

**Murrumbidgee Valley National & Regional Parks
Hay, Pembelgong & Wooloondool Precincts
Fire Management Strategy 2012
Mapsheet 1 of 1**

This strategy should be used in conjunction with aerial photography and field reconnaissance during incidents and the development of incident action plans. These data are not guaranteed to be free from error or omission. The NSW National Parks and Wildlife and its employees disclaim liability for any act done on the information in the data and any consequences of such acts or omissions. This document is copyright. Apart from any fair dealing for the purpose of study, research, criticism or review, as permitted under the copyright Act, no part may be reproduced by any process without written permission. This strategy is a relevant Plan under Section 38 (4) and Section 44 (3) of Rural Fires Act 1997. The NSW National Parks and Wildlife Service is part of the Office of Environment and Heritage. Published by the Office of Environment and Heritage (NSW).

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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: Carrathool 7929-S, Hay 7828-N (AGD-1966) Scale: Noted scales are true when printed on A1 size paper	OEH Fire Management Manual 2011 - 2012.

Fire Season Information

The critical wildfire season generally occurs from October/November to March/April.

Wildfires

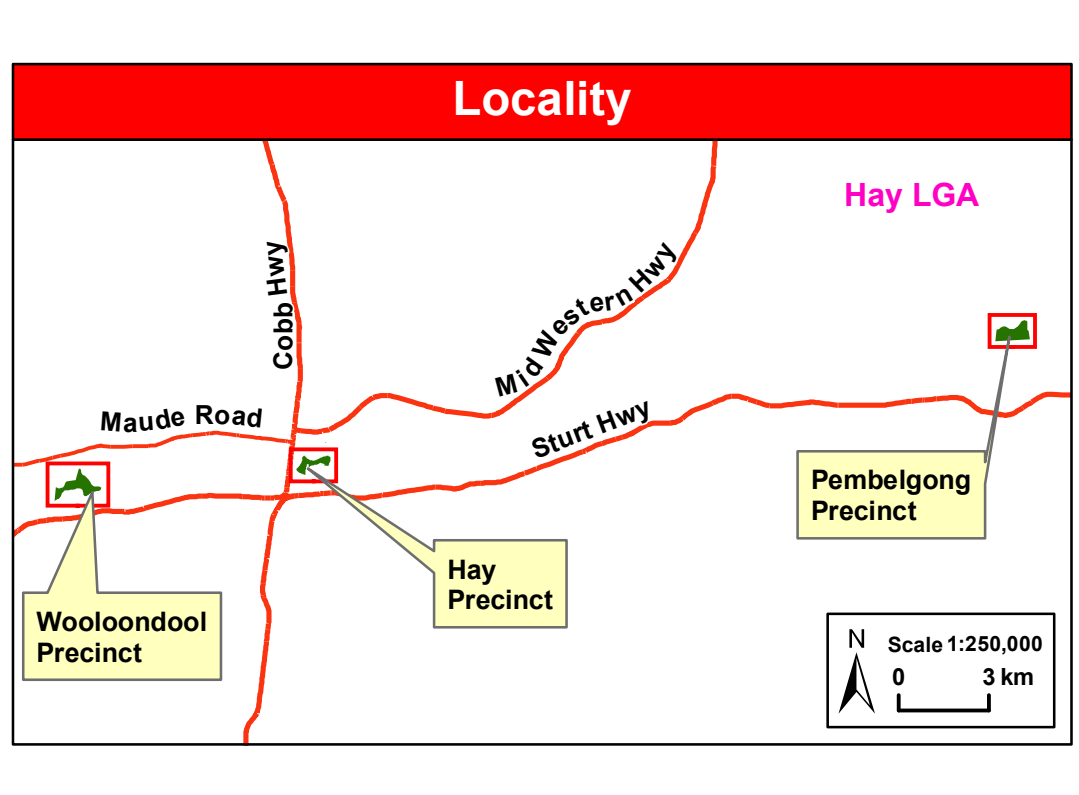
- Dry lightning storms frequently occur and typical fire weather conditions are winds from the west to the north, high day time temperatures and low humidity
- Particular care is required following periods of winter rain and after periods of negative Southern Oscillation Indices.

