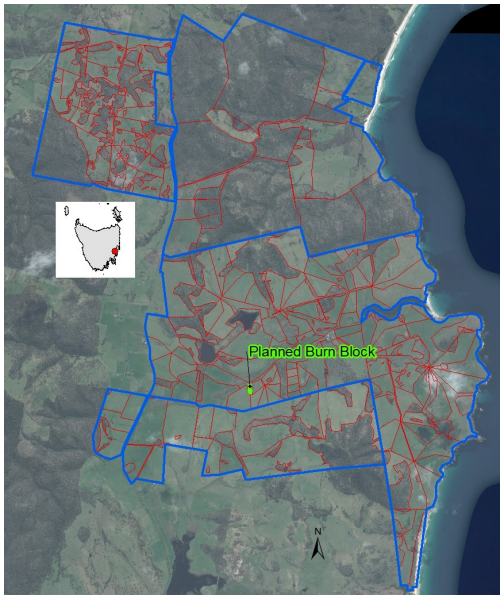
# Planned burning in remnant bush for native tree regeneration.

William & Melissa Fergusson, Grindstone Bay, Triabunna




"I want to use fire to better manage and reduce fuel loads, improve biodiversity and grazing outcomes on my property. The Red Hot Tips project gave me the opportunity to increase my confidence in undertaking planned burning. Before the project I occasionally burnt very small areas, now I have more confidence to tackle larger areas." William Fergusson.

## Grindstone Bay - facts & figures

- 5,540ha grazing property (1760ha leased).
- 2,200ha of native vegetation.
- Majority of the property has not been burnt for 30+ years.
- Fire equipment: 2 x drip torches, 1 x 1000L trailer mounted tank, 1 x 400L slip on foam inducted unit, 2 x rake hoes, knapsacks, Kestrel 3000 (weather monitor), 4 x tractors, discs and ploughs.

**A fire management plan was developed for Grindstone Bay identifying fire management goals including ecological, green pick, weed and fuel reduction objectives, asset protection, potential fire breaks, threats and threatened species, and resources available for fire management.**

## Aim of the burn

To encourage native tree regeneration, whilst protecting fences.

## Background

The 2ha remnant black peppermint forest has a grass and sagg understorey and an overall fuel hazard rating of high. This vegetation type (DAS) is a threatened community. The block has not been burnt in over 30 years, and has been fenced from stock for 20 years. There is also an internal fence running from north to south. Some of the threatened animals which may be found in this block include the Tasmanian devil and the eastern barred bandicoot. The block is positioned at sea level and is flat, with similar vegetation and fuels throughout.

The block is surrounded by pasture except for the northern boundary where there is a gravel road. In order to protect the internal fence line the landholders ensured the fence line was accessible by 4WD vehicle.

## The day of the burn (14 May 2014)

**People and Equipment**

1 x 400L slip-on foam inducted unit manned by two people wetting down fences and monitoring the fire. One person was lighting the fire with a drip torch. A 1000L trailer mounted tank and tractor was positioned next to the safety zone, in case additional water was required, and as a backup.

**Participants arrived and burn plan developed.**

| | | |
|---|---|---|
| **RH**: 64% | **Wind**: NW@18km/hr | **Temp**: 17°C |

The day of the burn began overcast with a relatively high wind speed of 18km/hr (from the NW). At this time of year the paddocks surrounding the block were green and had relatively high fuel moisture, and the fuel moistures in the bush to be burnt were also high. This meant that the risk of escapes were minimal so it was decided that the burn would go ahead.

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"This case study burn taught me the importance of planning and preparation. We needed to protect the fences in the burn block and it is easy to think that you need to do a lot of on-ground work such as clearing an earth boundary. However since we took the time to develop the burn plan we were able to protect the fence by the way we lit the block. Additionally, we were also able to identify risks and develop contingency plans, reducing the overall risk of burning." William Fergusson

**1pm – ignition lines 1-3**

| | | |
|---|---|---|
| **RH**: 60% | **Wind**: NW@11km/hr | **Temp**: 17°C |

By the time burning started the wind had decreased to 11km/hr, however this did not result in any changes being required to the burn plan. The first task was to protect the most southern and eastern boundaries downwind of the north westerly wind.

