

Narriearra Caryapundy Swamp National Park Fire Management Strategy 2021

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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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 Dept of Planning, Industry & Environment. Published by the NSW National Parks & Wildlife Service, February 2021.

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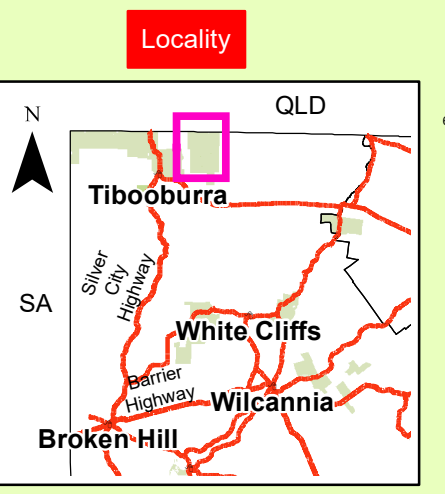
Related Documents: NPWS Fire Management Manual

Contact Information

Agency	Position / Location	Phone
National Parks & Wildlife Service	West Branch Duty Officer West Darling Area Office (business hrs) Tibooburra Office (Mon-Fri 8:30-16:30)	02 8275 1740 08 8084 2880 08 8091 3308
Area Western Command NSW Rural Fire Service	RFS Headquarters Sydney Far West District	02 8741 5555 02 6636 1226
Bushfire Information Line	1800 NSW RFS	1800 679 737
Emergency Services	Police, Fire & Ambulance	000
SES	Tibooburra Station	132 500
Police	Tibooburra Station	08 8091 3303
Council	Unincorporated NSW	02 6983 5400
Border Fence Maintenance Board	Smithville	08 8091 3582
Local Aboriginal Land Council	Tibooburra	08 8091 3435
Neighbours	Call the NPWS Broken Hill or Tibooburra offices for more information	08 8084 2880

Communications Information

Service	Channel	Location and Comments
NPWS VHF Radio	35	NPWS has a portable VHF repeater stored at Broken Hill. When deployed, reasonable coverage across the park. Contact the State Air Desk for frequency allocation
Aircraft		Almost non-existent. Some patches with Cell-S
Mobile phone coverage		Good reception
UHF - CB	35	Limited, but good between vehicles if within short range.



Map Details

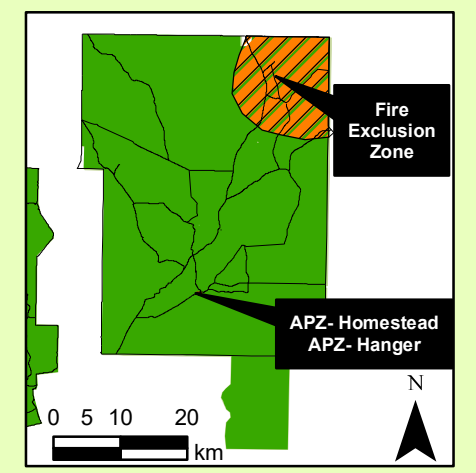
Datum: Geocentric Datum of Australia (GDA) 1994
 Projection: Map Grid of Australia (MGA) Zone 54
 Scale: 1:200,000
 Data: Spot Satellite Imagery: 2005

Fire Season Information

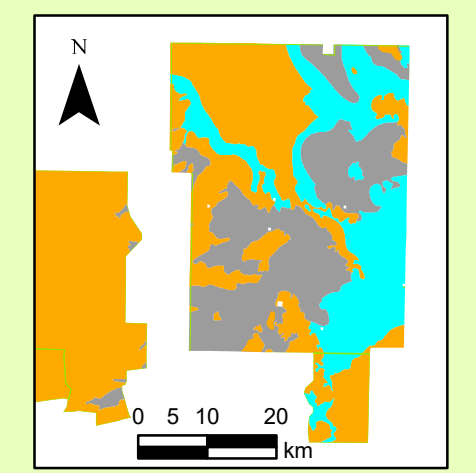
Wildfires
The critical wildfire season occurs November to February. This period may extend into the first half of March. Particular care is required during periods of consecutive ephemerally growth. The end of the critical fire season is often marked by a decline in temperature and rising humidity.

