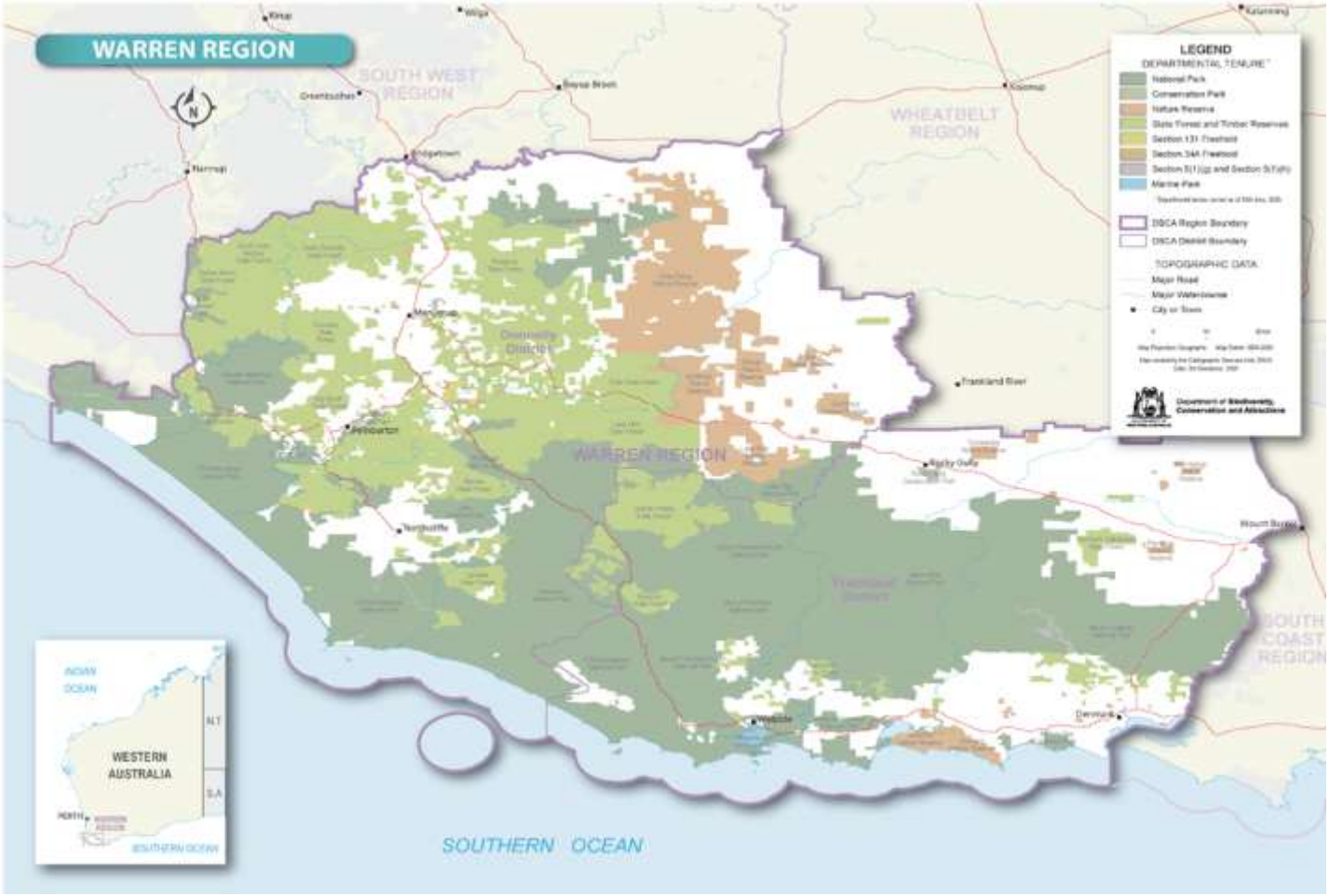
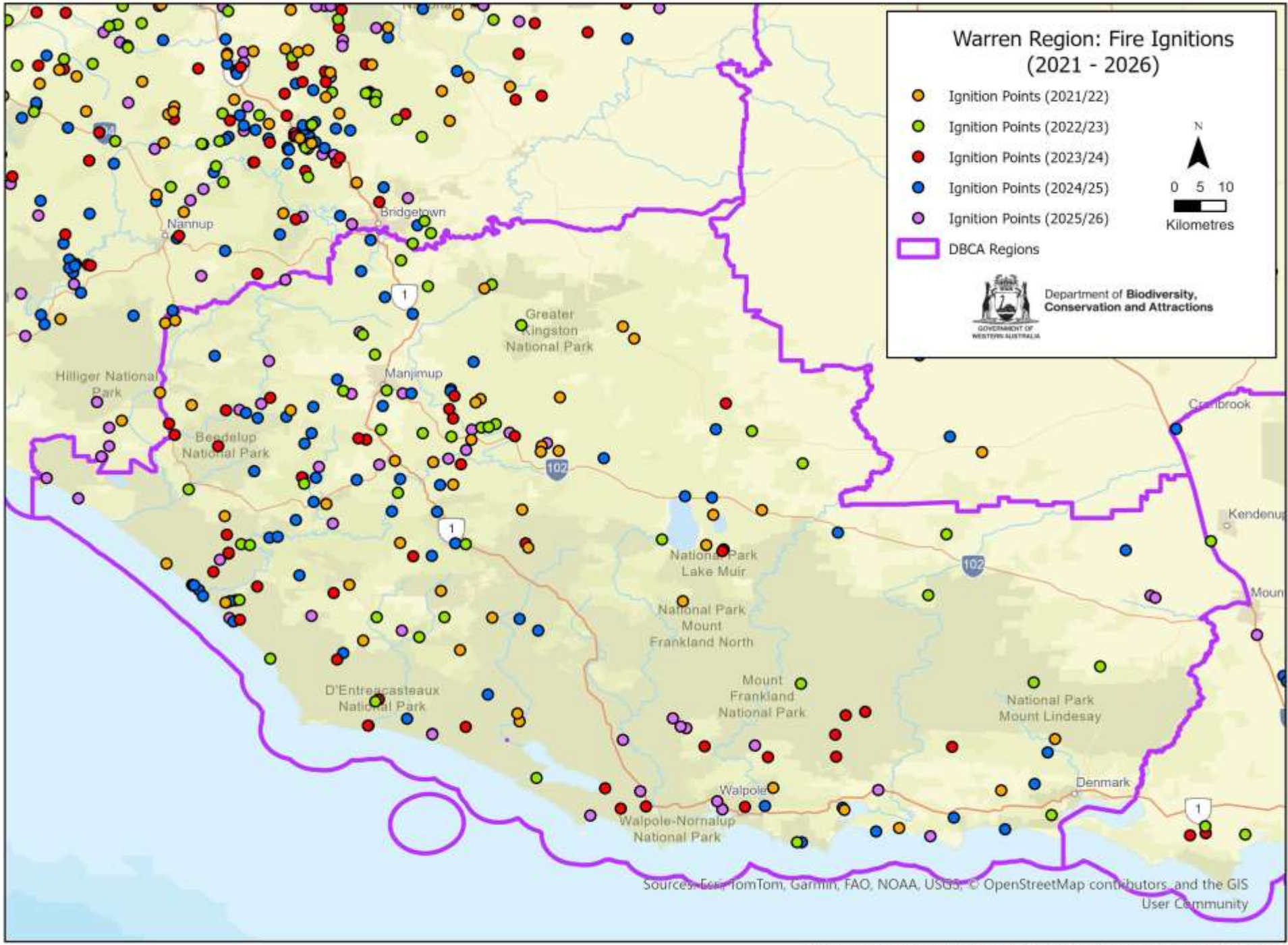
Community Information Session
Manjimup, 21 July 2026



