

**PROGRESS REPORT**  
**PROTECTIVE BUFFER BURNING - NEALE JUNCTION NATURE RESERVE**

**INTRODUCTION :** Following a fire history survey of Neale Junction Nature Reserve, it was found that this reserve was in urgent need of protection from fire. (Burrows 1988, progress report). The majority of this reserve contained old spinifex fuels ranging in age from about 16 - 40 years, leaving it vulnerable to the development of large fires. The reserve was given a high priority for both protective and patch burning, which was to be conducted within 5 years.

Neale Junction Nature Reserve has also been selected as a site to extend the animal re-introduction programme of locally extinct species, and depending on the success of re-introductions in the Gibson Desert Nature Reserve, a lead time of about 5 years exists. In this time habitat modification using different burning strategies should be imposed to prepare this site for re-introductions.

In an attempt to involve local aboriginal people in nature conservation on desert lands, a successful submission for funds was made to the Australian National Parks and Wildlife Service. These funds were to employ a number of aboriginal people to assist with the burning of strategic buffer strips in Neale Junction Nature Reserve.

This report discusses the results of the first burning operation carried out at Neale Junction in April 1990 with the assistance of aboriginal people contracted from Tjuntjuntjarra outstation, and presents a proposal for the second half of the contract set for early September 1990.

**METHODS :** Existing roads and exploration grid lines were used to carry out burning of buffer strips (see map attached). Four separate lighting teams were made up using C.A.L.M. staff and contracted aboriginal people. Each lighting team had one person with a drip torch sitting on the tray of the vehicle, igniting the verges of the road. Where fuels were too sparse or Mulga patches were growing on the roadsides, the vehicles were taken off road to ignite more continuous fuels.

A method of compiling a species list was trialed, using the tracking abilities of aboriginal people. This was carried out at only one site where both species and abundance were recorded.

**RESULTS & DISCUSSION :** The lighting teams were able to install about 15-20 km of fire line each per day, depending on conditions. Wind strengths were generally quite light and fire spread was variable. In some spinifex we had trouble to get the fire to spread more than one or two clumps, whereas some older interlocking spinifex travelled 1-1.5 km with winds of 5km/hr and temperature 35-39. This provided a low intensity fire

with flame heights < .5 m. The entire road system (marked on the map attached) ~~were~~ covered by the lighting teams in about 3 days. This was helped by the fact that several large fires the previous summer had burned out some extensive areas across the roads. In addition there were several areas of breakaway country which formed a natural break, where no buffer burning was required. The aboriginal people advised of areas that they didn't want burnt, for reasons of cultural significance. These areas were left or skirted around.

The species abundance counts collected from animal tracks identified 11 different species, 5 mammals, 4 reptiles and 2 birds. From the number of tracks of each specie a rudimentary abundance was given. This method showed potential and will be included as part of the programme for the second half of the contract.

**SECOND PART OF CONTRACT** -September 1990. During the first burning operation (april 1990) 130 - 150 km of buffer was established. However, due to low winds and patchy fuels a considerable amount was of poor quality. As a result, buffer strips will be thickened up during the September operation to the required standard. Aboriginal people will again be used on this work.

In addition to burning, species counts will be attempted using animal tracks. Areas representing different landforms will be selected and groups of aboriginal men or women will conduct the survey with research to document the results. If time permits this work may be extended to include the documentation of aboriginal plant names.

Bruce Ward  
T/O Fire Research

4th May 1990

## JOB PRESCRIPTION

JOB TITLE : Buffer Strip Burning

LOCATION : Neale Junction Nature Reserve

JOB O.I.C : Bruce Ward

SAFETY ANALYSIS REQUIRED? : No - Standard burning safety procedures.

MATERIALS / EQUIPMENT : Drip torches, Kerosene

WORK TO COMMENCE BY : 1-4-90      COMPLETED BY : 7-4-90

DISTRICT ADVISED DATE : 5-12-89

DIST CONTACT : Mike Tagliaferri

REASON FOR DOING JOB : Install burnt buffer strips to provide protection of Neale Junction Nature Reserve from wildfires and prepare this area for habitat modification.

DESCRIPTION AND METHOD : Prior to commencement of burning operations, all people involved will be given a briefing on the burning procedure. This will include;

- 1 Operation of drip torches.
- 2 Safety procedures.
- 3 The aims and the minimum standard of the burns.

The burning strategy will depend on daily wind direction and strength. However, the general procedure will be to use 4 or 5 lighting teams working along roadsides, each team starting at intervals about 5km apart. Once the first team links up with the team in front, they will "leap frog" to the end of the line. As this team moves up to commence another lighting, they will inspect the condition of the burns from the teams in front. If any sections are below the minimum standard, these are to be touched up as they go by.

Priority will be given to the boundary of the no burn area. See attached plan. This will be followed by the north-south roads. The objective is to create a continuously burnt strip of not less than 100m in width. This strip is to extend around the no burn area and for the full length of the north-south and east-west roads. Sensitive areas such as Mulga patches or areas of known rare plants are to be avoided. This will involve leaving the road and burning around behind them, so that fire does not run into them causing damage.

From long term weather data, winds are most dominant from the south-east around to the north-east quadrant ranging in speed from 10-30 kph. This direction is most suitable for

establishing the buffer along the north-south roads. *Triodia basedowii* requires a threshold wind speed of >15 kph to maintain a continuous spread - in patchy fuels with 27 - 30% cover. This would be lower in more continuous fuel. Whereas *Plectrachne shinzii* needs winds of only >10 kph. If winds become too strong (> 20 kph) or fire behaviour excessive then lighting is to be stopped until conditions moderate.

Each team is to have at least 2 drip torches and a jerry can of kerosene and where possible radio communication with the other burning teams. Burning will commence as soon as possible each day when conditions permit.

22-2-90



