

## **OPERATIONAL REVIEW OF DON\_100 WEINUP PRESCRIBED BURN**

Department of Biodiversity, Conservation and Attractions' (DBCA) operational review to consider the prescribed burn operation and outcomes against the success criteria for the burn.

### **Observations and Discussions**

#### **Burn Objectives and Success Criteria**

DON\_100 had two objectives with one being related to providing strategic protection and local protection for the community and the second being to protect and maintain local biodiversity. The success criteria for the biodiversity objective was for no more than 10 per cent of mature forest canopy to be defoliated and that crown scorch in dominant and co-dominant trees is not to exceed 40 per cent of the forest areas within the burn boundary.

Preliminary indications are that the success criteria for this objective were not met particularly in relation to crown scorch with this potentially exceeding 50 per cent of the burn area. A final burn severity map is yet to be produced for DON\_100 due to issues of cloud cover on post burn images impeding the accuracy of this product.

**Action 1:** To better support post-burn success criteria assessment, Fire Management Services Branch (FMSB) to ensure DBCA's cross divisional Burn Severity Working Group continues developing the business processes required to generate burn severity map products for the South West Bushfire Risk Management Zone prior to the end of spring 2021.

#### **Soil Dryness Index (SDI) and Fuel Age**

On the day of the burn the SDI was 1520. There had been a 630-point fall in February from 1780 to 1150. Without follow up rain, the SDI had risen back to 1520 on the day of burn.

Current operational guidance indicates that where an SDI fall of 200+ occurs in autumn, this will result in 65 per cent-75 per cent of the area being burnt with crown scorch being within set limits. However, noting the fact the SDI was rising rather than falling and the fall had been associated with a summer rain event, it is likely that underlying soil dryness was greater than would be expected at this SDI level.

This issue was likely compounded by the fact that the burn area was 15 years since last burnt with a high concentration of understorey grass trees. These were at the highest concentration within gully systems and throughout jarrah regrowth areas. It is likely that the high concentration of elevated surface fuels contributed to a higher intensity of fire when the core ignition commenced.

**Action 2:** Prescribed burn plans with specific identified conservation values and success criteria to include a preferred SDI range for the prescribed burn in accordance with existing operational guidance material.

**Action 3:** For burn areas with identified conservation values and high fuel loads (12+ years), consider commencing the burn on the lower half of the prescribed Forest Fire Danger Index and/or altering ignition patterns.

## **Smoke and Grapes**

The morning of ignition, two to three hours was spent on vineyard consultation by the District Duty Officer and Operational Support Officer. There were concerns and pressures from vignerons for DBCA to select burns not impacting on vineyards. With the weather pattern leading up to and including on the day of burn, Weinup was assessed as having the least likelihood of impacting on vineyards.

**Action 4:** FMSB to provide guidance to DBCA regions regarding the importance of ensuring burn objectives can be achieved should there be trade-offs or constraints in relation to burn selection due to issues such as smoke and grapes.

## **Ignition**

Edging was not uniform and in some areas the edging was difficult to maintain because of mild weather conditions given the observed temperature for Manjimup on 25 March 2021 ranged from a minimum of 9.4 degrees Celsius to a maximum of 22.9 degrees Celsius.

Core ignition spacing was determined with the use of the Red Book (Forest Fire Behaviour Tables of Western Australia), based on the assessment of current fire behaviour from the edging and remaining available burn time (predicted 1800hrs). Relative humidity was forecast to increase after 1500hrs to 100 overnight.

**Action 5:** Review forecast and observed weather conditions, ignition pattern and burn outcomes against the post burn severity map to determine whether alternative lighting strategies may have mitigated higher burn intensity outcomes.

## **Fauna**

Corridors for fauna movement were maintained on day one without compromising on burn security. This was achieved against the adjacent 18-month-old cell west of the burn. This also assisted with traffic management requirements on Perup Rd. Day two ignitions also burnt out over night from spot edging on Kepal Rd. There was no evidence of sub-terranean damage for future food sources.

There were injured kangaroos on the adjacent private property post burn. The report was made to the Manjimup office and with unavailability of staff, DBCA did not attend the property for 24 hours.

**Action 6:** Upon being provided information relating to animal welfare issues, senior staff are to reprioritise resources to deal with the issue as soon as practicable. This may mean senior staff need to assist corporate firearms licence holders in the field. Staff should also keep community member(s) who provided the information up to date with how the issue is being addressed.

## **Conclusion**

DBCA acknowledges that the DON\_100 Weinup burn did not meet the stated objectives of the burn plan. Underlying soil dryness in portions of the burn area is likely to have been a contributing factor to there being more areas of high burn intensity than was planned to occur.

DBCA fully accepts all the actions identified in this operational review and will be prioritising them to minimise the likelihood of a similar event occurring in the future.