Prescribed Burn Program Development

2026 Warren Region



Produced by Fire Information Management on 13 July 2025. Confidential. (20260713)


Warren Region; Significant Fires (2015 - 2025)
DON 019, March 2015 (Northcliffe)
DON 018, March 2022 (Flybrook)
DON 015, January 2024 (Broke)
FRK 008, April 2024 (Middle Road)
DON 017, February 2025 (Chesapeake)
N
0 5 10 15
Kilometres
Department of Biodiversity, Conservation and Attractions
Greater Kingston National Park
Hilliger National Park
Manjimup
Beedelup National Park
Hawke Park
National Park Lake Muir
Shannon National Park
National Park Mount Frankland North
National Park Mount Roe
Mount Frankland National P
National Park Mount Frankland South
Walpole
Walpole-Nornalup National Park
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

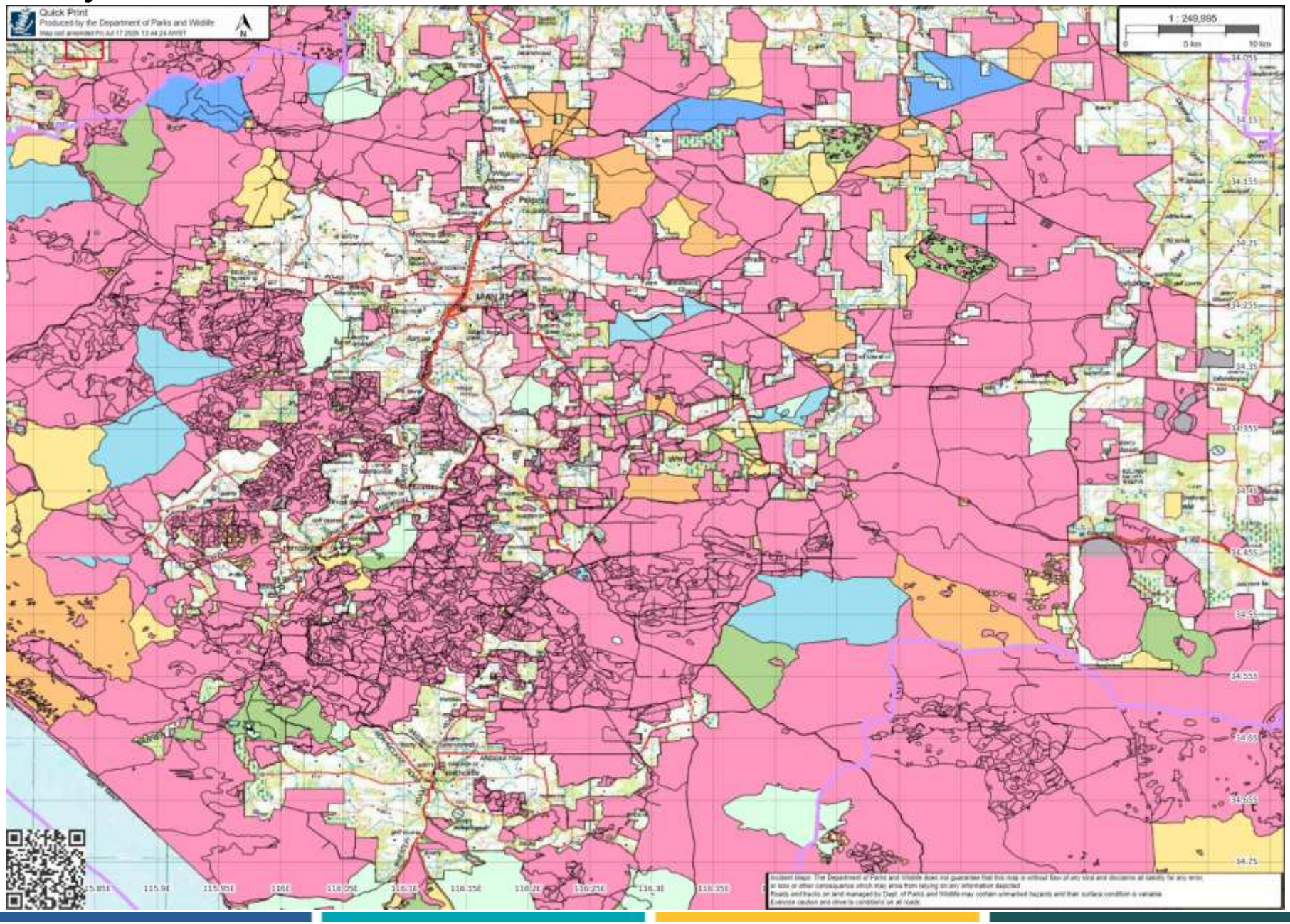
Why Apply Prescribed Fire?

1. Maintain and enhance ecological processes
    - Maximise Biodiversity
2. Reduce Bushfire risk
    - Low Fuel Load = Low Risk
3. Support research
    - Science based continual learning

