South West Woodland Nature Reserve
Booroorban Precinct
Fire Management Strategy 2012
Mapsheet 1 of 1

Office of Environment & Heritage
NSW National Parks & Wildlife Service

This strategy should be used in conjunction with aerial photography and field reconnaissance during incidents and the development of incident action plans.

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ISBN 978 1 74293 769 4 **OEH** 2012/0635 **Date:** August 2012 **Version No.** 1

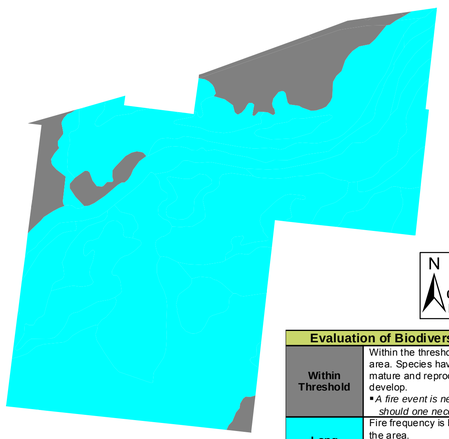
Map Details		Related Documents
Datum: Geocentric Datum of Australia (GDA) 1994 **Projection:** Map Grid of Australia (MGA) Zone 55 **Data:** Spot Satellite Imagery: 2005.	**1:50k Topographic Map:** Cudal 8631-S (AGD-1966) **Scale:** Noted scales are true when printed on A1 size paper	OEH Fire Management Manual 2011 - 2012.

Operational Guidelines

Brief all personnel involved in suppression operations on the following issues using the SMEACS format:

General	Guidelines
Aerial Water Bombing	▪ The use of bombing aircraft should support containment operations by aggressively attacking hotspots and spot-overs, ▪ The use of bombing aircraft without the support of ground based suppression crews should be limited to very specific circumstances, ▪ Where practicable foam should be used to increase the effectiveness of the water, ▪ Ground crews must be alerted to water bombing operations.
Aerial Ignition	▪ Aerial ignition may be used during back-burning or fuel reduction operations where practicable, but only with the prior consent of NPWS Regional Manager, OEH Section 44 delegate or as prescribed in an operational burn plan, ▪ Aerial ignition will only be undertaken by accredited navigators & bombardiers, ▪ The pattern for aerial ignition will be specified in the IAP during fire suppression, ▪ Utilise incendiaries to rapidly burn out large areas where required.
Back-burning	▪ Temperature and humidity trends must be monitored carefully to determine the safest times to implement back-burns. Generally, when the FDI is Very High or greater, back-burning should commence when the humidity begins to rise in the late afternoon or early evening, with a lower FDI back-burning may be safely undertaken during the day, ▪ Where practicable, clear a 1m radius around dead and hollow bearing trees adjacent to containment lines prior to back-burning, or wet down these trees as part of the back-burn ignition, ▪ Use parallel containment lines when applicable, ▪ All personnel must be fully briefed before back-burning operations begin.
Command & Control	▪ Standard Incident Management Systems are to be applied, ▪ On the arrival of other combatant agencies, the initial incident controller will consult with regard to the ongoing command, control and incident management team requirements as per the relevant BFMC Plan of Operations, ▪ Where OEH is not the first responding fire authority to arrive at a fire on OEH-managed lands, a competent officer of the first arriving fire authority will direct fire management activities until a competent OEH officer assumes control (unless prior agreements have been made).
Containment Lines	▪ Construction of new containment lines should be avoided, where practicable, except where they can be constructed with minimal environmental impact, ▪ For new containment lines IMT to liaise with and receive consent from a Senior NPWS officer prior to construction, ▪ Use parallel containment lines when applicable, ▪ All containment lines not required for other purposes should be closed at the cessation of the incident, ▪ All personal involved in containment line construction should be briefed on both natural and cultural heritage sites in the location, ▪ Containment line construction using earthmoving equipment must be in accordance with the earthmoving guidelines contained within the RFMS.
Earthmoving Equipment	▪ Earthmoving equipment may only be used with the prior consent of a senior NPWS officer, and then only if the probability of its success is high, ▪ Earthmoving equipment must always be guided and supervised by an appropriately experienced person, and accompanied by a support vehicle. When engaged in direct or parallel attack this vehicle must be a fire fighting vehicle, ▪ Containment lines constructed by earthmoving equipment should consider the protection of drainage features, observe the Threatened Species and Cultural Heritage Operational Guidelines, and be surveyed, where possible, to identify unknown cultural heritage sites, ▪ Earthmoving equipment must not leave tracks or create new tracks in Machinery Exclusion areas as marked on the Incident Map of a RFMS, ▪ Earthmoving equipment must be washed down, where practicable, prior to it entering NPWS estate and again on exiting NPWS estate, ▪ Where multiple items of earthmoving equipment are being used, the IMT should consider the establishment of a Plant Operations Manager.
Fire Advantage Recording	▪ All fire advantages used during wildfire suppression operations must be mapped and where relevant added to the database.
Fire Suppression Chemicals	▪ Use of wetting and foaming agents (surfactants) is permitted on the reserve, ▪ The use of fire retardants are only permitted with the prior consent of the senior NPWS officer and should be avoided where reasonable alternatives are available, ▪ Exclude the use of surfactants and retardants within 50m of watercourses, dams and swamps, ▪ Areas where fire suppression chemicals are used must be mapped and the used product's name recorded, ▪ The Threatened Species Operational Guidelines are to be observed.
Rehabilitation	▪ Where practicable, containment lines should be stabilised and rehabilitated as part of the wildfire suppression operation.
Smoke Management	▪ The potential impacts of smoke and possible mitigation tactics must be considered when planning for wildfire suppression and prescribed burning operations, ▪ If smoke becomes a hazard on local roads or highways, the police and relevant media must be notified, ▪ Smoke management must be in accordance with relevant RTA traffic management guidelines.
Structural Fire Fighting	▪ OEH personnel are not trained in structural fire fighting and must not enter a structure in order to undertake structural fire fighting, ▪ Fire suppression activities may be undertaken from outside a structure in accordance with the policies in the NPWS FMM, in order to protect a built asset.
Visitor Management	▪ The reserve may be closed to the public during periods of extreme fire danger or during prescribed burning or wildfire suppression operations.

