

TLC –WORKING TOWARDS A WORLD CLASS RESERVATION SYSTEM FOR TASMANIA

One of the primary goals under the Tasmanian Land Conservancy's Strategic Plan 2011 – 2015 is to:

Take a leadership role in building a landscape scale approach to conservation including a world class system of reserves complemented by sustainable development.

Tasmania has almost 50% of its land area reserved. This reflects the national and international significance of Tasmania's natural heritage, but it is important to understand how effective this area is in actually protecting Tasmania's biodiversity over the long term.

To assess this effectiveness, the TLC's Conservation Science and Planning Advisory Council (Science Council) developed scientific criteria for determining what constitutes a world class reserve system, and applied those criteria to Tasmania. We reviewed and updated ecological rule sets to deliver an assessment framework which is transparent, auditable and measurable over time. This process is nearing completion and preliminary results suggest that there are significant gaps in Tasmania's reserve system. Maps identifying where these gaps occur will soon be produced to guide future investment priorities. The results of this work may be controversial and are likely to challenge where we, as an organisation, concentrate our efforts in the future.

Elements of a world class reserve system

The Science Council has adopted the International Union for the Conservation of Nature and the Convention on Biological Diversity framework of five linked elements of a world class reserve system:

1. selection criteria with measurable objectives and targets;
2. progress reports towards achieving those targets;
3. a prioritisation system for identifying additional areas to include in the reserve system;
4. connection and integration into the wider landscape and community; and
5. effective and equitable management.

After reviewing other approaches used around the world, the Science Council adopted the nationally agreed reserve system criteria already accepted by the Australian and State governments¹. The same criteria were used in the Regional Forest Agreement (RFA) some 17 years ago but the Science Council has updated and extended it to all terrestrial biodiversity including freshwater ecosystems. This nationally agreed reserve system framework is one of the most thorough and integrated approaches to reserve system planning in the world.

The criteria address the reservation needs of biodiversity and other special values. Biodiversity is recognised at three levels: ecosystem, species and genetic. The nationally agreed criteria recommend that a minimum of 15%, and up to 100% of the original area of each type of regional

¹ [Nationally Agreed Criteria for the Establishment of a Comprehensive, Adequate and Representative Reserve System for Forests in Australia \(1997\) The Ministerial Council on Forestry, Fisheries and Aquaculture with Australian and New Zealand Environment and Conservation Council and Australia JANIS Sub-Committee, Canberra.](#)

ecosystem (depending on its status) is needed in order for it, and its component plant and animal species, to have a good chance of surviving into the future. These benchmark figures form a basis of our assessment process.

Preliminary analysis has identified that from a total of 540 terrestrial regional ecosystems in Tasmania, approximately half are under-reserved (Figure 1). This figure is likely to rise even further when the freshwater regional ecosystems are incorporated into the calculations. The vast majority of these regional ecosystems occur on private land and thus highlighting the importance of the TLC’s focus on private land conservation.

When we look at the fate of all of the threatened regional ecosystems over the past 17 years since the RFA process (Figure 2), about 40,000 ha of them have subsequently been destroyed, despite 75,000 hectares being added to the reserve system during this time.

In total, an additional 160,000 ha of land would need to be added to the public and/or private reserve system to meet the nationally agreed reservation targets. Of this, 65,000 ha comprises high priority rare or endangered ecosystems. Over 80% of threatened old growth regional ecosystems are not yet reserved to target and an additional reservation of 25,000 ha is still sought for inclusion in the reserve system. Note that these results need further interpretation as some regional ecosystems not reserved to target may only miss the target by a narrow margin.