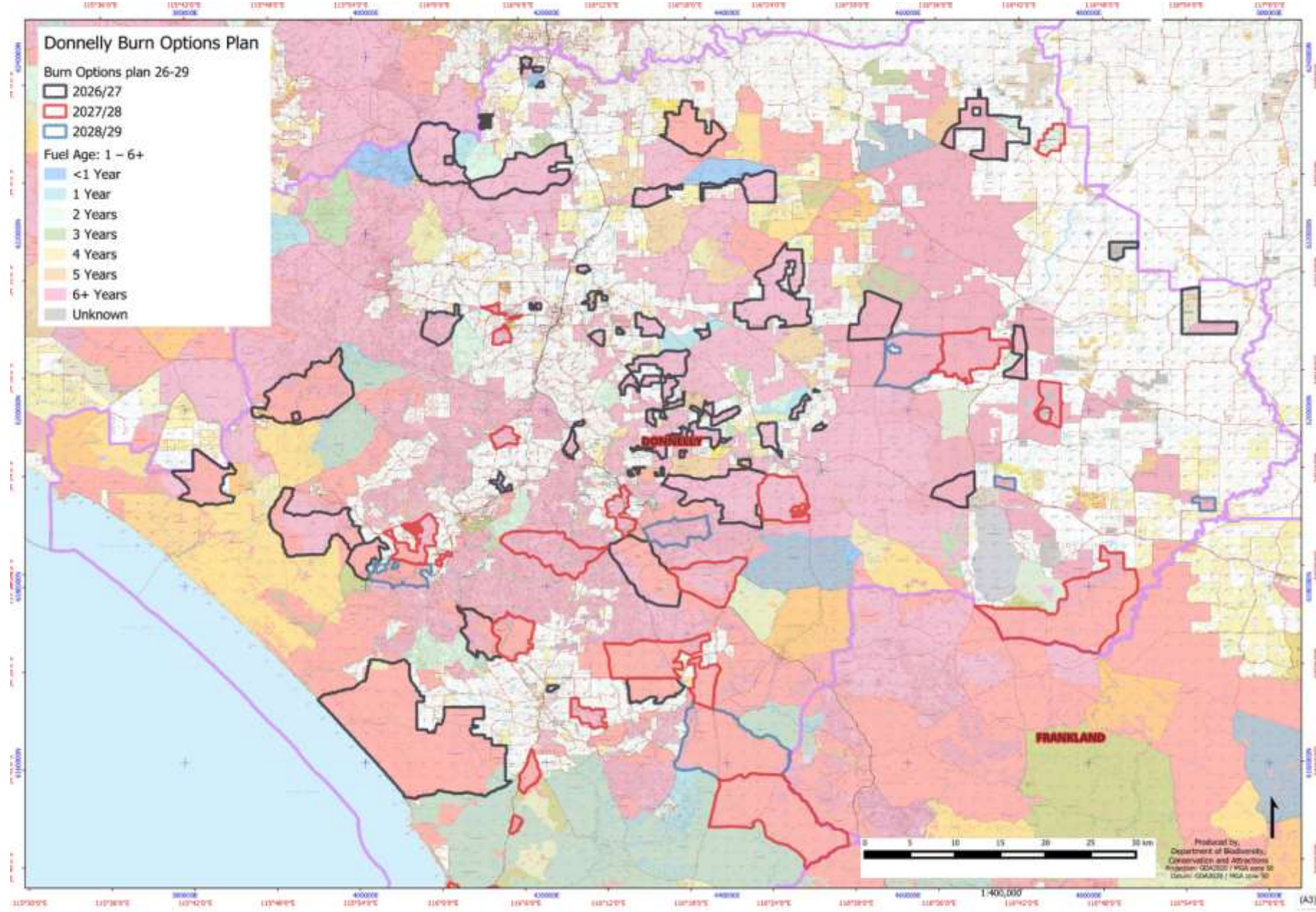
Burn Planning Process

STRATEGIC PLANNING	PROGRAM PLANNING	OPERATIONAL PLANNNG	BURN IMPLEMENTATION
Bushfire Risk Management Framework Regional Fuel Management Plan	Regional Fuel Planning Tool 3 Year Burn Options Program Annual Burn Options Program	Prescribed Fire Plan	Prescribed Burning Options
Decades 5 Years	3 Years 1 Year	Months Weeks	Days Hours Minutes
State Region	Region District	Planned Area	Treatment Area

Analyse Bushfire Risk



Three-Year Burn Options Program



('Prescribed Fire Plan',)

Warren, Frankland

FRK_090

Thames FCA

2022/2023

PDF Created on 30-06-2026 10:21

Prescribing Officer: Tristan Farmer

Prescribed Fire Plan Status

Status	Last Updated
Planning - Draft	05-07-2022 08:00
Endorsement - Endorsed	08-11-2022 14:26
Approval - Approved	10-11-2022 19:41
Ignition - Ignition Commenced	
Closure - Burn Open	

Prescribed Fire Plan Overview

Part	Checklist Last Updated
Part A - Summary and Approval	13-10-2022 11:29
Part B - Burn Implementation Plan	02-09-2021 14:04
Part C - Burn Evaluation	18-05-2022 11:02
Part D - Supporting Documents and Maps	

Post Burn Review

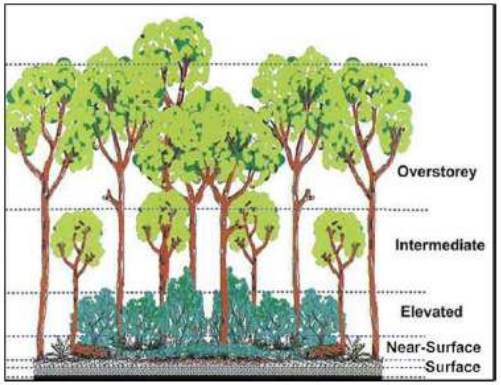
- Report on burn objectives.
  - Severity mapping
  - Reporting

Severity Class Characteristics

Severity classes are defined using the table below.

Note, "intact" means original (pre-burn), green crowns.

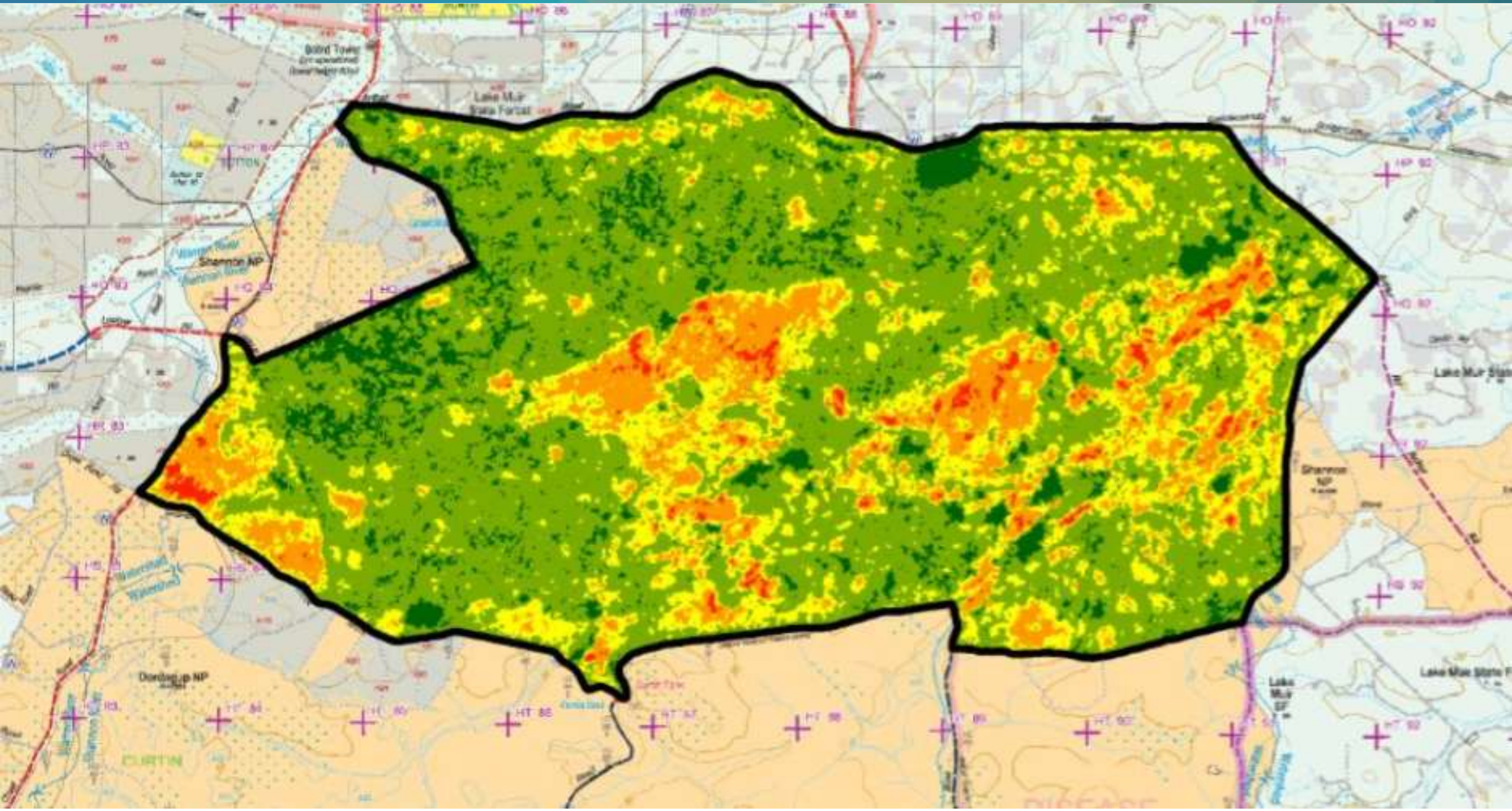
OzCBI - Primary Determinants (Avg for the majority in a 20m radius plot)					
Measurements in 20m radius	Unburnt	Low	Medium	High/Full Crown Scorch	Very High/Defoliation
Canopy (Overstorey)					
Canopy crowns	>90% crown intact	>90% crown is intact	>50% crown is intact	<25% crown is intact	>95% crown defoliated
% Cover post-fire leaf fall	n/a	n/a	n/a	50 - 90% area	<20% area
Bark char on canopy trees	No fresh char	Char ≤ 25% tree height	Char is 25 - 50% tree height	Char is 50 - 75% tree height	Char > 75% tree height
Midstorey (Intermediate)					
Midstorey crowns	>90% crown intact	>75% crown is intact	25 - 75% crown is intact	<25% crown is intact	<5% crown is intact
Char on midstorey trees	No fresh char	Char ≤ 50% tree height	Char ≤ 75% tree height	Char is 50 - 100% tree heigh	Char > 75% tree height
Elevated (tall shrubs/low trees)					
Elevated crowns	>90% crown intact	>25% crown is intact	10 - 25% crown is intact	5 - 10% crown may be intact	<5% crown is intact
Surface Fuels					
Area unburnt	>75% area unburnt	<25% unburnt	>90% burnt	>90% burnt	>90% burnt
Duff remaining	Majority unchanged	Thin to deep char	10 - 50% duff consumed	Some duff consumed, may only remain in depressions	Duff consumed or only remaining in depressions