Prescribed Burning
Typically, prescribed burning would take place in Autumn to Spring. Following consecutive years of above average rainfall prescribed burning may be used to reduce ephemerally fuel growth. Any burning will comply with the prescriptions outlined in the associated Prescribed Burn Plans.

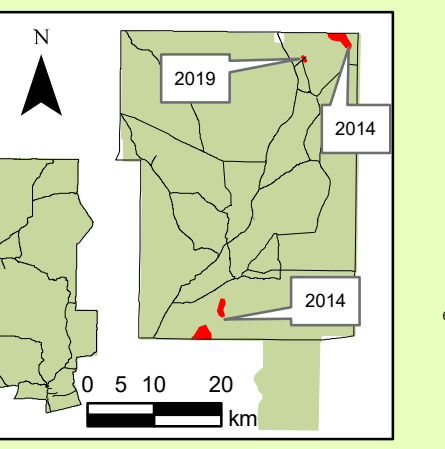
Fire Management Zones



Status of Biodiversity Thresholds



Fire History



Fire Management Zones

Asset Protection Zones
The objective of APZ is the protection of human life and property. This will have precedence over guidelines for the management of biodiversity. Maintain Overall Fuel Hazard at Moderate or below.

Strategic Fire Advantage Zones
The objective of SFZ is to reduce fire intensity across larger areas. Maintain Overall Fuel Hazard at High or below, however adherence to guidelines for biodiversity will take precedence where practical.

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

Fire Exclusion Zones
The objective of FEZ is to exclude fire from an area that contains assets of high critical value.

Evaluation of Biodiversity Thresholds

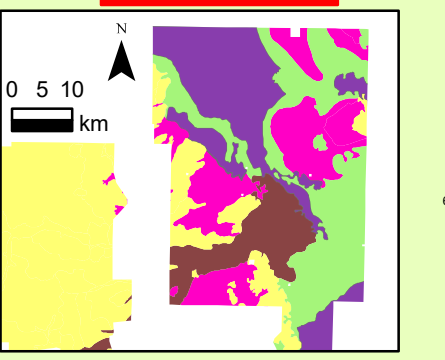
Vulnerable to frequent fire
The area will be too frequently burnt if it burns in the next few seasons
 - Underburn, excessive time since last fire, species may become extinct
 - A fire event is neither required nor should one necessarily be avoided

Long unburnt
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

Within Threshold
All fire thresholds are defined for vegetation communities to conserve biodiversity
 - A fire event is neither required nor should one necessarily be avoided

Threshold analysis map needs to be considered with Prescribed Burning Activity map to be considered when determining wildfire and prescribed burning outcomes

Vegetation Communities



Vegetation management

Note: Vegetation mapping is still being defined. Below is a list of vegetation formations that occur on Narriearra Caryapundy Swamp NP.

Vegetation Formation	Vegetation Community	Vegetation management guidelines	Fire Behaviour
Semi-arid Woodland (Grassy sub-formation)	Coastal woodland with occasional black box trees	Coastal woodland is sensitive to high intensity fire which can inhibit the recruitment of seedlings and/or too frequent fire, both can kill young plants and some mature trees. An interval between fire events less than 15 years should be avoided.	Coastal woodlands do not sustain enough fuel loads (generally Low - Moderate OFH in dry years) to carry large scale fires.
Arid shrubland (Chenopod sub-formation)	Gibber, Acacia & Silver chenopod shrublands	Fire should be avoided in chenopod communities. Chenopod species are sensitive to fire and may be severely impacted by burn.	Typically, there is not enough fuel load to carry fire in Arid shrubland, both acacia and chenopod sub-formations (OFH Low to dry years).
Arid shrubland (Succulent sub-formation)	Sand plain Mulga woodlands	An interval between fire events less than 15 years should be avoided. Fire plays a role in the germination of Mulga. Mulga is susceptible to frequent and/or intense fire.	Only following consecutive large-scale rain events when ephemeral fuel loads have significantly increased (OFH High or above) will these communities carry fire. See description below for Grasslands for further detail about fire behaviour.
Grasslands (not sprayed on map)	Minimal Grass grassland	An interval between fire events less than 15 years should be avoided. Fire frequency should primarily be determined through on-ground assessment of vegetation health, fuel accumulation and previous fire patchiness and adjusted for wildlife risk and drought cycles.	Highly variable fire behaviour depending on the pressure and growth of ephemeral fuel loads. 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 be erratic and fast moving. In ephemeral years fire intensity will be higher than in drought years where minimal grass growth will result in moderate fire behaviour but potentially still fast moving depending on weather conditions at the time.
Saltine Wetland	Inland saline lakes, Newland grass, saltbush & spiny murrumbidgee	Fire should be avoided.	These vegetation communities will generally not carry fire unless there are high ephemeral fuel loads. Moderate to high intensity fires may occur when fuel loads are high or above.
Freshwater wetlands	Inland floodplain, Lignum shrubland & Carragee swamp	No fire in both primary and secondary Grey Grasswren habitat. An interval between fire events less than 15 years should be avoided.	

