HOTSPOTS FIRE PROJECT

Fire in South Mullion Reserve: A long time coming

Rosemary and Geoff are exploring fire as a management tool in long-unburnt country.

Quiet on the fire front

When it comes to fire, everything changes when you leave the coast and head inland to the state's Central West. A lot of the bush hasn't seen fire for a long time, in some places as long as 100 years…

Do we need it?

Up on the tablelands around Orange it's thought that historically, fires tended to start in the Goobang Ranges and trickle east on a fairly regular basis. Nowadays, this no longer happens. These long-unburnt areas are at risk of unplanned fire so many are keen for a more proactive approach to fire management.

Because this country is largely privately owned, the potential exists for landholders to play an active role in fire management on their properties. But first things first; landholders need good information and examples of fire management in action.

Breaking new ground

The potential use of fire as a management tool in long-unburnt country is prompting a range of interested people to work together in the Orange region. According to Geoff Selwood from the Rural Fire Service "the environment needs fire but we need to have the knowledge and expertise to manage it."

This need for knowledge has him working on a project at South Mullion Reserve, a 539 hectare area of natural woodland near Orange. This reserve is a logical choice for studying the use of planned fire in long-unburnt country.

Part of the Canobolas Regional Parklands (crown land managed by the NSW Department of Lands), the reserve has been untouched by fire for many decades, possibly 80-100 years. Recent survey work has been carried out by the National Parks Association of New South Wales, Charles Sturt University and the Orange Field Naturalists and Conservation Society. Thanks to the efforts of these committed community members and researchers, Geoff and the group of TAFE students he works with can access and hopefully build on existing knowledge.

With the support of the Department of Lands, Geoff, along with private landholders in the area, is planning to apply fire to a section of the reserve as part of a series of hazard reduction burns throughout the Orange district. Autumn represents the best opportunity for the burn, since early spring is usually too wet and summer too risky. It won't be a particularly large burn, but the need to protect adjacent private land will see the involvement of at least four local brigades. In addition, part of the plan includes leaving an adjacent section unburnt.

In time, Geoff hopes to get local TAFE and community groups involved in monitoring and observation activities.

Fire effects

It will be fascinating to see how the bush responds to the burn. For some types of trees and shrubs, the fire might trigger seed stored in the soil to germinate, potentially leading to a thickening of the understorey. Another possibility is that species not previously recorded at the site - or not seen for a long time - could make an appearance. The fire might also stimulate existing plants to flower and fruit or to put out new growth.

The mature state of some of the vegetation is not necessarily a bad thing; this older vegetation provides habitat for many plants and animals. It will be interesting, however, to see whether particular plants and animals take advantage of the different type of habitat created by the planned fire. (This is why fire managers often vary their use of fire - their intention is to maintain a variety of habitats across the landscape.)

In terms of any future burns, care will need to be taken to accommodate the reproductive cycles of the plants. For species whose adults are killed by fire, the seedlings that come up after the burn need enough time to mature and produce seed of their own before the next fire. Six of the shrub species identified in the recent biodiversity survey for South Mullion Reserve have these 'obligate seeder' characteristics and may face local extinction if subsequent fires occur too soon.

As is often the case with fire management, it will be important to continually strive to better understand how the ecosystem works and how best to tackle fire management in the years to come.

Nature Conservation Council of NSW
Environmental TRUST
FIREWISE
This project has been assisted by the New South Wales Government through its Environmental Trust.

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SOUTH MULLION IN BRIEF

Location: 11 km north east of Orange Post Office

Area: 539.2 ha (3 adjacent blocks)

Mean annual rainfall: 944 mm

Landuse: Conservation and recreation (eg. archery, camping, nature appreciation)

Vegetation types: Dry sclerophyll forest, heath.

Landform and soil types: Undulating to rugged terrain. Ridgetops and steep hillsides, shallow loams and sands. Colluvial in gullies and lower slopes.

The reserve is home to a variety of wildlife including the powerful owl.

Crossing boundaries

Geoff and others from the Rural Fire Service work closely with the National Parks and Wildlife Service because they know that fire affects the whole of the landscape. They recognise the value of sharing information and planning together to manage biodiversity and prioritise risk across different land tenures.

Rosemary Smith, a fire management officer with the National Parks and Wildlife Service, shares Geoff's vision of maximising the protection of both property and environmental values. In particular, Rosemary sees value in establishing "management patches". This would allow fuel loads to be broken up, which would lessen the chance of unplanned fires on a large and devastating scale. As well as affecting people and property, serious wildfires can have grave consequences for already-struggling wildlife. In the 1970s for example, a wildfire in Weddin Mountains National Park wiped out the entire population of brush-tailed rock-wallabies.

Other benefits of managing in patches relate to the more immediate effects of the planned burn. For example, unburnt patches can provide refuges for animals and a seed source for plants to recolonise burnt areas.

The National Parks and Wildlife Service is eager to spend the next few years looking at areas that have experienced wildfire and hazard reduction burns across the region. Among other things, they will do fuel assessments and take before and after photos of sites to see how fire affects the character of the vegetation and the mix of species.

Ultimately, Rosemary hopes the efforts of land managers working together can start changing the nature of fire and its effects. "Our long term goal is to vary the way that fire is being applied - making sure that there is variation in extent, intensity and frequency to maximise biodiversity outcomes for our parks in the Central West. The RFS is an integral partner in this challenge; we could not do it without their skills and support."

WHAT LAND MANAGERS CAN DO

Consider the potential of the careful, planned use of fire in managing long-unburnt vegetation and breaking up fuel loads.

Before you burn, seek advice from the Rural Fire Service and other experts to ensure safe, effective practices. Learn from the work they are doing, such as this project at South Mullion Reserve.

Collaborate with your neighbours and other land managers. Together, try to aim for a mosaic of vegetation in different stages of post-fire development. When dealing with one block of vegetation, aim for patchiness - don't burn the whole place at once.

Reading

Bower, C.C. (2005) *NPA Biodiversity Survey, South Mullion Reserve - Flora*. Report to the National Parks Association of NSW (unpublished).

Further Information

The Hotspots Fire Project is funded by the New South Wales Government through its Environmental Trust. For further information contact the Project Coordinator on (02) 9279 2466, email hotspots@nccnsw.org.au or visit www.hotspotsfireproject.org.au.

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