

PRESERVING BIODIVERSITY AND COMBATING CLIMATE CHANGE

BACKGROUND

Australia is grappling with the dual challenges of being a global extinction hotspot and falling short in conservation efforts and emissions reductions targets, with biodiversity and climate change closely intertwined. Loss of biodiversity worsens climate change by diminishing the Earth's capacity to absorb and store greenhouse gases, while climate change exacerbates biodiversity loss by altering habitats and climatic suitability. In Western Australia's South Western Australian Floristic Region (SWAFR), an internationally listed biodiversity hotspot, decades of habitat degradation have eroded over 70% of this unique ecosystem. Four of BHA's Fitz-Stirling properties are located within the UNESCO-designated Fitzgerald Biosphere, a site recognized for its exceptional natural values and ongoing conservation challenges, emphasizing the need to balance sustainable development with biodiversity preservation. Another BHA reserve is situated along the border of the Biosphere, with many other partnership properties either included or neighbouring.

The region has experienced significant land clearing for agriculture and development, leaving isolated habitat remnants. Australia's high rate of land clearing has placed it among the top 10 nations globally for this activity, threatening irreplaceable, high-quality habitat. In this context, climate change compounds challenges, making landscape connectivity crucial for native species' survival as they seek safer conditions. These intertwined issues underscore the urgent need for comprehensive conservation strategies to safeguard this unique and fragile ecosystem.

CHALLENGE

Recent reviews of natural resource management programs have highlighted the expense and difficulty of restoring habitat to a complexity and structure that resembles intact native vegetation. Retaining and restoring diverse ecosystems, like woodlands, forests, and waterways, offers an efficient and cost-effective means to reduce emissions and harness nature's benefits. It enhances local environments, prevents erosion, reduces clean water production costs, and bolsters disaster resilience. Environmental accounts demonstrate the value of maintaining vegetation for water, carbon, soil, pollinators, and tourism. Furthermore, the intangible benefits, including cultural connections and identification with wildlife, underscore the importance of preserving cultural and natural heritage.

Land clearing and deforestation are primary drivers of global extinction. Australian agriculture accounts for 55% of Australian land use significantly impacting biodiversity, demonstrating the need for collaboration with farmers and pastoral corporations to monitor and sustainably manage these vital habitats.

SOLUTION

Bush Heritage's approach focuses on large-scale solutions, reserving land for conservation to create interconnected habitat corridors for native species to adapt to changing climate conditions. Revitalizing cleared land plays a significant role in reconnecting fragmented bushland and sequestering carbon.

Management of Beringa, Chereninup, Ediegarrup, Monjebup, Monjebup North, and Red Moort Reserves contribute to safeguarding over 6,000 hectares of critical bushland and restored farmland. In 2021, we updated our knowledge of habitat condition, protection levels, and potential threats, incorporating research from CSIRO, DAWE, and national datasets. This comprehensive approach considers ecological change, climate change impacts, resilience areas, and factors influencing future biodiversity protection and landscape management. Learn more at [ConservationFutures.org.au](https://www.conservationfutures.org.au).



Honey Possum from Fitzgerald Biosphere



Bush Heritage (BHA) is a prominent non-profit conservation organization dedicated to preserving Australian ecosystems and wildlife through science-based conservation efforts, creating a landscape-scale impact. Embedded in the BHA 2030 Strategy is a goal to enhance biodiversity across 10 million hectares of agricultural land, and, in doing so, help foster more sustainable and resilient production systems.

BHA is a stakeholder within the Fitzgerald Biosphere Community Collective, the governing body for UNESCO's Fitzgerald Biosphere.

Within the South West of Australia, BHA has a focus on landscape connectivity focussed on the vision of Gondwana Link, an ambitious plan to connect the forests of the South West Capes across to the Greater Western woodlands over a 1000 km swathe, including the focus area between the Fitzgerald River and Stirling Range National Parks, known as the Fitz-Stirlings.



IMPLEMENTATION

Monjebup North Eco Restoration Project

In 2011, BHA partnered with Threshold Environmental to create an Ecological Restoration Plan for 400 hectares of marginal farmland, facilitating the reconnection of Corackerup Nature Reserve to a continuous native remnant ecosystem. Subsequently, further innovative restoration work was undertaken at Monjebup North, building on the knowledge gained from the initial planning.

This work commenced in 2012 and included:

- Direct Seeding using locally native species found in the vegetation communities from the area
- 13 different vegetation associations systems defined and planted
- 148 plant species included
- 203 seedling nodes of specialty species planted by hand
- Many thousand proteaceous rich seedlings planted to promote feeding habitat for the Threatened Carnaby's Cockatoo
- 16 habitat debris piles constructed
- 184 fire responsive serotinous branch and seed piles burnt in situ

More information can be found here: <https://thresholdenvironmental.files.wordpress.com/2016/02/vegetation-association-monjebup-north.pdf>

New seedlings have been steadily introduced and the presence of species like Malleefowl, Tammar Wallaby and Carnaby's Black Cockatoo confirmed. Artificial nest boxes support Pygmy Possums, with ongoing efforts focused on controlling feral animals and further landscape restoration to enhance their continued recovery.

Michael Tichbon Field Station at Red Moort

In addition to their restoration efforts, BHA operates the Michael Tichbon Field Station at Red Moort. This conservation operations and research hub is entirely off-grid and places a strong emphasis on sustainability. It incorporates various eco-friendly features, including an off-grid solar power system that provides energy for the facility, composting toilets for environmentally responsible waste management, on-site water collection capabilities with a capacity exceeding 200 kilolitres, a solar passive design to optimise energy efficiency, and employs a limited heating and cooling system to minimise environmental impact.