Status of Biodiversity Thresholds



Evaluation of Biodiversity Thresholds	
Within Threshold	Within the threshold for vegetation in this area. Species have had sufficient time to mature and reproduce, and for habitats to develop. ▪ *A fire event is neither required nor should one necessarily be avoided.*
Long Unburnt	Fire frequency is below fire thresholds in the area. ▪ *A fire event may or may not be advantageous. Consider ecological effects of fires in these areas.*

NB. Fire thresholds are defined for vegetation communities to conserve biodiversity

Vegetation Map Legend

Broad Vegetation Class	Vegetation Type	Biodiversity Thresholds	Fire Behaviour
Freshwater Wetlands	Lignum with Nitre Goosefoot Tall Open Shrubland	An interval between fire events **less than 10 years and greater than 35 years** should be avoided. **Fire should be avoided where Chenopod species occur.**	In periods of high ephemeral fuel loads the wetlands pose a risk of extreme fire intensities, hot – fast moving fires and rapid change in direction associated with wind.
Semi-arid Woodlands (Grassy sub-formation)	Black Box Woodland with Chenopod understorey	An interval between fire events **less than 9 years** should be avoided. There is **no maximum** interval between fire events specified for this vegetation type as there was insufficient data to give definite intervals. **Fire should be avoided where Chenopod species occur**. Two fires in the same area in a period of less than 10 years apart may remove younger Black Box trees.	In years of high ephemeral fuels, landscape fires are possible as fire potential will be very high to extreme, characterised by spotting from Black Box communities.
Semi-arid Woodlands (Shrubby sub-formation)	White Cypress, Bull Oak and Boonaree Open Woodland	An interval between fire events **less than 15 years** should be avoided. There is **no maximum** interval between fire events specified for this vegetation type as there was insufficient data to give definite intervals.	The Cypress Pine Woodlands generally occur on source-bordering dunes and the potential rate of spread would be low due to low overall fuel hazard. Fire runs are likely to slow down when entering this vegetation.
Arid Shrublands (Chenopod sub formation)	Cottonbush & Sclerolaena spp.	**Fire should be avoided where Chenopods occur.**	High intensity fast moving fire once grasses have cured. Fire behaviour is dominated by winds, both speed and direction. Even in very low fuel, grass fires can erratic and fast moving. In ephemeral years intensity will be higher and in drought years minimal growth will result in moderate fire behaviour but potentially still fast moving depending on weather conditions at the time.
Grasslands	*Austrodanthonia* and/or *Austrostipa* Low Open Grassland	An interval between fire events **less than 3 years and greater than 10 years** should be avoided.	
