since 2004, approximately 150 volunteers have made a significant contribution to weed eradication, having dedicated over 16,000 hours of effort towards the program.

Friends of Lord Howe Island

Tourism is the main economic activity on the Island and is based on the island's World Heritage listed environment. Lord Howe Island Nature Tours, operated by Mr Ian Hutton, has developed a tourism product that includes high quality environmental tourism experiences

and the opportunity to contribute to programs protecting the island's environment.

The first tour, held in 1995, was based around a conventional tourism product which also included a limited weeding component. Strong interest in opportunities to contribute to the Island's environmental programs resulted in the weed volunteer program becoming a permanent component of the week-long tours.

In 2001, a community based group, the Friends of Lord Howe Island, was formed to coordinate the volunteer input from the tourists and locals. Since that time the popularity of these tours has resulted in up to five tours annually. Each morning of the week long program is dedicated to weeding specific blocks while afternoons are allocated to traditional tourist activities included guided walks, tours and opportunities to explore the Island. The Friends of Lord Howe Island and the Board work cooperatively in the planning and implementation of on ground works.

The Friends of Lord Howe Island group has contributed over 23,000 volunteer hours to the weed eradication program. The tours have injected over \$4 million into the local tourism industry and helped reduce the threats posed by invasive species to the World Heritage listed environment.

Conclusion

The island-wide weed eradication program has significantly benefited from volunteer input. To date the Board volunteers and Friends of Lord Howe Island have contributed over 35,000 volunteer hours to the program.

The Weed Management Strategy effectively guides the application of volunteer effort and results in maximum benefit to the overall eradication program. Close cooperation between the Board, Lord Howe Island Nature Tours and the Friends of Lord Howe Island has enabled effective use of volunteers.

The integration of volunteers into the weed eradication program has introduced new skills, knowledge and enthusiasm in the Board's professional weed team. The involvement of volunteers in the program also fosters a strong commitment to weed eradication and enhances their understanding of conservation of World Heritage areas.

This engagement also speaks to the commitment of World Heritage managers to give "cultural and natural heritage a function in the life of the community" (UNESCO World Heritage Convention) as all who participate in the program become effective ambassadors for the outstanding beauty and importance of this isolated jewel in the Pacific.

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Author

Stephen Wills

Chief Executive Officer, Lord Howe Island Board
PO Box 2, Lord Howe Island, NSW 2898, Australia
Stephen.wills@lhib.nsw.gov.au

Biography

Stephen Wills is the Chief Executive Officer of the Lord Howe Island Board. The Board is a NSW statutory authority responsible for the care, control and management of Lord Howe Island. Stephen represents the Lord Howe Island World Heritage Area on the Australian World Heritage Advisory Committee. Stephen is a member of the Lord Howe Island Marine Parks Advisory Committee and Lord Howe Island Tourism Association.

In 2011 Stephen co-founded the Australian Small Island Forum a national body representing the interests of island communities and promoting communication and exchange between islands. Previously Stephen worked for the NSW National Parks & Wildlife Service as Manager Assets & Rehabilitation in southern NSW managing large scale ecological restoration projects. Stephen also has extensive project management experience with the private sector in the engineering and construction industry.

Links

Lord Howe Island Board www.lhib.nsw.gov.au