RESULTS

The restoration efforts spanning over 400 hectares at Monjebup North reserve have successfully reconnected cleared land between remnant bush areas in the south and the Corackerup Nature Reserve to the north. This vital restoration was further reinforced in early 2022 with the acquisition of Ediegarrup Reserve, a 1067-hectare property located on Koreng Noongar Country. In collaboration with Greening Australia, comprehensive plans have been developed to revegetate more than 600 hectares of cleared land on Ediegarrup, contributing to the habitat for vulnerable species like Malleefowl, Western Whipbird, Carnaby's Cockatoo, Tammar Wallaby, and Western Pygmy Possum. This restoration project aims to recreate the diverse mix of native species that once thrived on Ediegarrup, utilising lessons learned from the successful Monjebup Reserve restoration. Over the next three years, at least 150 native plant species will be introduced through seeding and planting, accompanied by the installation of rock and log structures to encourage native animal movement. It's expected that this initiative will sequester approximately 85,000 tonnes of carbon from the atmosphere, equivalent to removing 80,000 cars from the road over the project's lifetime.



Drone shot of Monjebup North Revegetation
Image credit: Lewi Marr



Revegetation at Monjebup North 2023



Mallee fowl mound in Monjebup North revegetation

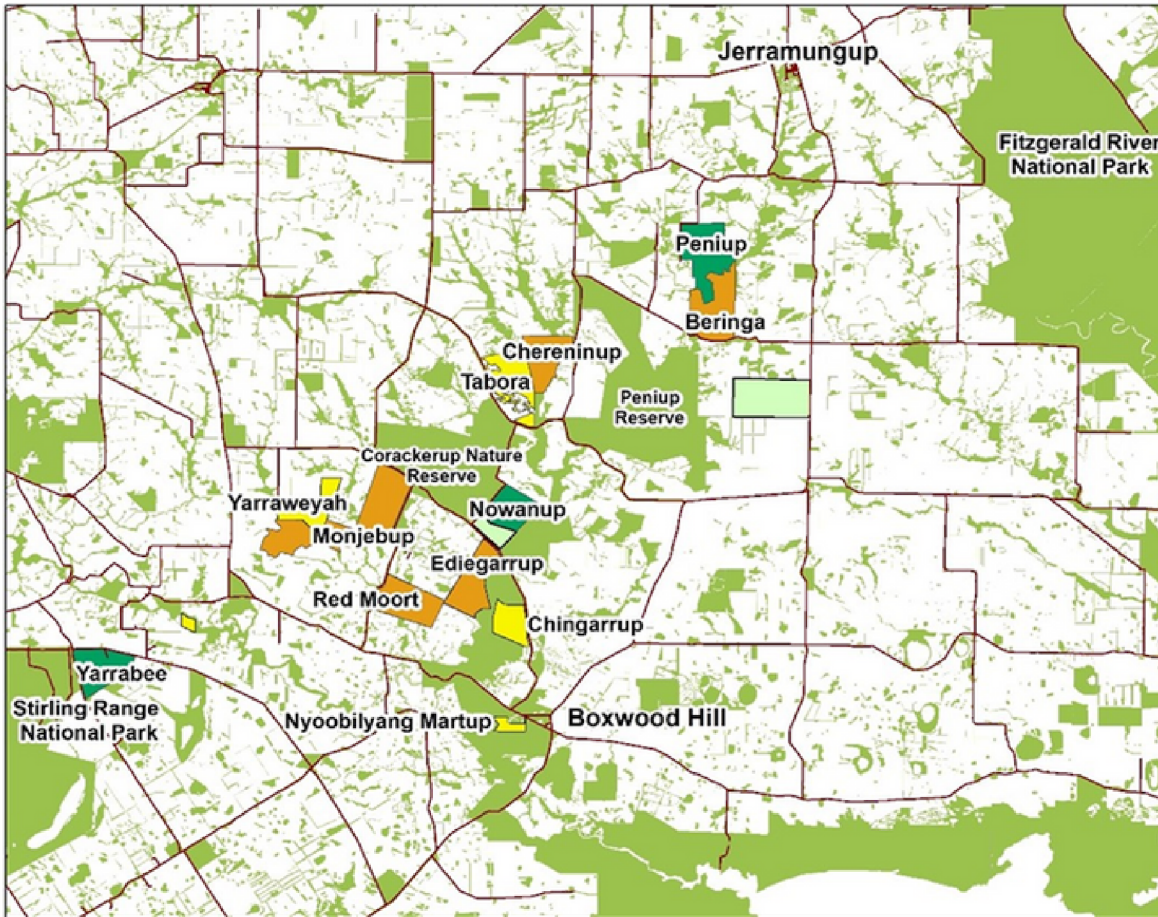


Pygmy possum within nesting boxes positioned within Monjebup Revegetation

GUIDING CONSERVATION PRACTICES

To ensure transparency and accountability, Bush Heritage has adopted the Global Impact Investing Network 'Impact Reporting and Investment Standards'. Additionally, the organisation has embraced the Open Standards for the Practice of Conservation as its fundamental business process. This adapted framework, known as the Bush Heritage Conservation Management Process, serves as a guiding system for conservation strategy, planning, implementation, monitoring, and reporting. Conservation scorecards and evaluation summary reports are integral tools employed by Bush Heritage to monitor and report on the conservation results achieved across its reserves and partnership lands.

FitzStirling Conservation Properties



Legend

Reserves Ownership

- Bush Heritage Australia
- Greening Australia
- Private Conservation
- Carbon Farms
- Remnant Vegetation



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Compiled by A. Sanders Jan 2022