Prescribed Burning

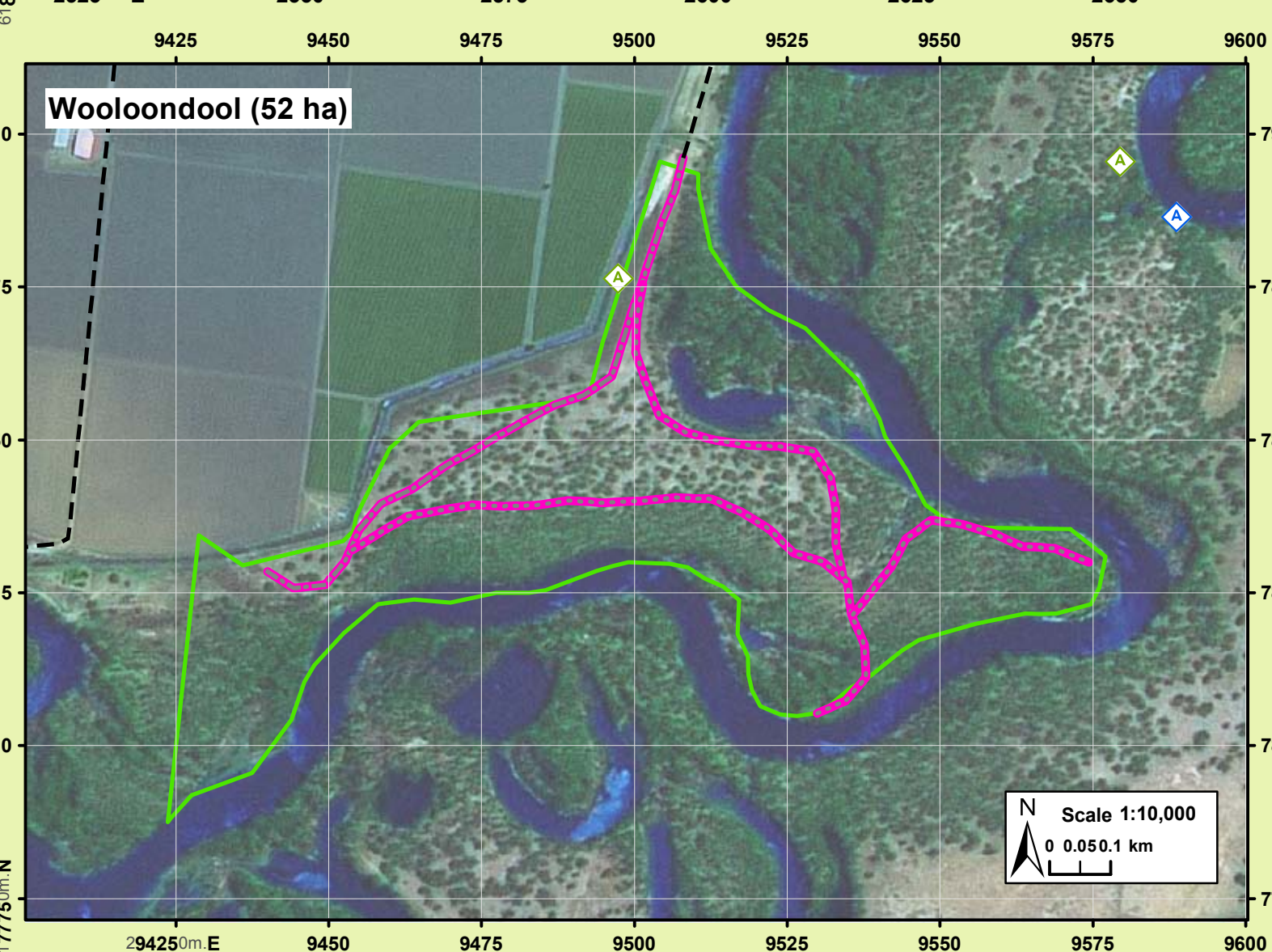
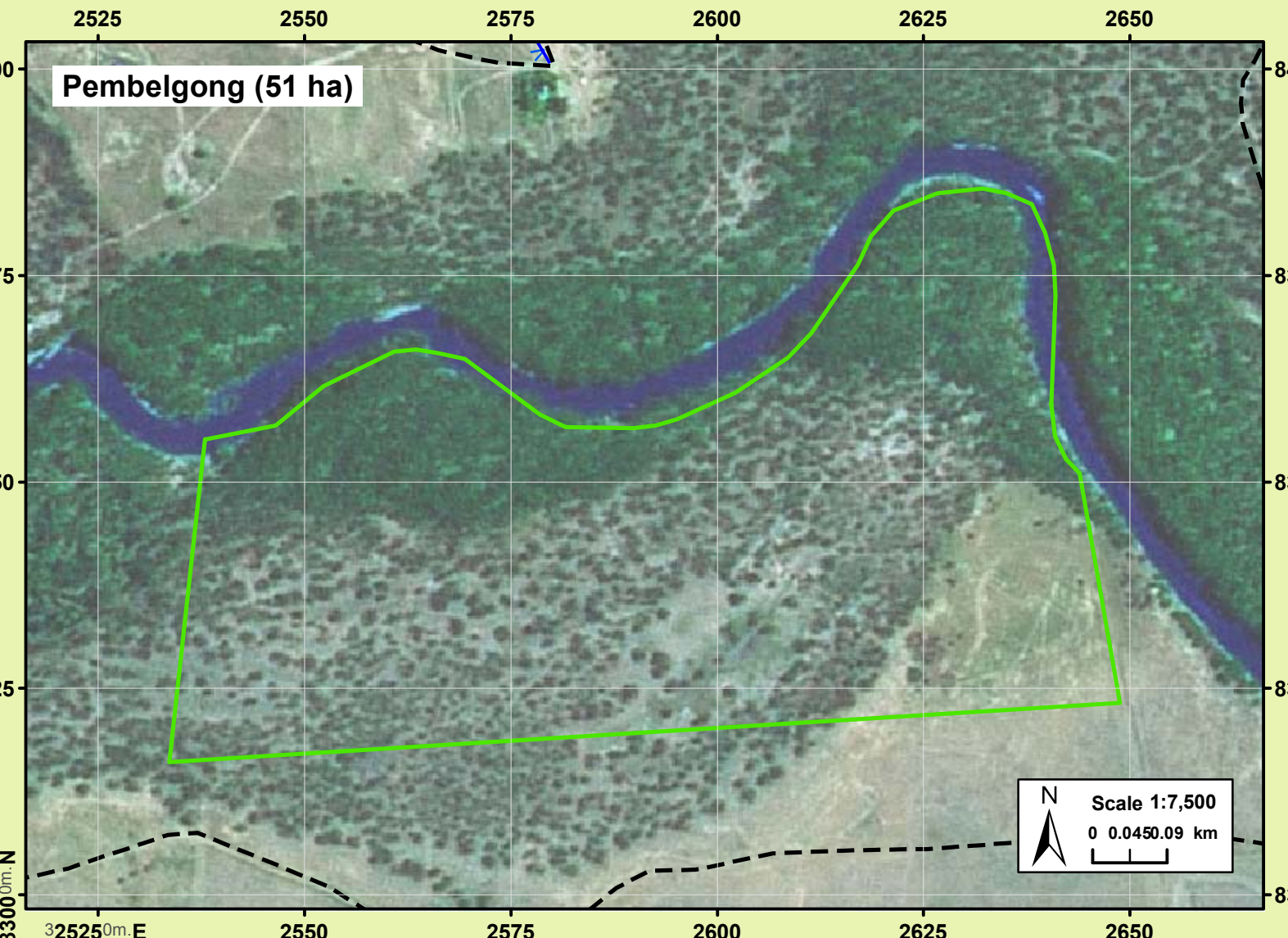