To start, the fence along the southern boundary was wet down with foam (wet line 1) and back lit 5m from the fence (ignition line 1). Lighting was done within 10 minutes of laying out the wet line. The flames reached the wet line and extinguished. This same process was completed for the eastern boundary (ignition line 2 and wet line 2).

Due to the continuous, high fuel hazard created by the grass, the fire was burning quickly. To reduce the level of fire behaviour (intensity and speed) the lighting pattern was altered, so that ignition line 3 was lit as spots, rather than a continuous line of fire.

While ignition line 3 was being lit, the slip on tank needed to be filled from the dam close by, so the tractor was used in place of the slip on unit to wet down the internal fence. Everything was running smoothly until the spray nozzle on the tractor ceased to work. However, since equipment failure was identified in the planning phase as a risk, two fire units were present for this burn so the slip on tank unit was able to finish wetting down the fence line with no damage to the fence or fire escapes being a problem.

**2.15pm – ignition lines 4 & 5**

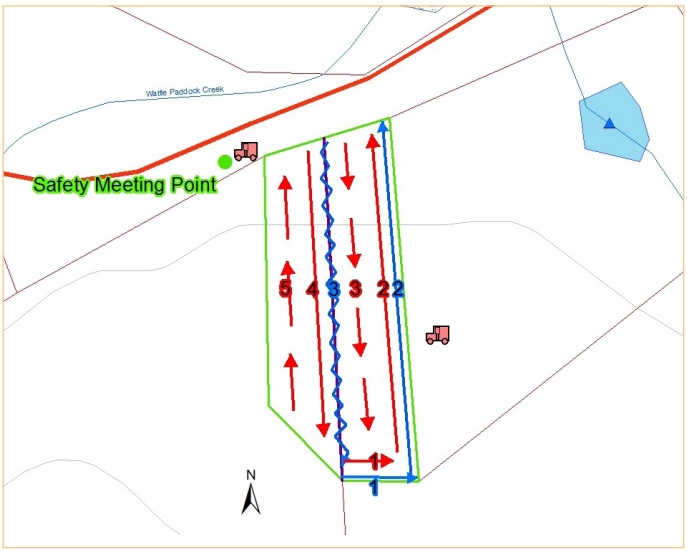
| | | |
|---|---|---|
| **RH**: 58% | **Wind**: NW@6km/hr | **Temp**: 17°C |

By the time the final sections were ready to be lit, the wind speed had decreased to 6 km/hr however, this did not require any adjustment to the burn plan.

Wet line 3 was applied to the internal fence line. Ignition line 4 was then lit 5m to the west of the fence line and extinguished once it reached the wet line. The final ignition line 5 was then lit as spots.

**3:30pm – Planned burn finished**

90% of the block was burnt and all fences were successfully protected.




## Key learnings

- Good planning is critical to minimise the risks associated with planned burning. In this case study burn the trailer mounted tank broke down part way through, but since this potential risk had been identified in the planning phase there was a contingency plan with a back-up unit in place
- It is critical to monitor the fire and the weather as the burn is progressing, and make any adjustments to minimise risks and achieve your outcomes. In this case the level of fire behaviour was too high, so it was reduced by altering the lighting technique
- You can control the intensity of the fire by how it is lit - in this instance, lighting spots was used to decrease the rate of spread and intensity.
- Lighting late in autumn when the surrounding paddocks are green means that boundaries are more secure, than if the burn was done earlier in the season.

## What next

- Monitor regeneration & recovery of native plants.

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 Bronnie Grieve on 0400763904 or visit www.macquariefranklin.com.au/red-hot-tips.html or www.sfmc.tas.gov.au/red-hot-tips.