GOVERNMENT OF WESTERN AUSTRALIA

Department of **Biodiversity, Conservation and Attractions**

PARKS AND **WILDLIFE** SERVICE

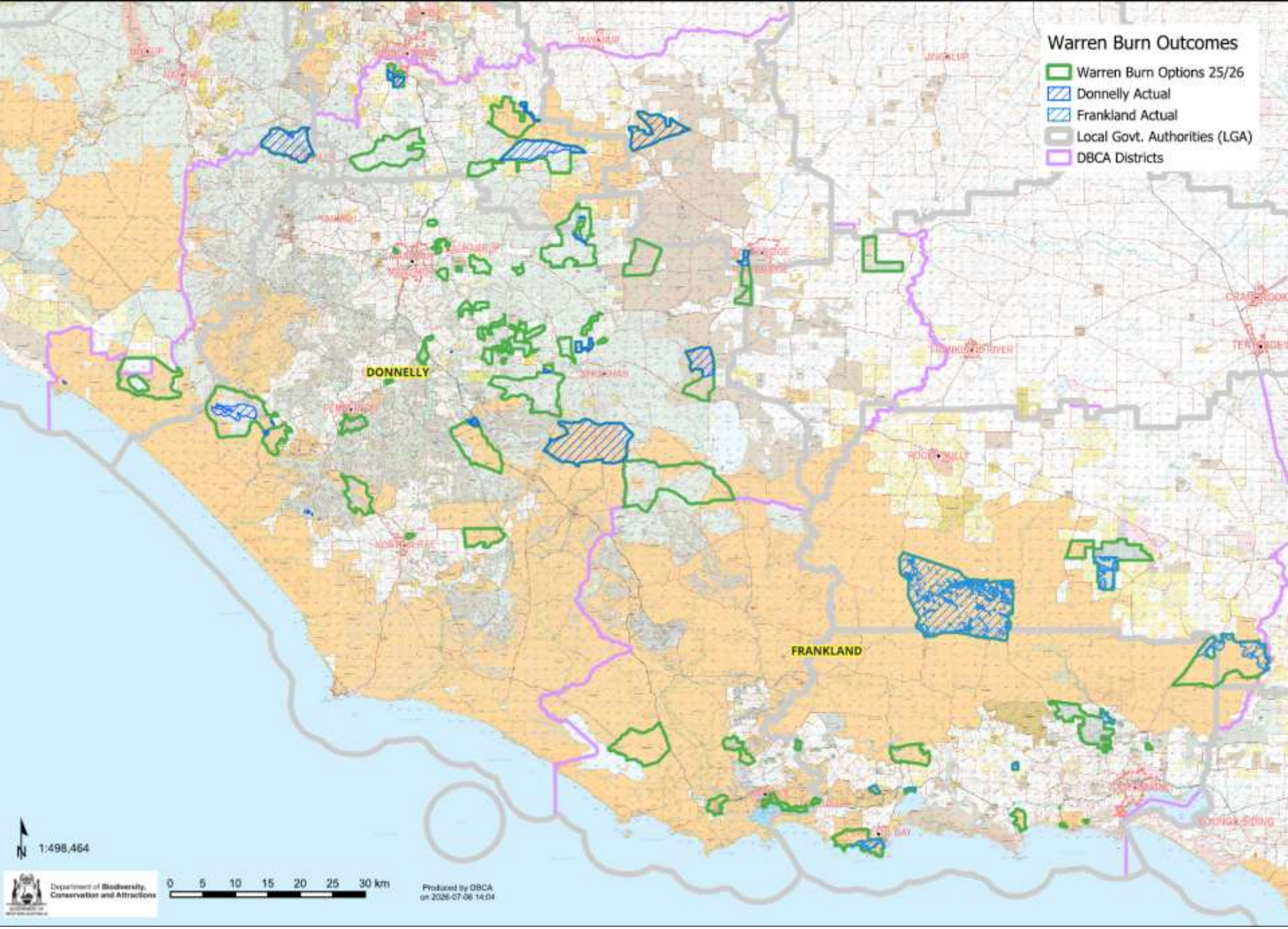


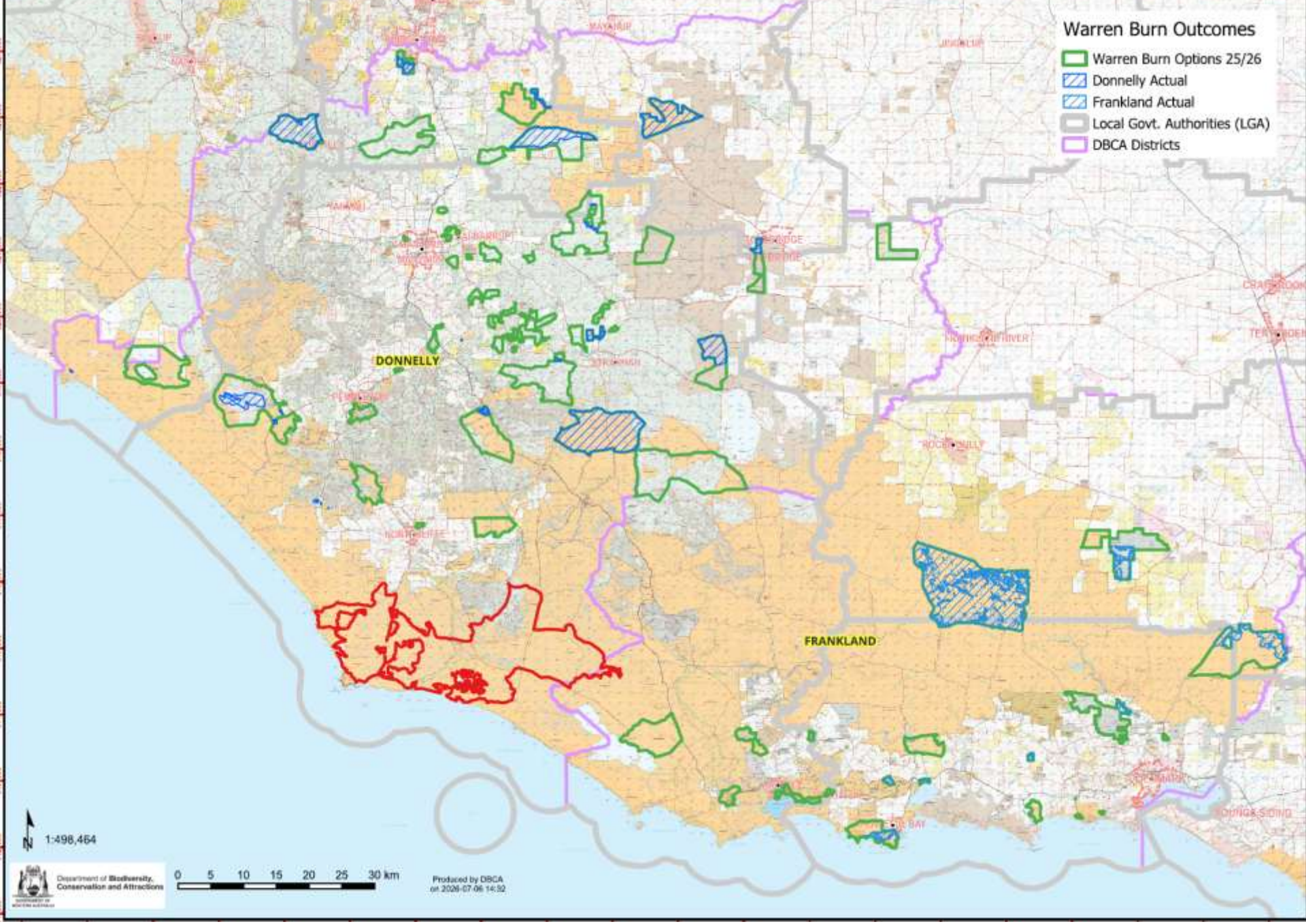
GOVERNMENT OF WESTERN AUSTRALIA

Department of Biodiversity, Conservation and Attractions

PARKS AND WILDLIFE SERVICE

Season Review 2025/2026
Donnelly District


Warren Burn Outcomes
Warren Burn Options 25/26
Donnelly Actual
Frankland Actual
Local Govt. Authorities (LGA)
DBCA Districts
DONNELLY
FRANKLAND
1:498,464
0 5 10 15 20 25 30 km
Department of Biodiversity, Conservation and Attractions
Produced by DBCA on 2026-07-06 14:04


Warren Burn Outcomes
Warren Burn Options 25/26
Donnelly Actual
Frankland Actual
Local Govt. Authorities (LGA)
DBCA Districts
DONNELLY
FRANKLAND
1:498,464
0 5 10 15 20 25 30 km