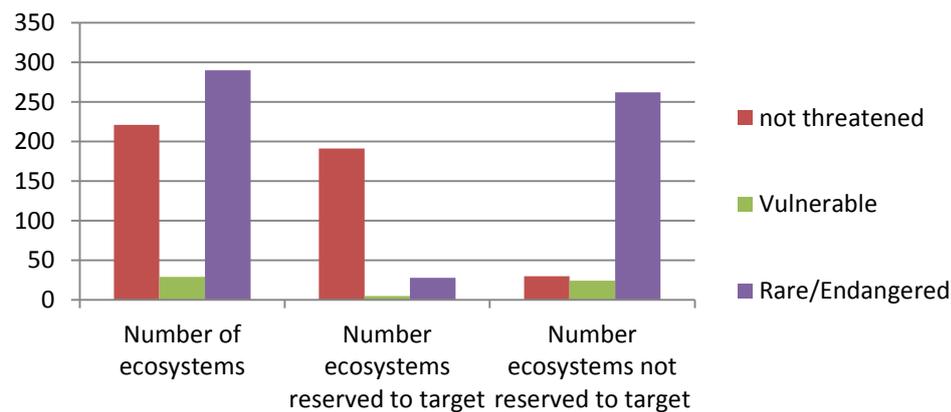


Figure 1 Number of regional ecosystems reserved, and not reserved to target

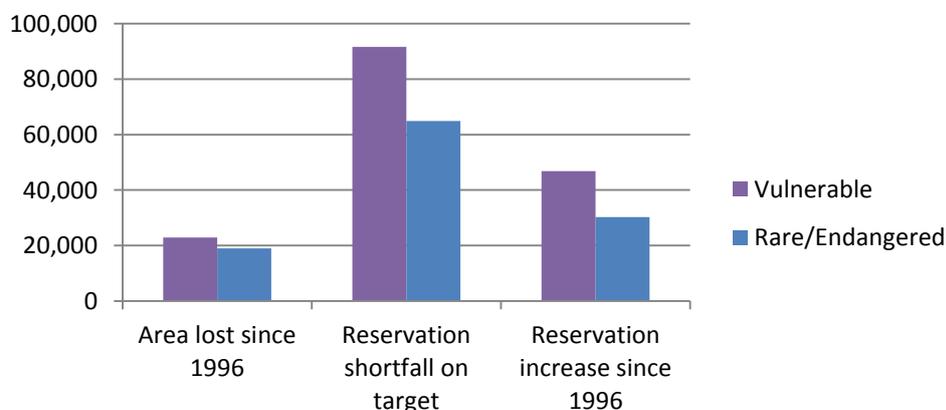


Figure 2 Area lost, reservation shortfall and increases in reservation of threatened regional ecosystems since 1996

Other reserve criteria for a world class system

The nationally agreed process also considers a range of other criteria that are essential for conserving ecosystems, species and genetic diversity in a world class reserve system. For example reservation of wilderness areas and old growth forest is a secure way of conserving many species. Old growth forests contain tree hollows that supports a wide range of priority species, and wilderness areas require much less management than smaller or fragmented areas to maintain biological diversity. Tasmania has retained significant tracts of wilderness – over 2 million hectares – equating to some 30% of the state despite a little erosion to some edges of wilderness areas in the past 17 years.

Non-threatened old growth regional ecosystems have also been well reserved in Tasmania with less than 40,000 ha being cleared, and over 350,000 ha being added to the reserve estate in the last 17 years. However over 80% of threatened old growth regional ecosystems are not reserved to target and some 25,000 ha are still required to meet the criterion.

The viability of reserves is measured by their success in conserving the species and ecosystems that most depend on them. The conservation of some rare or threatened species is possible in small, isolated and degraded vegetation remnants. In fact, such remnants are the only places in which some such species occur. Thus, a world class reserve system will contain small degraded areas as well as wilderness.

There are places in the Tasmanian landscape where species and ecosystems have survived through the glacial-interglacial cycles of the last two million years. These refugia, and refuges thought to provide a similar role in the face of current climate change are necessarily included in any world class reserve system. The TLC has recently made contributions to this criterion by securing land at the Vale of Belvoir and at Blue Tier, and is committed to resolving the nature and location of future refuges.