OFH - Overall fuel hazard - A rating system that uses measurements of leaf litter, grasses, shrubs, bark type and bark condition in a given area to determine the hazard.

Ephemeral conditions - generally occur consecutive years of much higher than average rainfall which leads to a build up of fuel loads such as grasses and herbs. This has the potential to create a continuous fuel loading (grasses - perennial and annual) across all vegetation communities listed above.

Operational Guidelines

This includes directing aerial bombing and aerial ignition operations.

Aerial operations
Aerial operations will be managed by trained and competent personnel. The use of bombing aircraft without the support of ground-based suppression crews should be limited to very specific circumstances.

Backburning
All aerial ignition operations require the consent of NPWS West Branch Director, Section 44 delegate or as stated in an operational burn plan.
All personnel must be fully briefed before back-burning operations begin.
Where practicable to mop up efforts, clear a 1m radius around dead and loose barked trees adjacent to containment lines prior to backburning, or wet down these trees during ignition.

Command & Control
The first combatant agency on site may assume control of the fire but must ensure the relevant land management agency is notified promptly.
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 BEMC Plan of Operations.
The Narriearra Homestead precinct has power, bore water, tanks and a helipad site.

Containment Lines
New containment lines require the prior consent of a senior NPWS Officer.
All personnel involved in containment line construction should be briefed and must consider both natural and cultural heritage sites in the location.
Construction of new containment lines should be avoided in Narriearra, except where they can be constructed with minimal environmental impact.
The biodiversity objectives and locations of significant species (Grey Grasswren) should be considered when locating control lines. Link up with existing roads, burnt areas and areas with low fuel areas as much as possible when planning and constructing control lines.
Containment line construction using earthmoving equipment must be in accordance with the earthmoving guidelines outlined below.
All containment lines not required for other purposes will be closed at the cessation of the incident.
All containment line construction must be tagged for future reference and assistance with rehabilitation works.

Earthmoving Equipment
The use of Earthmoving equipment must only be used with the prior consent of a senior NPWS Officer with local knowledge. Particular care must be taken in:
- Grey Grasswren habitat areas (around) and
- Significant cultural heritage landform areas.
Earthmoving equipment must always be guided and supervised by an experienced officer and accompanied by a support vehicle. When engaged in direct or parallel attack this vehicle must be a fire fighting vehicle.
Earthmoving equipment must be washed down, where practical, prior to it entering NPWS estate and again on exiting NPWS estate.

Fire Suppression Chemicals
Fire retardant and gels must not be used on Narriearra.
The use of Class A foam in Cat 9 units will require the approval of the NPWS Divisional Commander.
Where possible, fire suppression chemicals are not to be applied near water courses and ground tanks/dams, including Caryapundy Swamp and the Bulloo Overflow.
Where practicable, containment lines should be established and rehabilitated as part of the wildfire suppression operation.

Rehabilitation
Water points for vehicles are dispersed across the park, see Incident map for Water Vehicle locations.
All ground tanks (tanks) will be sealed to seasonal changes - normal with local NPWS staff for current ground tanks (dams) water status.
Potential smoke impacts and mitigation tactics will be assessed during the planning of fire operations.
If smoke becomes a hazard on local roads, the police and relevant media must be notified.