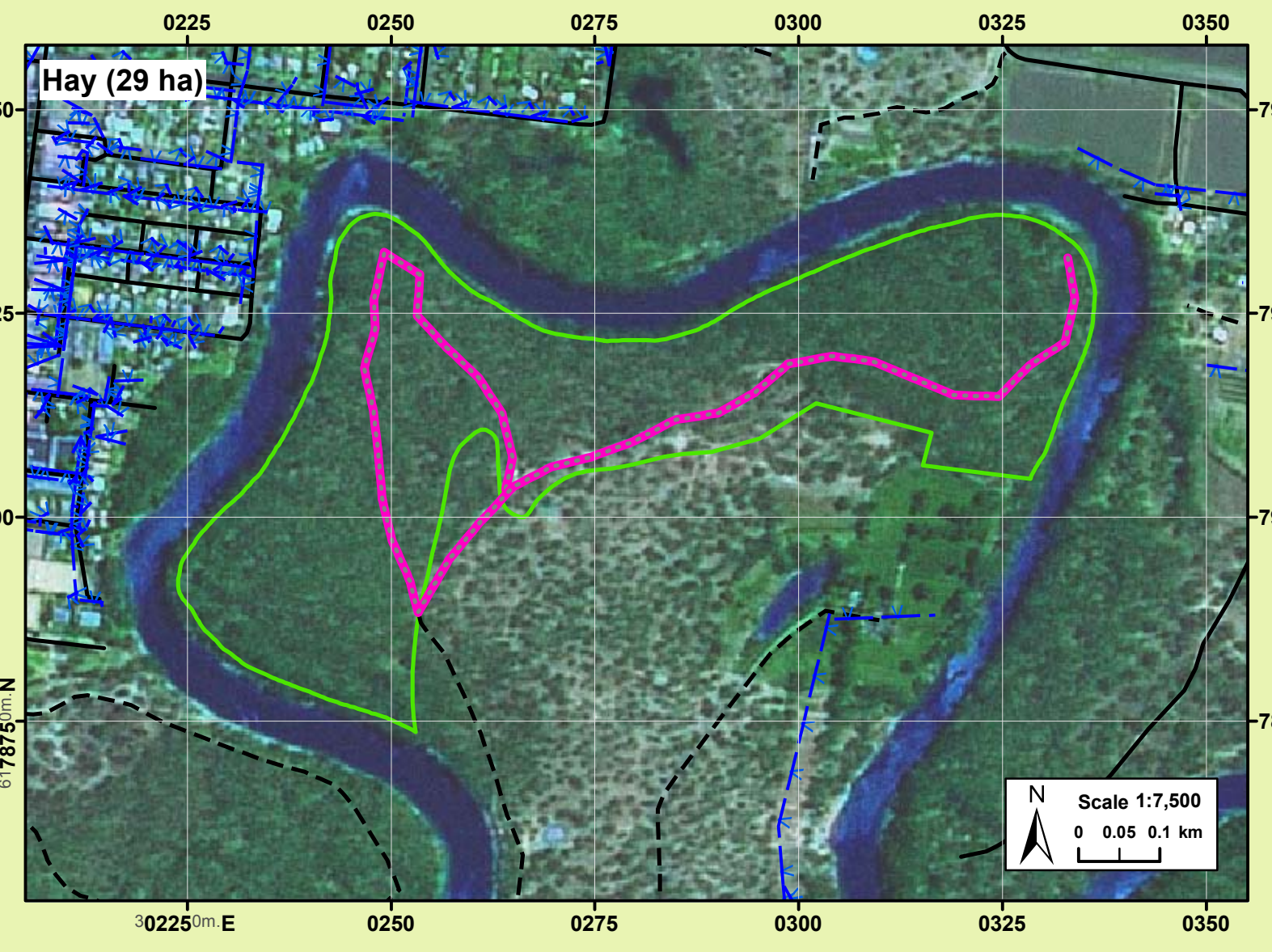
- Prescribed burning should generally be undertaken during Autumn, Winter or early Spring
- Care should be taken to ensure a low intensity burn over most of the area treated.