Much achieved, but a long way to go

Some targets for a world class reserve system cannot be achieved because of past disturbance of the landscape. For example, a large proportion of the grassland and grassy woodlands of Tasmania has been cleared for agriculture. However, there is potential to improve the reservation status of even the most depleted of our ecosystems, and a large proportion of our threatened species, because remnants persist on private land.

For many ecosystems and species the situation is urgent, as destruction continues despite some degree of legal protection. For example, threatened species-rich native grasslands are continuing to be destroyed, losses of dry woodland continue, and much high quality wet native forest has been lost to plantation. Our analysis shows that the rate of clearing accelerated after the Regional Forest Agreement was signed in 1996.

TLC's priority work program

The TLC must ensure that its additions to the reserve system are strategic and build towards a balanced and secure system that will ensure that our flora and fauna, and their habitats, can persist and evolve into the future. TLC's priority work program, whether it be via acquisition, covenanting, stewardship, or our revolving funds, is to protect through secure conservation management reservation as much of the threatened ecosystems and as many species as possible.

Our analysis shows that for the threatened regional ecosystems that are reserved, 15% are within the private reserve system, which comprises only 4% of the area (Figure 3). This demonstrates the importance and success of protection schemes on private land over the last 15 years. For threatened regional ecosystems, the private reserve system out performs the public system by a factor of five. Of particular interest is our performance with paying farmers as stewards for conservation, where only 0.4% of the reserve system contains over 2.5% of the threatened regional ecosystems.

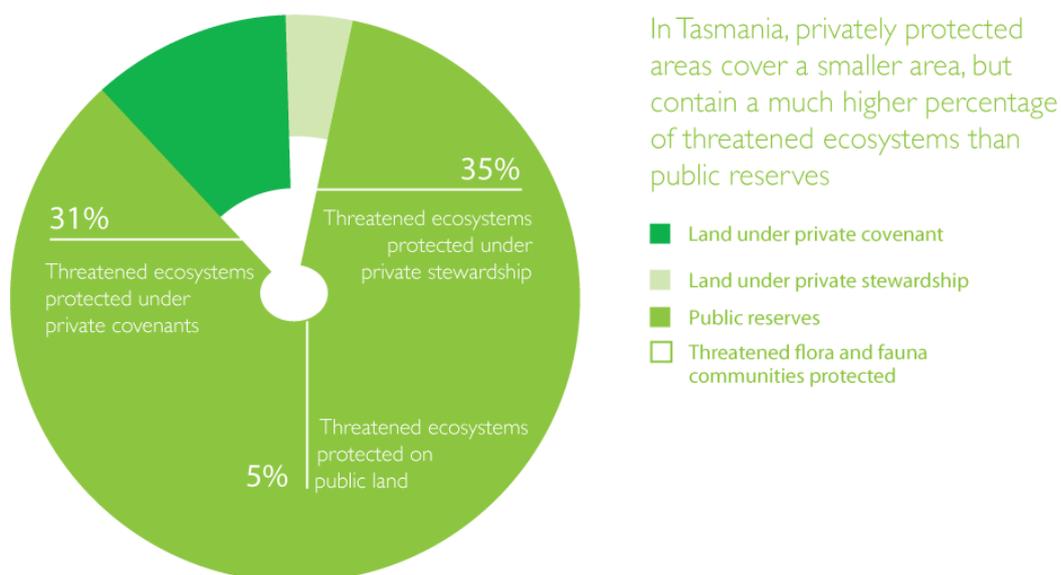


Figure 1 Relative performance of private vs public reserves in protecting threatened regional ecosystems

Next steps/future work

The TLC's prioritisation system helps to identify critical areas to add to the reserve system and to assess properties as they become available for acquisition.

As part of its current work the Science Council has identified the need for further analysis to ascertain reserve system requirements for fauna species. This is a key focus for the next 12 months.

TLC is also working on the fourth element of the overall framework: seeking to understand how the reserve system connects and integrates into the wider landscape and into the Tasmanian community. This is critical. Without "off reserve" management, and clear and enthusiastic support from our community, even the best reserve system will fail to protect our precious plants, animals and ecosystem into the future. There is much to do.