Grassy Woodlands	White Cypress Pine & Boonaree mid-high Open Woodland	An interval between fire events **less than 8 years and greater than 40 years** should be avoided.	
Fire History	The fire history data for this area is incomplete.		
Ephemeral Conditions	Ephemeral fuel conditions occur after consecutive years of effective rainfall and significant flooding events. This in turn leads to the growth and build up of fine surface fuels such as grasses and herbs, which can create a continuous fuel load across **all** of the above vegetation communities. As a result expect higher fire intensity.		
Drought Conditions	During drought conditions and when vegetation communities are visibly stressed it will be difficult to undertake prescribed burning across many communities as the surface fuels will be very low. Wildfire areas will be minimised.		
Mosaic Burning	This reserve has not experienced fire for an extended period of time, therefore a mosaic approach to fire management with post fire recovery and response assessments should be undertaken. Apply fire in a pattern across the reserve that allows gaps in both time and space, small versus large areas, scattered and variable times between fires in any location. If possible leave some areas of each vegetation community unburnt, as an end stage and reference site.		

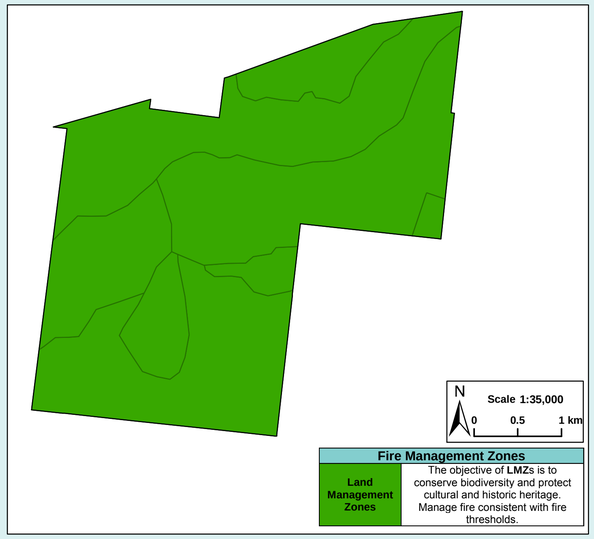
Contact Information

Agency	Position / Location	Phone
National Parks & Wildlife Service	Duty Officer (8am-10pm)	02 6332 6350
	Regional Office – 200 Yambil St. Griffith	02 6966 8100
	Murray Area Office	**03** 5483 9100
Mid Murray Zone NSW Rural Fire Service	Duty Officer (AH)	**03** 5881 6297
	Deniliquin FCC 305 Duncan St, Deniliquin	**03** 5881 5351
NSW Fire Brigades	Deniliquin Fire Station	**03** 5881 7401
State Forests	Deniliquin – Duty Mobile	0408 675 211
Emergency Services		000
SES		13 2500
Police Station (not open 24 hrs)	Deniliquin	**03** 5881 9499
	Hay (Not 24 hours)	**02** 6993 1100
Police - Local Area Command	Deniliquin	**03** 5881 9437
Hospital	Deniliquin	**03** 5882 2800
	Hay	**02** 6990 8700
Parks Victoria	Duty Officer Murray	0417 351 668
Council	Conargo Shire Council	**03** 5880 1200

Fire Season Information

Wildfires	▪ The critical wildfire season generally occurs from October/November to March/April. ▪ Dry lightning storms frequently occur and typical fire weather conditions are winds from the west to the north, high day time temperatures and low humidity ▪ Particular care is required following periods of Winter rain and after periods of negative Southern Oscillation Indices.
Prescribed Burning	▪ Prescribed burning should generally be undertaken during late Autumn, Winter or early Spring ▪ Care should be taken to ensure a low intensity burn over most of the area treated.