Contact Information		
Agency	Position / Location	Phone
National Parks & Wildlife Service	Duty Officer (8am-10pm)	02 6332 6350
	Regional Office - 200 Yambill St, Griffith	02 6966 8100
Mid West Team Rural Fire Service (Carrathool and Hay LGAs)	Hay Area Office	02 6990 8200
	Hay Fire Control Centre	02 6993 4213
NSW Fire Brigades	Jason Wall (Team Manager)	0429 934 214
Hay Fire Station		02 6993 1101
State Forests	Deniliquin - Duty Mobile	0408 675 211
Emergency Services		000
SES	Hay Volunteer Unit	13 2500 02 6993 1161
Police Station (not open 24 hrs)	Hay	02 6993 1100
Police - Local Area Command	Deniliquin	03 5881 9437
Hospital	Hay	02 6990 8700
Council	Hay Shire Council	02 6990 1100

Communications Information		
Service	Channel	Location and Comments
RFS Hay	P025	Maude
	P040	Walgrove, 20 km SE of Hay
	P056	Galah, 45 km NE of Hay
	P065	
RFS Carrathool	P024	Police Station Carrathool
RFS Murrumbidgee	PO44	Gundaline
UHF - CB	13	Hay
State Forests VHF Repeater	19	Moulamein



Incident Maps



Legend for Incident Maps

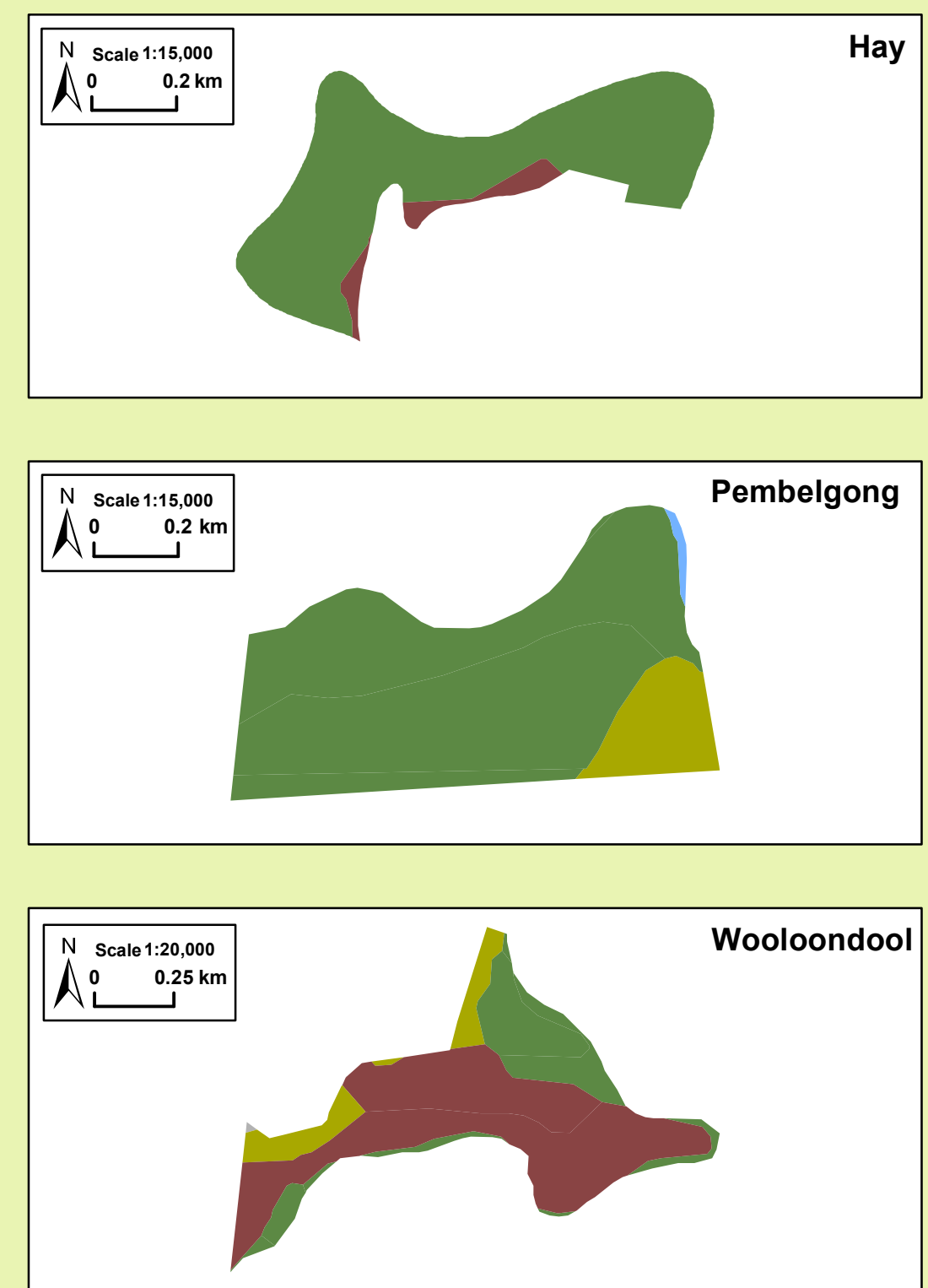
- NPWS Estate
- Powerlines
- Fire Trails BFCC Policy No. 2/2007
 - Cat 7 - Essential
 - Cat 9 - Essential
- Roads and Trails
 - Sealed - Two Lanes
 - Unsealed - One Lane
- Site Management (See Operational Guidelines)
 - Aboriginal Site - AH1
 - Aboriginal Site - AH2
 - Threatened Fauna