Department of Biodiversity, Conservation and Attractions
Produced by DBCA
on 2026-07-06 14:52

Department of Biodiversity, Conservation and Attractions

PARKS AND WILDLIFE SERVICE

GOVERNMENT OF WESTERN AUSTRALIA

Regional Preparedness and Response 25/26

134 employees on fire rosters

34-week roster period (October – June)

32 employees on call (average)

695 detection flights.

3 D8 bulldozers

2 Front end loaders

24 Trucks

Light fleet

2 fixed wing suppression aircraft

Other specialist equipment

Department of Biodiversity, Conservation and Attractions

PARKS AND WILDLIFE SERVICE

GOVERNMENT OF WESTERN AUSTRALIA

Season Review

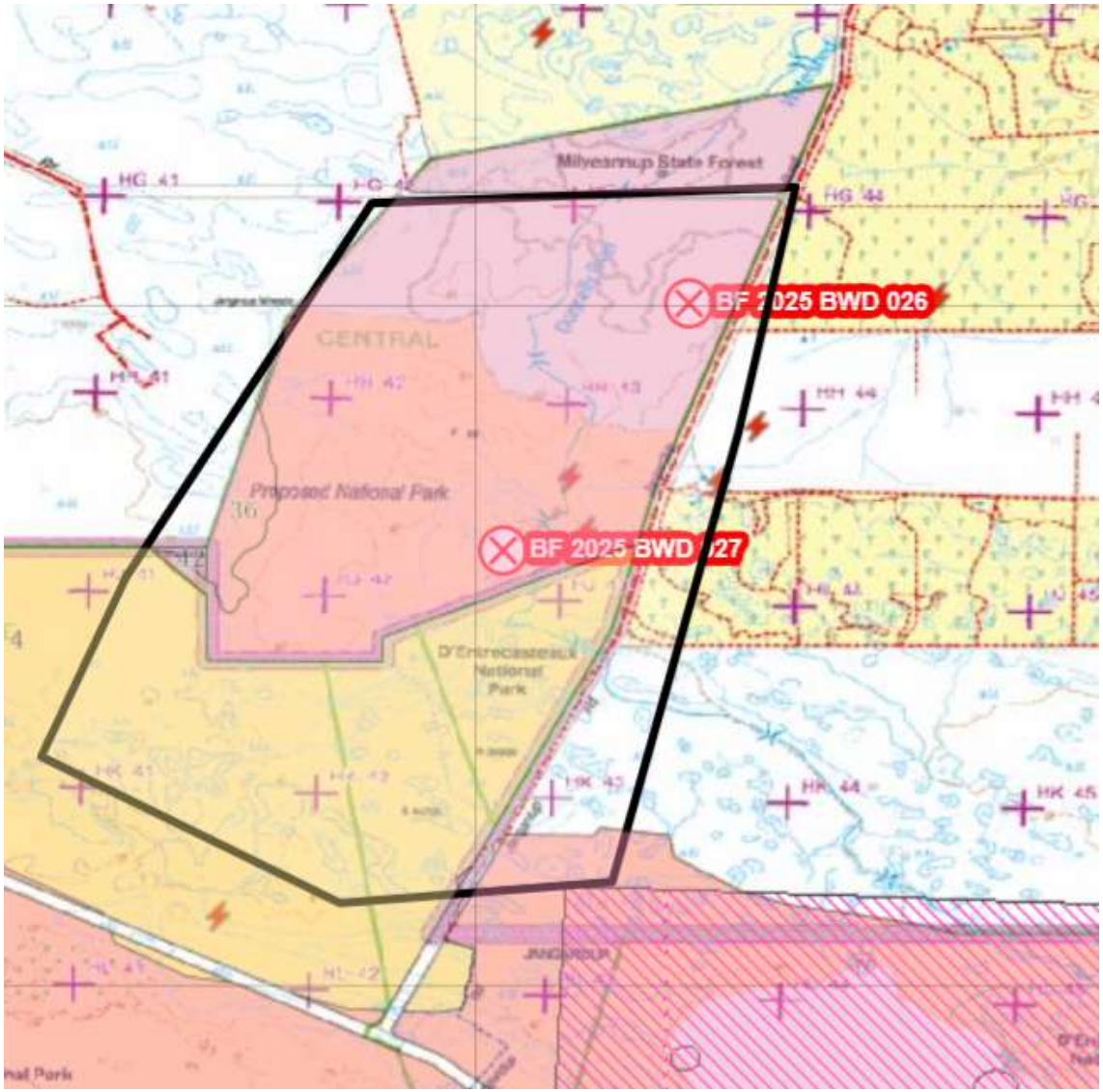
- DBCA response to 39 Fires in the Warren Region 25/26.
- Final controlling agency for 28.
- Supported efforts in other regions on 29 separate occasions.