Bushfire Risk Management Strategies

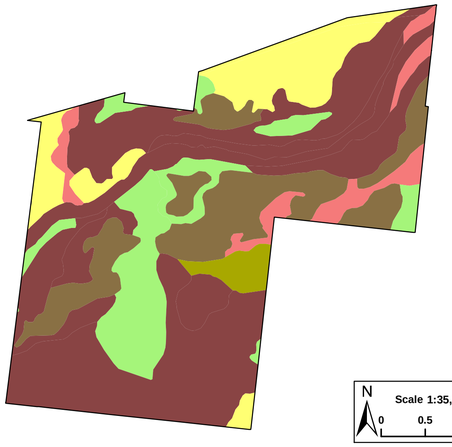


Fire Management Zones	
Land Management Zones	The objective of **LMZ**s is to conserve biodiversity and protect cultural and historic heritage. Manage fire consistent with fire thresholds.

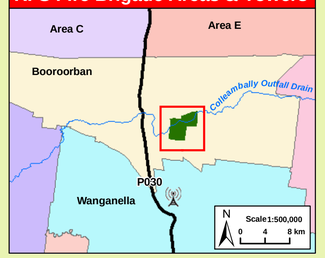
Suppression Strategies

Season	Typical Conditions	Indicative Suppression Strategies
Just prior to or during the critical fire season	▪ Current Fire Danger Rating (FDR) of **Very High or Greater,** ▪ Short and medium range forecasts suggest conditions typical to a FDR of **Very High** or **Greater,** ▪ A risk to life and/or property exists in the short – medium term, ▪ A broad area risk to biodiversity exists.	**Direct** Initial attacks should be to try to extinguish or to contain to the smallest possible area. **Indirect** Develop a suppression plan using existing and/or potential containment lines. If possible take into account biodiversity requirements but never to the detriment of life and property.
Outside of the critical fire season	▪ FDR of **High or below,** ▪ Short – medium term forecast indicate a continuing FDR of **High or below** ▪ No risk to life or property exists in the short-medium term, ▪ Only small area risk to biodiversity exists.	**Direct** Evaluate the biodiversity thresholds and use direct attack methods to extinguish if required. **Indirect** Develop a fire suppression plan to the maximum allowable perimeter based on Biodiversity thresholds.