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). Avoid fire and grading control lines within 100m of a water course, wherever possible, to protect unknown Aboriginal sites.
A1	Do not cut down trees As far as possible protect the site from fire Use of foams, wetting agents & retardant is acceptable.
A2	Avoid all ground disturbance including the use of earthmoving machinery, handline construction and driving over sites Sites may be burnt by bushfire, back-burn or prescribed burn without damage.
Threatened Fauna Management	
FA3	Utilise mosaic burning and protect hollow bearing trees.

Vegetation Map Legend

Broad Vegetation Class	Vegetation Type	Biodiversity Thresholds	Fire Behaviour
Forested Wetlands	River Red Gum Forests	An interval between fire events less than 10 years and greater than 35 years should be avoided. River Red Gums will only tolerate low intensity fires. Individual trees may survive canopy scorch if they are not under stress and are in older age classes. Younger trees will not survive moderate to high intensity fires. Two fires occurring in the same area in a period of less than 20 years apart may reduce the extent of River Red Gum Forests.	These vegetation communities will generally not carry fire unless there are high ephemeral fuel loads, which generally occur after flooding events. 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 and River Red Gum communities and fast moving fires in other communities. Red Gum trees commonly form candles.
Semi-arid Woodlands (Grassy sub-formation)	Black Box - Lignum Woodlands or Black Box Chenopod Open Woodland	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. Fire should be avoided where Chenopod species occur.	
Grassland	Grasslands (various communities)	An interval between fire events less than 3 years and greater than 10 years should be avoided.	High intensity fast moving fire once grasses have cured. Fire behaviour is dominated winds, both speed and direction. Even in very low fuel, grass fires can be erratic and fast moving. In ephemeral years fire 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.
Water	Permanent Water Body		
Fire History	Fire history data for these reserves 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 obviously stressed or experiencing dieback no prescribed burning will be permitted and wildfires areas will be minimised.		