Tenure	Approx. Area Burnt (ha)
Private Property	508.58
Other Crown	131.56
National Park	22.33
State Forest Native Hardwood	1.15
Nature Reserve	0.01

Department of Biodiversity, Conservation and Attractions

PARKS AND WILDLIFE SERVICE

Jasper Fire December 2025

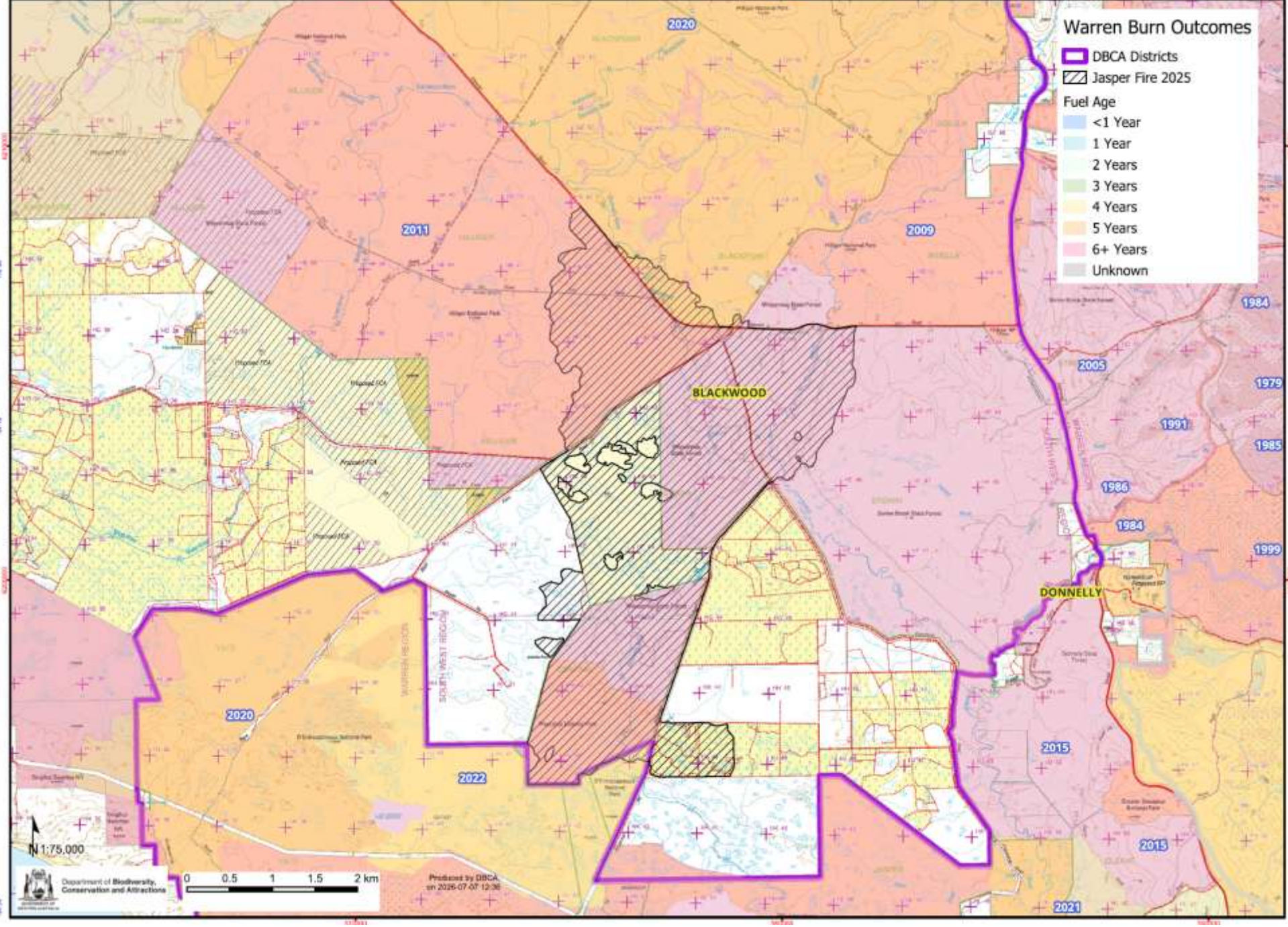



Manjimup
Augusta
Fire

GOVERNMENT OF WESTERN AUSTRALIA

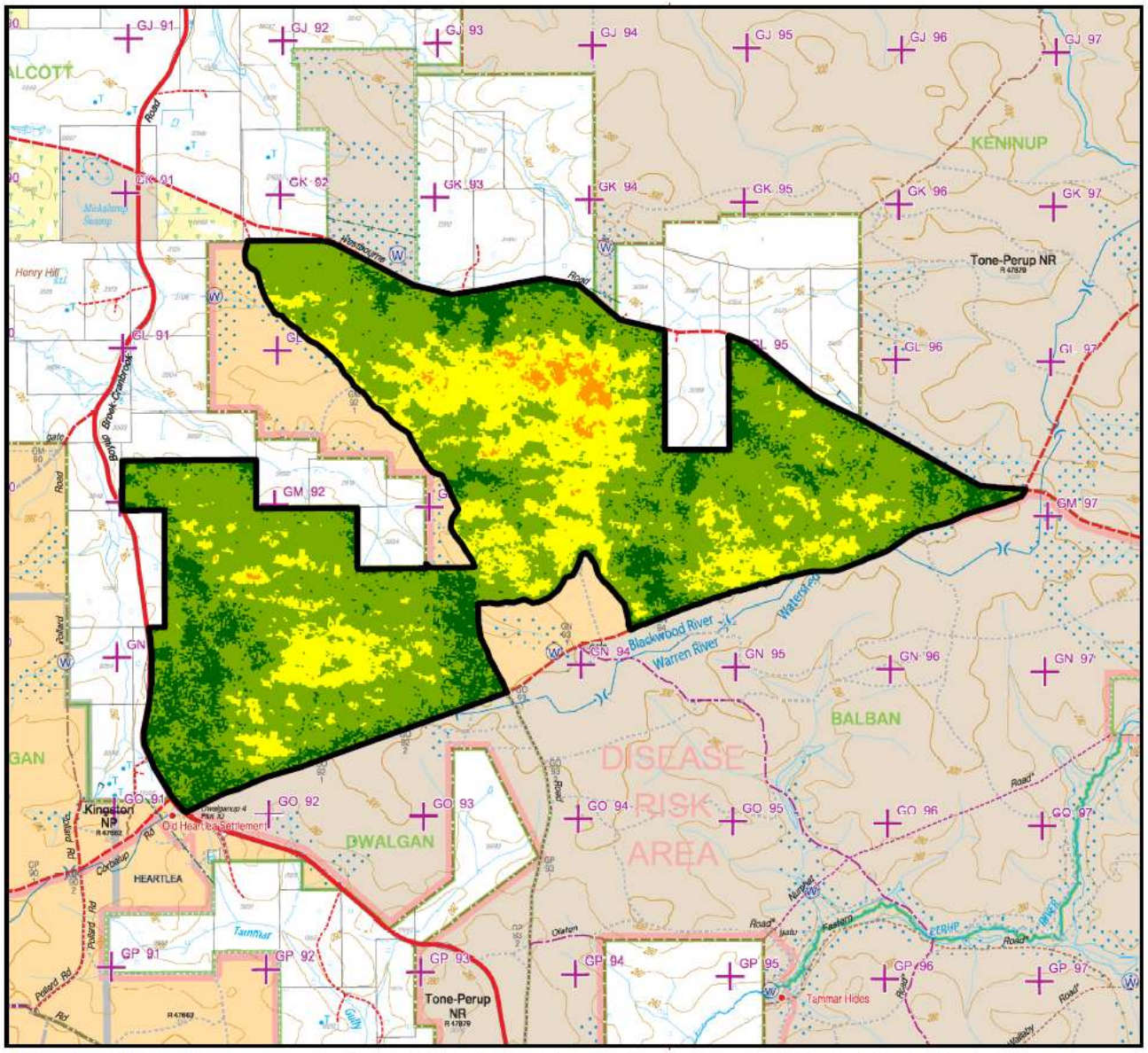
Department of Biodiversity, Conservation and Attractions

PARKS AND WILDLIFE SERVICE


Warren Burn Outcomes
DBCA Districts
Jasper Fire 2025
Fuel Age
<1 Year
1 Year
2 Years
3 Years
4 Years
5 Years
6+ Years
Unknown
BLACKWOOD
DONNELLY
SOUTH WEST REGION
2020
2011
2009
1984
2005
1979
1991
1985
1986
1984
1999