Smoke Management
This reserve may be closed to visitors during fire danger periods or higher and during Fire Operations or Wildfire Incidents.
This reserve may be closed following large rain events if roads become impassable.

Visitor Management
ROADS MAY BECOME BLOTTED AND UNTRAFFICABLE AFTER RAIN.
FLOWING BORE WATER ACROSS NARRIARRA IS DANGEROUSLY HOT AND MUST NOT BE TOUCHED OR DECANTED STRAIGHT INTO FIRE UNITS. FOLLOWING A COOLING DOWN PERIOD WATER CAN BE USED FROM ASSOCIATED GROUND TANKS (DAMS) AND TANKS.
BEWARE OF OVERHEAD POWER LINES (REFER TO INCIDENT MAP) AND MAKE SURE TO 'LOOK UP AND LIVE'.
BEWARE OF ANY GAS BOTTLES, DANGEROUS GOODS STORAGE AREAS AND HAZARDOUS MATERIALS NEAR HOMESTEAD SITES.

WARNINGS
Black text - general guidelines. Blue text - reserve specific guidelines. Red text - important warnings.

Operational Guidelines - Heritage

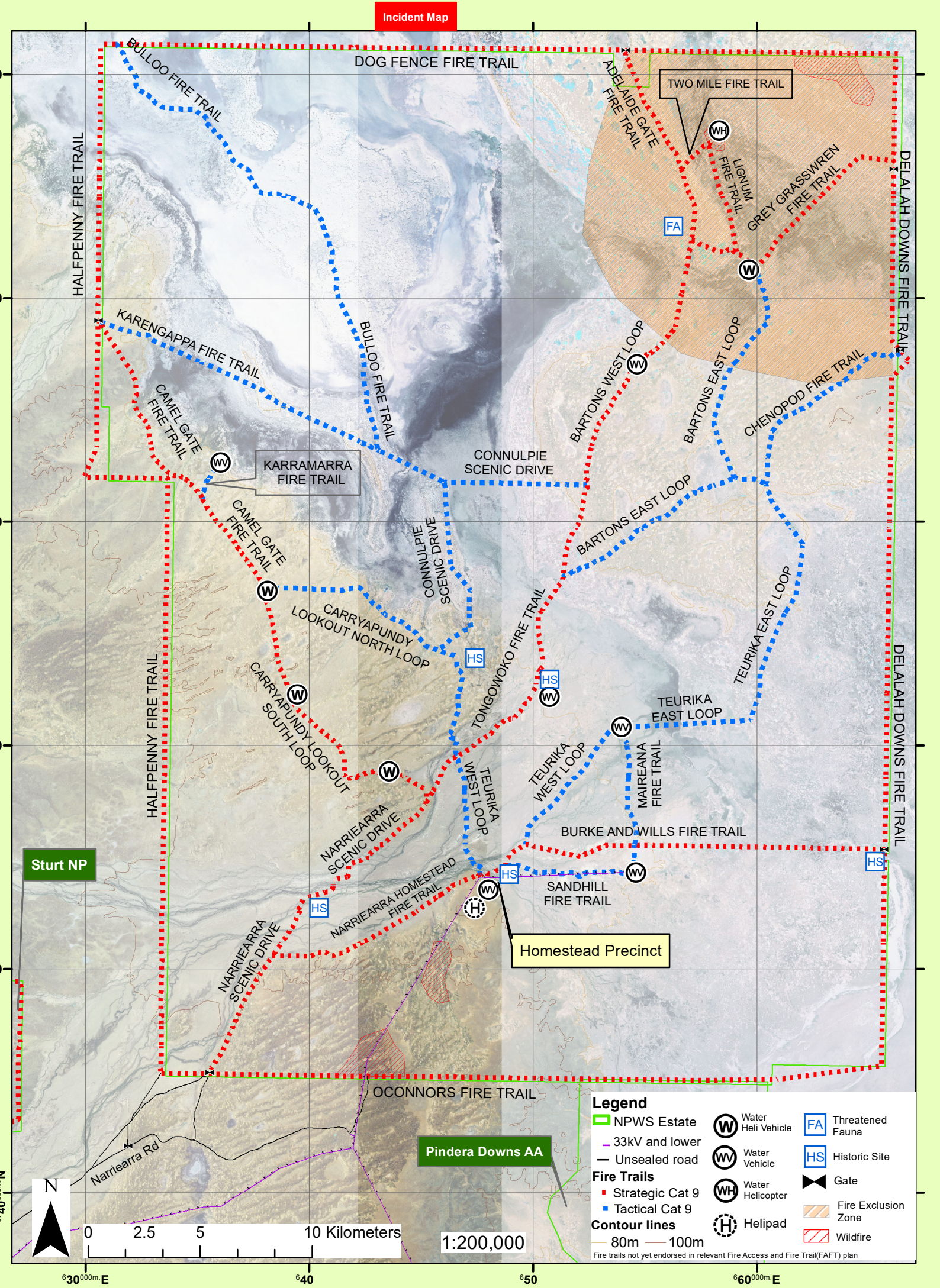
The preliminary cultural heritage assessment has revealed evidence that Narriearra has a rich history of Aboriginal occupation.

