• Connectivity Conservation •

Revegetation and Protection of a Biodiversity Hotspot

These restoration works support the Gondwana Link project which aims to reconnect the Margaret River to the edge of the Nullarbor.

South-west Western Australia has an extremely rich natural heritage and is recognised internationally as a significant biodiversity hotspot. Working with partners in the south coast region over the past decade, South Coast NRM has successfully implemented over 7,300 ha of targeted revegetation to improve the connectivity of fragmented landscapes.

Conserving the integrity and diversity of nature by reconnecting landscapes plays a major part in nature conservation efforts.

It improves the distribution of native species, genetic diversity and the ability of species to respond to changing conditions due to climate change.

Restoring and protecting strategic wildlife corridors between protected and other core habitat areas is called ***Connectivity Conservation.***

7,300 ha
of native bush restored

an area greater than the Perth metropolitan footprint

These works have contributed to federal, state and local government strategic outcomes for biodiversity conservation, including:

- the Australian Government's National Corridors Plan (2012),
- the Australian Biodiversity Conservation Strategy 2010-2030,
- the National Threatened Species Strategy 2015.

A STRATEGIC APPROACH

Working with our community partners, South Coast NRM has achieved valuable and significant landscape scale outcomes for biodiversity conservation on the south coast.

The innovative West Australian South Coast Macro Corridor Network developed in 2006 provided cutting edge, regional scale direction for strategic revegetation works in key coastal and Gondwana Link corridor areas.

Since then South Coast NRM has further refined targeted planning documents including Southern Prospects, the regional strategy for natural resource management and the Biodiversity Prioritisation and Biosequestraton Modelling and Analysis to guide biodiversity outcomes.

SPECIES RECOVERY

The response of wildlife to revegetation is a great indicator of success. Our strong partnerships are a vital part of this success in delivering important targeted projects.

The following examples from our partnership with Bush Heritage Australia show that after just a few years of returning paddocks back to bush, the animals too are returning.

Honey Possum

In 2016 during annual environmental monitoring Bush Heritage Australia ecologists were thrilled to discover Honey Possums (Tarsipes rostratus) in their 2012 revegetation.

These creatures are truly unique, being the only nectar feeding marsupial in the world and are endemic to the south west.

Birds

Monitoring was undertaken at 20 sites over four catchment areas to provide insight into birds utilising revegetation.

The surveys found that species richness increased with the time since revegetation and was also influenced by the extent and quality of adjoining natural vegetation.

Even degraded natural remnant bush was found to be valuable habitat when tree cover and woody ground debris were maintained.

This was most apparent with the exciting discovery of the habitat-sensitive Western Whipbird within revegetation in close proximity to remnant bushland.

Mallee Fowl

At another Bush Heritage Australia site, a further significant discovery was unearthed recently with the sighting of a new Malleefowl (Leipoa ocellata) nest within the 2012 restoration. These unique mound building birds are listed as Vulnerable nationally and on the IUCN Red List of Threatened Species.

Black-gloved wallaby

Black-gloved wallabies (Macropus irma) are endemic to south-west Western Australia. They are WA Priority Fauna and conservation target species because they are the second largest mammal species in the region and rely on intact habitat with understorey and connectivity.

In 2016 South Coast NRM developed a standard protocol to assist local catchment groups to monitor wallabies in revegetated and remnant bushland. During the surveys no wallabies were observed using the paddock, however, low numbers were noted in revegetation.

Other native species including echidna and a variety of bird species were also recorded.

MONITORING THE SUCCESS

Revegetation across the region has been undertaken by planting seeds and seedlings to provide food and habitat for threatened species listed in the Environment Protection and Biodiversity Conservation Act.

Flora and fauna surveys have been used to show the biodiversity response to revegetation, provide insights into the effectiveness of restoration activities and also act as the basis for further research and monitoring.

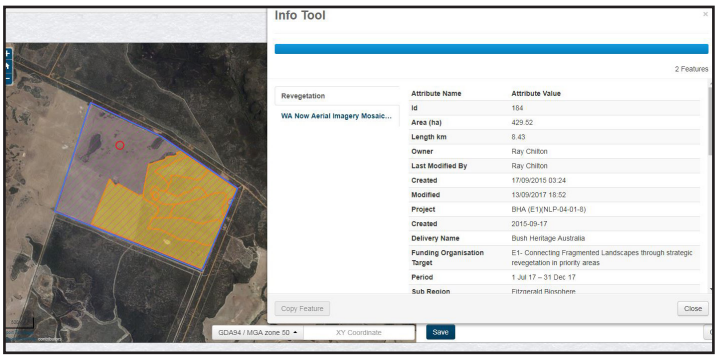
The surveys showed some interesting results, including that:

- organic litter, which provides important habitat, mirrored natural remnant vegetation levels in older revegetation sites.
- plant species survival rates ranged up to 65% in < 2 year old plantings and up to 35% in older (4 year+) plantings. This research has been used to inform adaptive management practices.
- both small and large scale revegetation had similar species survival rates.

INNOVATION

South Coast NRM continue to use the latest techology and concepts to benefit biodiversity outcomes.

