Promoting feed for winter grazing and reducing wildfire threat. Alison Napier, Millbrook, St Marys.

Aim

Fire is being used to promote winter grazing for beef cows and to reduce wildfire threat to major assets and infrastructure including the Cornwall Coal Mine and the Cornwall and St Mary's townships.

Background

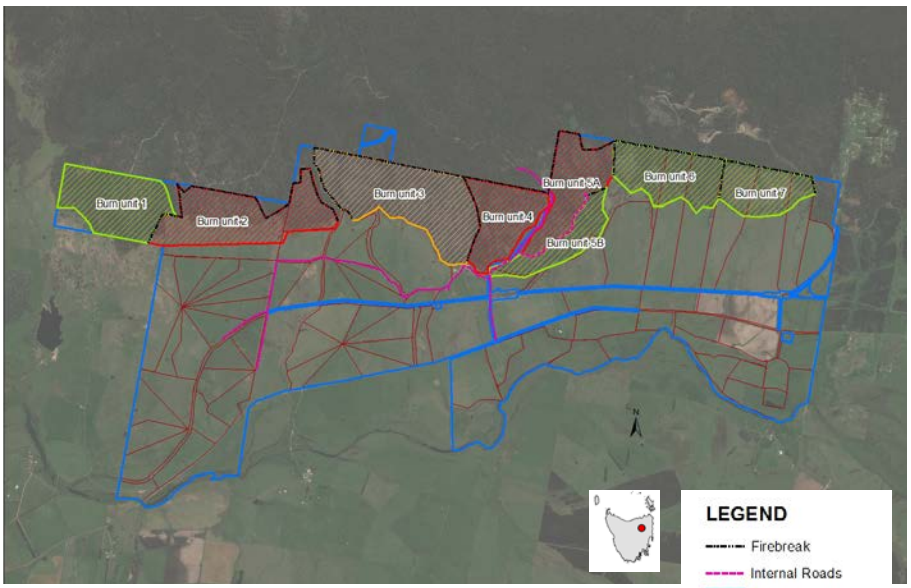
All of the bush areas on the property (except unit 1) are used to graze beef cows during the winter.

Having access to the bush runs for winter grazing is very important to the overall farm production system:

- the improved pasture paddocks can be rested for longer periods during the winter months.
- minimises risk of soil pugging of improved pastures (situated on the lower lying country).
- improves parasite management.

In 2012 the majority of the bush areas on Millbrook had not been burnt or gazed for 20+ years, so fuel hazard was high and the grazing values low. Alison decided to implement a whole farm fire management plan which promoted green pick and improved the winter grazing (feed quality and quantity).

After the initial burn cattle will be used to maintain reduced fuel loads as much as possible, with limited burning intended long term.



Millbrook

- 1,600ha grazing property.
- 470ha of native vegetation.

One of the burn units at Millbrook

Native grasses and herbs found in the bush runs

Preparing firebreaks before burning

Implementing the fire management plan

The 400ha of bush country has been fenced into seven runs (each designated as a burn unit). Since spring 2012 a number burns have been done on Millbrook. Tracks surrounding the units were either upgraded or constructed before burning.

Section 2 – 100% burnt in October 2012
Black peppermint forest with grassy understorey. The burn conducted was low intensity and in early 2015 had a good diversity of native herbs and grasses, but very little eucalypt regeneration.

Section 3 – 40% burnt in May 2013
Black peppermint forest with grassy understorey. The boundaries of this section were burnt in 2013 and burning the remaining area is a very high priority.

Section 4 – 100% burnt in October 2013
Black peppermint forest with grassy understorey. This was a very hot burn which caused high mortality of standing eucalypt trees, but has stimulated growth of a large number of eucalypt seedlings.

Section 5A – 100% burnt in spring 2012
Black peppermint forest with a native grass and sagg understorey. The burn was relatively low intensity and resulted in mass regeneration of wattle seedlings but very little eucalypt regeneration.

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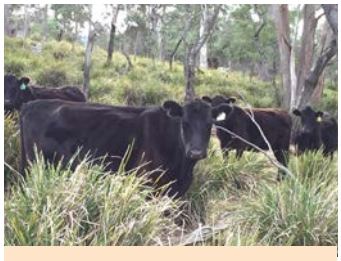
"When we burnt we relied heavily on my father's skills and knowledge which he has gained through a life time of burning and grazing bush blocks. The Red Hot Tips program was a great way to formalise the skills Dad has taught me. I now feel more confident to use fire as an ongoing management tool in the future."

Alison Napier.



Cows in the bush run

Section4 - high mortality of mature trees, but high density of seedlings

Grazing management post fire

Cattle spend approximately 12 weeks during winter each year rotating through the separate bush runs. The length of time depends on stock numbers and feed availability. Alison carefully manages to ensure there is sufficient feed for the cattle so the bush runs aren't over grazed.

1. Before grazing the bush runs are assessed for feed availability (DM/ha) and the rotation lengths are estimated (i.e. how long the cows are expected to graze each run for).
2. A combination of the following factors determine when cows are moved on; amount of residual grass; the cow's grazing habits and condition score.
3. Feed availability during grazing is monitored regularly.
4. Control grazing pressure in the bush runs through fencing. Fencing also enables stock to be moved quickly and easily.

The feed quality of green leafy native pastures is typically suitable as a maintenance diet.

Fire burning out at vegetation boundary

Patrolling a less secure boundary

Key learnings

- Our burn area preparation was excellent which became very important when two of the burns did not go as originally planned. We had good access around and through the burn areas which was essential when we needed to control the fires.
- The tracks around and through the fire blocks also made post fire monitoring very easy, this was important as we burnt in the spring and needed to ensure nothing was still burning leading into the hotter months.
- The importance of understanding and balancing all the different factors that influence a fire against each other is essential. Conditions leading up to the burn, during the burn and post burn all play a part in a successful outcome.
- The need to be flexible in the timing of the fire. In the St Marys area the window for good, safe burning conditions may not be very big so early preparation and readiness is as important as the understanding and acknowledgement that conditions are not suitable and that the planned burn may have to wait for 6 - 12 months.

Future Management

While the aim is to use cattle grazing to keep the fuel hazard ratings to an acceptable level of risk, it is likely that plants such as sagg will not be able to be managed solely through grazing, as they quickly produce unpalatable, dead material which cattle are unlikely to graze. There are also issues associated with the mass regeneration of wattle seedlings, which will need to be managed.

A combination of small mosaic burns within the units, combined with grazing, is likely to give the best result long term.

While the initial burns were all done in spring, in future the mosaic burns may be done in autumn or spring. Where autumn burns are used, leaving the burnt area ungrazed for one winter and into the following spring, enables grasses to recover and reducing the likelihood of weed infestations.

When combining burning and grazing it is critical to enable the grasses to recover before being grazed. If grazed too soon areas of bare ground will be vulnerable to invasion by weeds such as thistles and annual grasses, significantly reducing the productivity and biodiversity values of the native bush.

Post burn

Burning off a boundary

This case study has been prepared as part of the Red Hot Tips project delivered by Macquarie Franklin and funded by the Tasmanian Government. For more information please contact Leanne Sherriff by emailing lsherrif@macfrank.com.au or visit www.sfmc.tas.gov.au/red-hot-tips