2020
2022
2015
2015
2021
N
1:75,000
0 0.5 1 1.5 2 km
Department of Biodiversity, Conservation and Attractions
Produced by DBCA on 2026-07-07 12:36

Donnelly 25/26 Outcomes

DON_159 Dwalgan



Indicative Burn Severity Map

Dwalgan

Burn Id: DON159

Date created: 23/02/2026

Latest satellite image: 3/11/2025

Legend

Treatment area

Unburnt:	15.73 %
Low:	60.85 %
Medium:	22.05 %
High:	1.37 %
Very high:	0 %
Burnt heath:	0 %
Total area:	2323 ha

0 0.4 0.8 1.6 2.4 3.2
Kilometres

GDA2020 MGA Zone 50

1:58,000 (A4)

N

Produced by the Department of Biodiversity, Conservation and Attractions

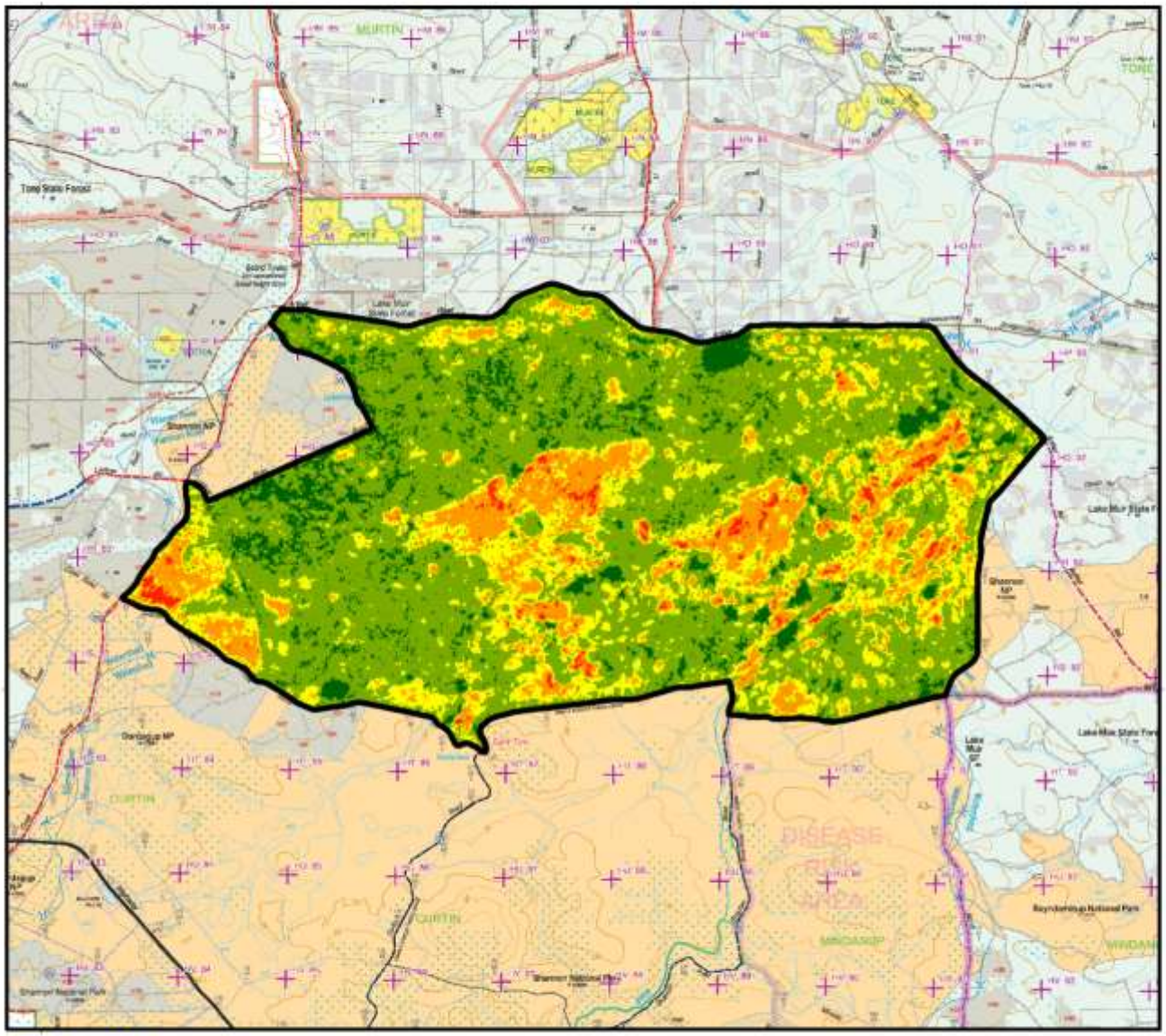
Graticule shown at 1 degree intervals
Grid shown at 100000 metre intervals