In 2016, South Coast NRM created the first spatial GIS dataset of known historic revegetation works across the region.



Building on that, South Coast NRM then worked collaboratively to utilise a new online Geographic Reporting Information Database (GRID) that allows the immediate capture of key on ground works within a GIS platform.

GRID improves efficiency in planning, management and reporting.

DRONES

Traditional methods of monitoring vegetation structure and extent involve on-ground assessments of transects and/or quadrants and can be resource intensive.

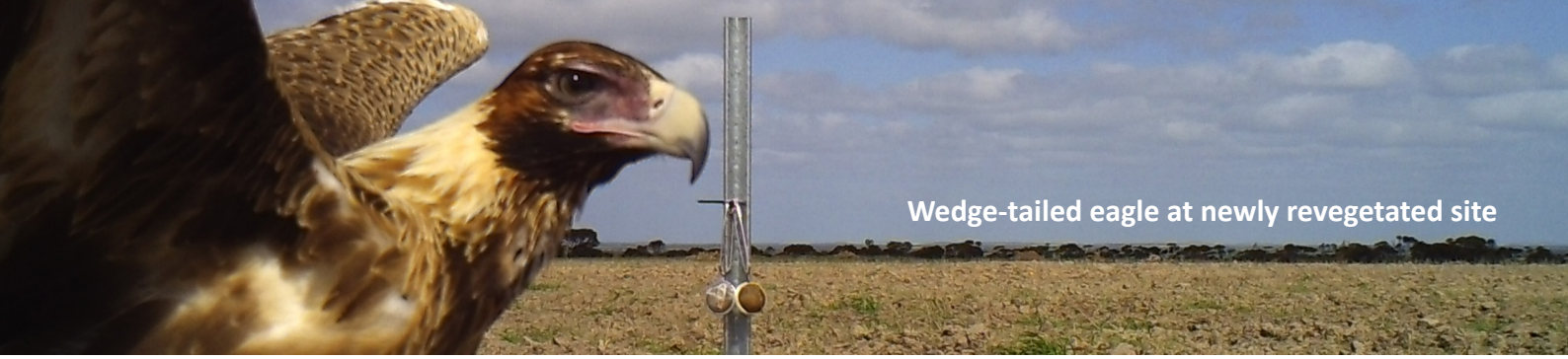
South Coast NRM undertook pilot monitoring activities using drone technologies to assess vegetation extent, cover and health using remote sensing.

The data collected shows the potential of drone technology to capture highly precise and repeatable assessment data to inform revegetation success over time.

WALLABY GATES

Fencing to restrict stock may also impede movement of native fauna. Specialised "wallaby gates" were designed and installed to assist wildlife movement through the lanadscape.

Monitoring showed wallabies will use the gates after about four months.



Wedge-tailed eagle at newly revegetated site

PARTNERSHIPS AND OUR COMMUNITY

South Coast Natural Resource Management successfully partners with diverse groups involved in the management or use of natural landscapes for the greatest environmental benefits. Working together across the south coast region of Western Australia over the past 23 years, our community partners include local and state government, universities, catchment groups and non-profit organisations.

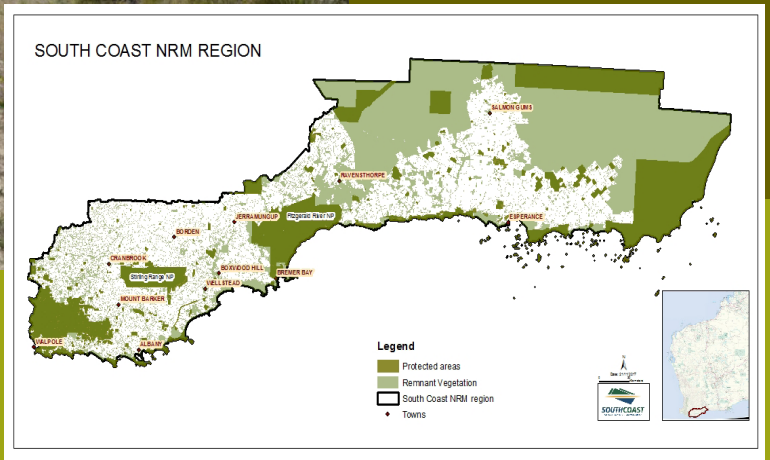
South Coast NRM has successfully implemented over 7,300ha of targeted revegetation to improve the connectivity of fragmented landscapes. The practical innovations and research understanding developed during projects directly inform biodiversity conservation and restoration in the region into the future.

South Coast NRM projects support implementation of Conservation Action Plans (CAPS) implemented by catchment groups to guide on ground conservation efforts by the development of focused strategies and measures of success. By using local expertise, many solutions and co-operative activities can be successfully achieved, including broadening of programs and wildlife monitoring, both of which are enhanced by local and scientific knowledge and volunteer assistance.

The success of South Coast NRM partnerships was recently acknowledged through recognition as a W.A. finalist in the 2017 Australian Government *Partnerships for Landcare* Award.

Reveg and Remnant bush

Outstanding revegetation results have led the way in the protection and restoration of the South Coast WA region .



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