Vegetation

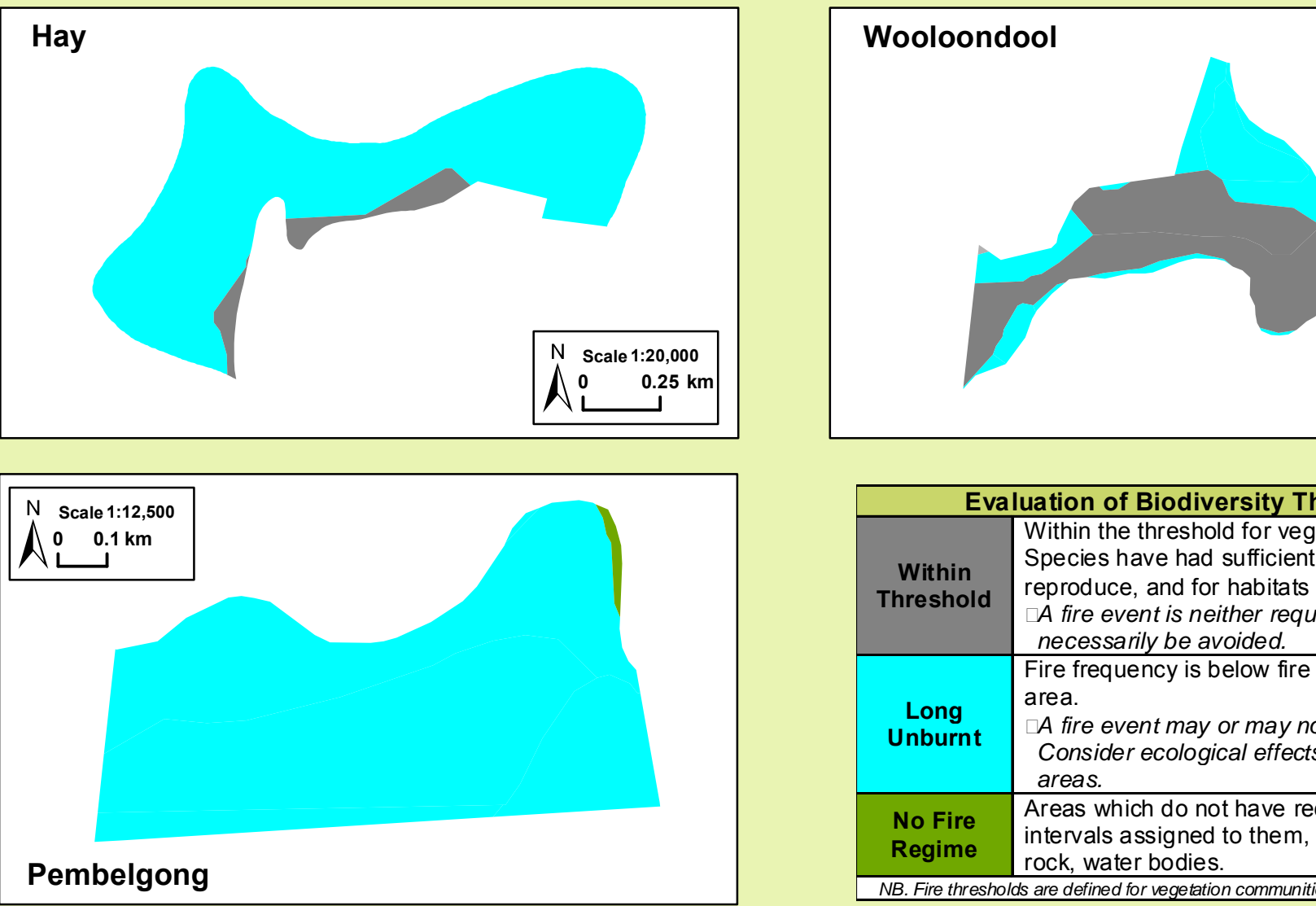


Operational Guidelines

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

General	Guidelines
Aerial Water Bombing	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 personnel 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	<ul style="list-style-type: none"> 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 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	<ul style="list-style-type: none"> All fire advantages used during wildfire suppression operations must be mapped and where relevant added to the database.
Fire Suppression Chemicals	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Where practicable, containment lines should be stabilised and rehabilitated as part of the wildfire suppression operation.
Smoke Management	<ul style="list-style-type: none"> 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.