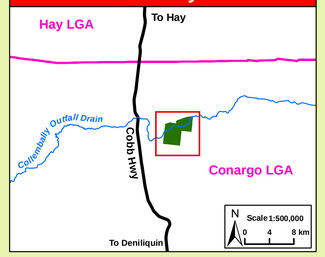
Vegetation



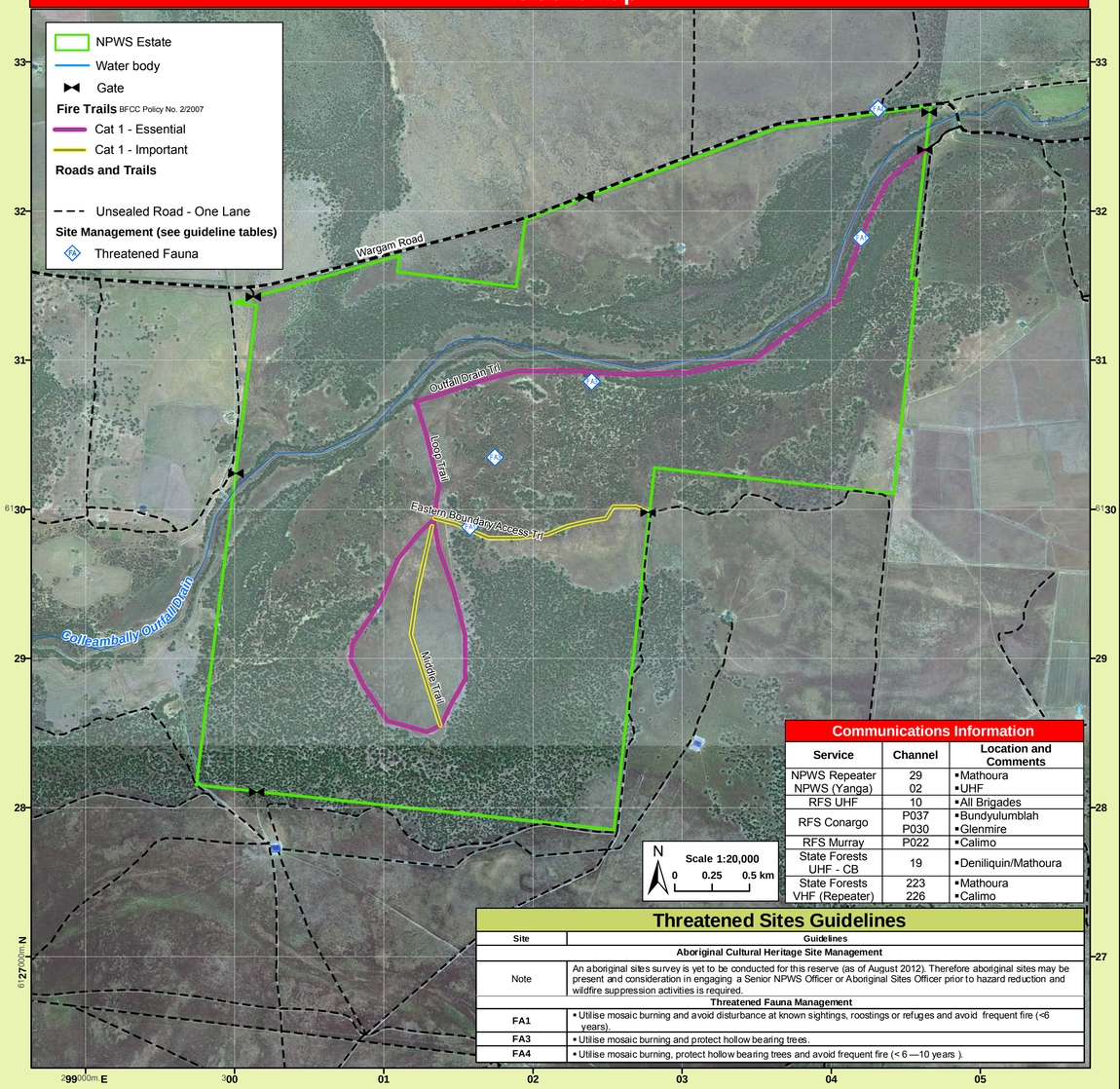
RFS Fire Brigade Areas & Towers



Locality



Incident Map



Communications Information		
Service	**Channel**	**Location and Comments**
NPWS Repeater NPWS (Yanga)	29 02	▪Mathoura ▪UHF
RFS UHF	10	▪All Brigades
RFS Conargo	P037 P030	▪Bundyulumblah ▪Glenmire
RFS Murray	P022	▪Calimo
State Forests UHF - CB	19	▪Deniliquin/Mathoura
State Forests VHF (Repeater)	223 226	▪Mathoura ▪Calimo

Threatened Sites Guidelines

Site	Guidelines
Aboriginal Cultural Heritage Site Management	
Note	An aboriginal sites survey is yet to be conducted for this reserve (as of August 2012). Therefore aboriginal sites may be present and consideration in engaging a Senior NPWS Officer or Aboriginal Sites Officer prior to hazard reduction and wildfire suppression activities is required.
Threatened Fauna Management	
FA1	▪ Utilise mosaic burning and avoid disturbance at known sightings, roostings or refuges and avoid frequent fire (<6 years).
FA3	▪ Utilise mosaic burning and protect hollow bearing trees.
FA4	▪ Utilise mosaic burning, protect hollow bearing trees and avoid frequent fire (< 6 —10 years).