Aboriginal Cultural Heritage Site Management
Nocturnal fires, including lightning strikes.
Protect the site from catching fire, clear around base of litter and shrubs.
Fuels may be used to protect the tree, or to extinguish fire.
Do not cut trees.
Ground based sites, including artefacts, middens, hearths & stone arrangements.
Protect site from any ground disturbance, including the use of earth-moving equipment and vehicles.
Apply a machinery exclusion area where there is a high concentration of known sites.
Burnt sites.
Protect sites from any disturbance by excluding operations by at least 25 metres.
Areas may be burnt.
Heritage Sites (Narriearra Homestead, Teurika Homestead, Connulpie Homestead, Whitbarrow punt site)
Protect the sites from fire by ablating high ephemerally growth areas.
Exclude site from fire where possible.
Avoid construction of new containment lines - if unavoidable utilise least destructive method as possible around the perimeter and in accordance with the Operational Guidelines of this strategy.
Fuels may be used to protect the site, or to extinguish fire.
Wooden above yards, survey trees, old signs or trails.
Protect the site from fire.
Fuels may be used to protect the sites, or to extinguish fire.
Threatened fauna species.
Threatened flora species.
Management actions.
Where possible, fire must be excluded from the signum habitat zones of the Grey Grasswren.
The use of earthmoving equipment must only be used with prior consent of a NPWS Officer with local area knowledge of critical habitat zones.
Monitoring to record fire response must be initiated after a fire event.

Suppression Strategies

WARNING: where high ephemerally fuel growth exists fire can burn with very high intensity and fire runs should be anticipated with winds from any direction. Entrapment risk is very high.

Typical Conditions	Direct	Indirect	Guidelines
Current Fire Danger Rating (FDR) of Very High or above	Firefighter safety is the paramount consideration during deployment. Any wildfire in Grey Grasswren habitat must be kept to the smallest extent possible if able, engage the use of aircraft as soon as possible when fire is within inaccessible terrain. A risk to life and/or property exists in the short-medium term.	Develop a suppression plan using existing and/or potential containment lines. If possible, consider biodiversity requirements but never to the detriment of life and property and high value assets (e.g. Grey Grasswren habitat).	Direct and parallel attack may be applied with earth moving machinery and fire units, in accordance with this strategy's operational guidelines.
FDR of High or below	Evaluate the biodiversity thresholds and use direct attack methods to extinguish if required. Any wildfire in Grey Grasswren habitat must be kept to the smallest extent possible-observe forecast weather conditions and consider engaging the use of aircraft when fire is in inaccessible terrain.	Develop a fire suppression plan to the maximum allowable perimeter based on Biodiversity thresholds.	
Short-medium term forecast indicates 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.		



Legend

- NPWS Estate
- 33kV and lower
- Unsealed road
- Fire Trails: Strategic Cat 9, Tactical Cat 9
- Contour lines: 80m, 100m
- Water Helicopter
- Water Vehicle
- Water Helipad
- Threatened Fauna
- Historic Site
- Gate
- Fire Exclusion Zone
- Wildfire

Fire trails not yet endorsed in relevant Fire Access and Fire Trail (FAFT) plan