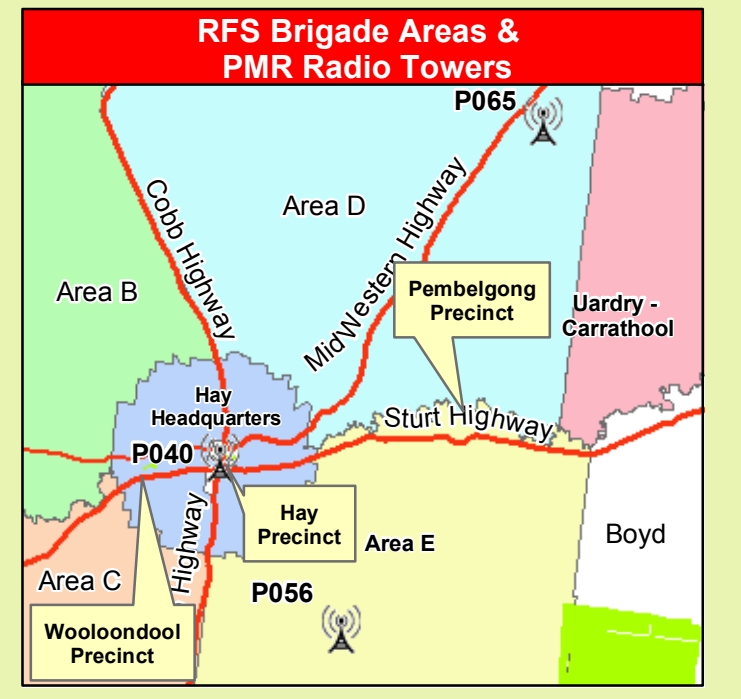
Status of Biodiversity Thresholds



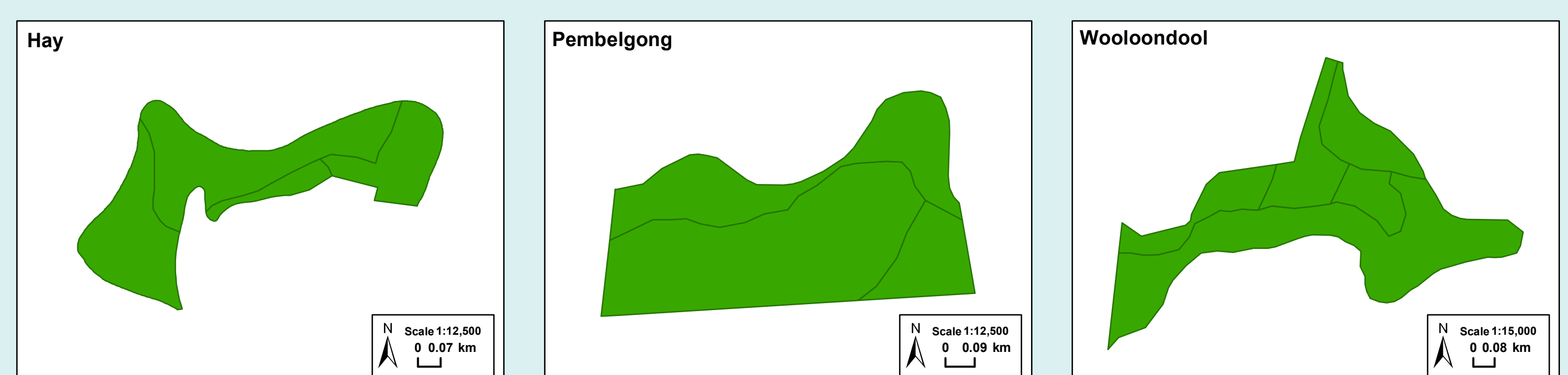
Operational Guidelines Continued...

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

Structural Fire Fighting	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> The reserve may be closed to the public during periods of extreme fire danger or during prescribed burning or wildfire suppression operations. Beware of overhead powerlines. Reserve prone to flooding and only some trails will be trafficable after flood events or rainfall.



Fire Risk Management Strategies



Fire Management Zones		
Land Management Zones	The objective of LMZs 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	<ul style="list-style-type: none"> 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. 	<p>Direct</p> <ul style="list-style-type: none"> Initial attacks should be to try to extinguish or to contain to the smallest possible area. <p>Indirect</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	<p>Direct</p> <ul style="list-style-type: none"> Evaluate the biodiversity thresholds and use direct attack methods to extinguish if required. <p>Indirect</p> <ul style="list-style-type: none"> Develop a fire suppression plan to the maximum allowable perimeter based on Biodiversity thresholds.