Densmore VS, van Dongen RJ, Ong R, Harris BG, 2022, OzCBI: the composite burn index adapted to assess fire severity and key fauna habitat features in Australian ecosystems, Australian Forestry, 86:1-21


50H
0462779mE
6229498mN
DIRECTION
West
34° 4.477' S
116° 35.796' E
ACCURACY 6m
Donnelly 25 26
ID: -2026872085
25 Sep 2025
14:40:49 (AWST)


50H
0457937mE
6227293mN
DIRECTION
North
34° 5.659' S
116° 32.641' E
ACCURACY 3m
Donnelly 25 26
ID: -1241265700
14 Oct 2025
14:31:23 (AWST)

DON_160 Gobblecannup



Indicative Burn Severity Map

Gobblecannup

Burn Id: DON160

Date created: 20/05/2026

Latest satellite image: 1/02/2026

Legend

Treatment area

Unburnt:	9.37 %
Low:	57.99 %
Medium:	19.38 %
High:	11.94 %
Very high:	1.32 %
Burnt heath:	0 %
Total area:	6581 ha

0 0.5 1 2 3 4
Kilometres

GDA2020 MGA Zone 50

1:84,420 (A4)

N

Produced by the Department of Biodiversity, Conservation and Attractions

Graticule shown at 1 degree intervals
Grid shown at 100000 metre intervals

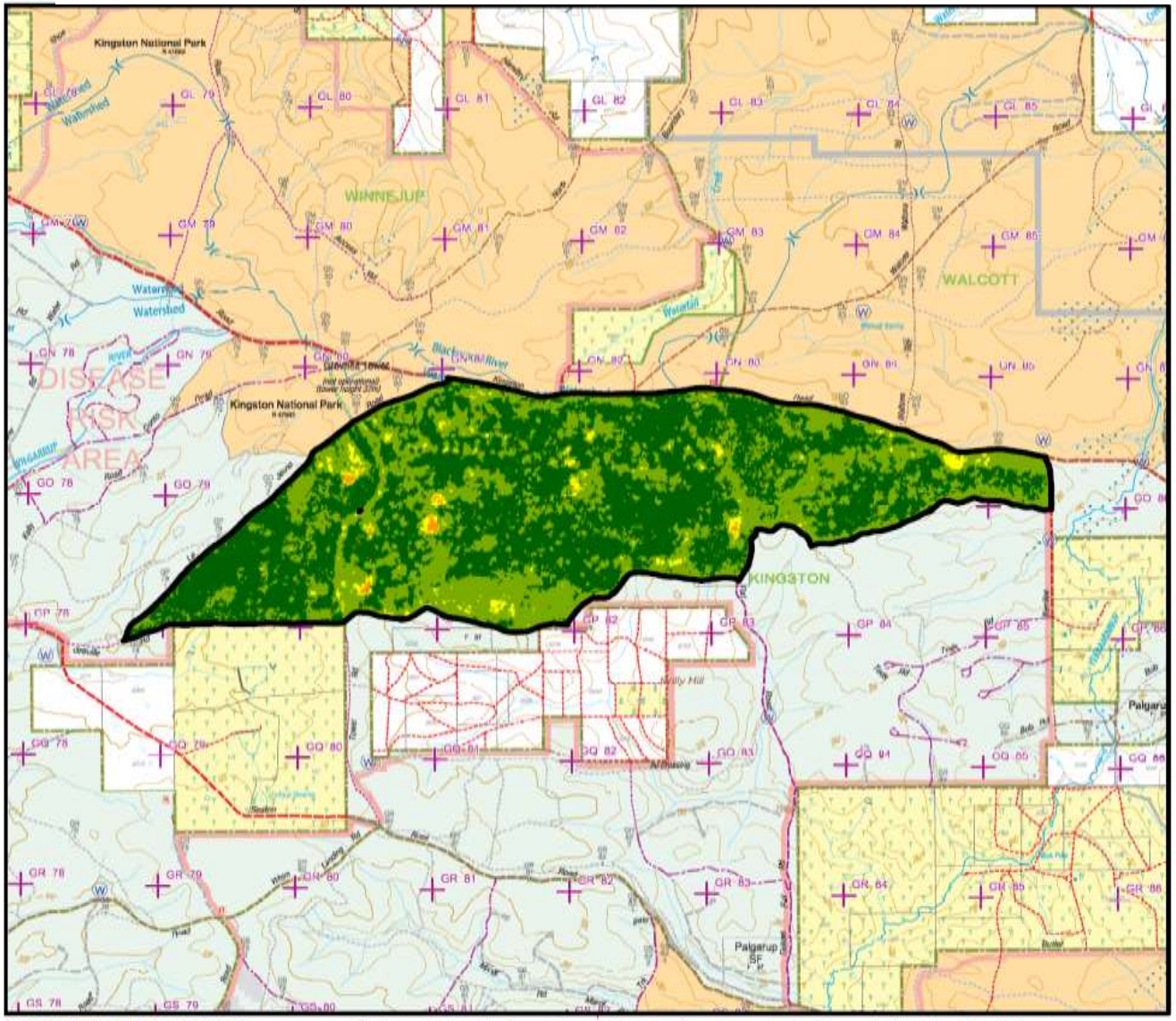
Roads and tracks on land managed by DBCA may contain unmarked hazards and their surface condition is variable. Exercise caution and drive to conditions on all roads.

lensmore VS, van Dongen RJ, Ong R, Harris BG, 2022, OzCBI: the composite burn index adapted to assess fire severity and key fauna habitat features in Australian ecosystems, Australian Forestry, 86:1-21


50H
0455235mE
6177988mN
DIRECTION
North-West
34° 32.330′ S
116° 30.730′ E
ACCURACY 4m
Donnelly 25 26
ID: -2019040475
13 Dec 2025
14:00:29 (AWST)


50H
0447842mE
6185711mN
DIRECTION
West
34° 28.131′ S
116° 25.924′ E
ACCURACY 4m
Donnelly 25 26
ID: -2026872085
11 Jan 2026
15:35:12 (AWST)

DON_163 Kingston



Indicative Burn Severity Map

Kingston

Burn Id: DON163

Date created: 9/01/2026

Latest satellite image: 13/12/2025

Legend

Treatment area

Unburnt:	56 %
Low:	41.71 %
Medium:	1.99 %
High:	0.3 %
Very high:	0 %
Burnt heath:	0 %
Total area:	1946 ha

0 0.475 0.95 1.9 2.85 3.8
Kilometres

GDA2020 MGA Zone 50 1:67,000 (A4)

N

Produced by the Department of Biodiversity, Conservation and Attractions

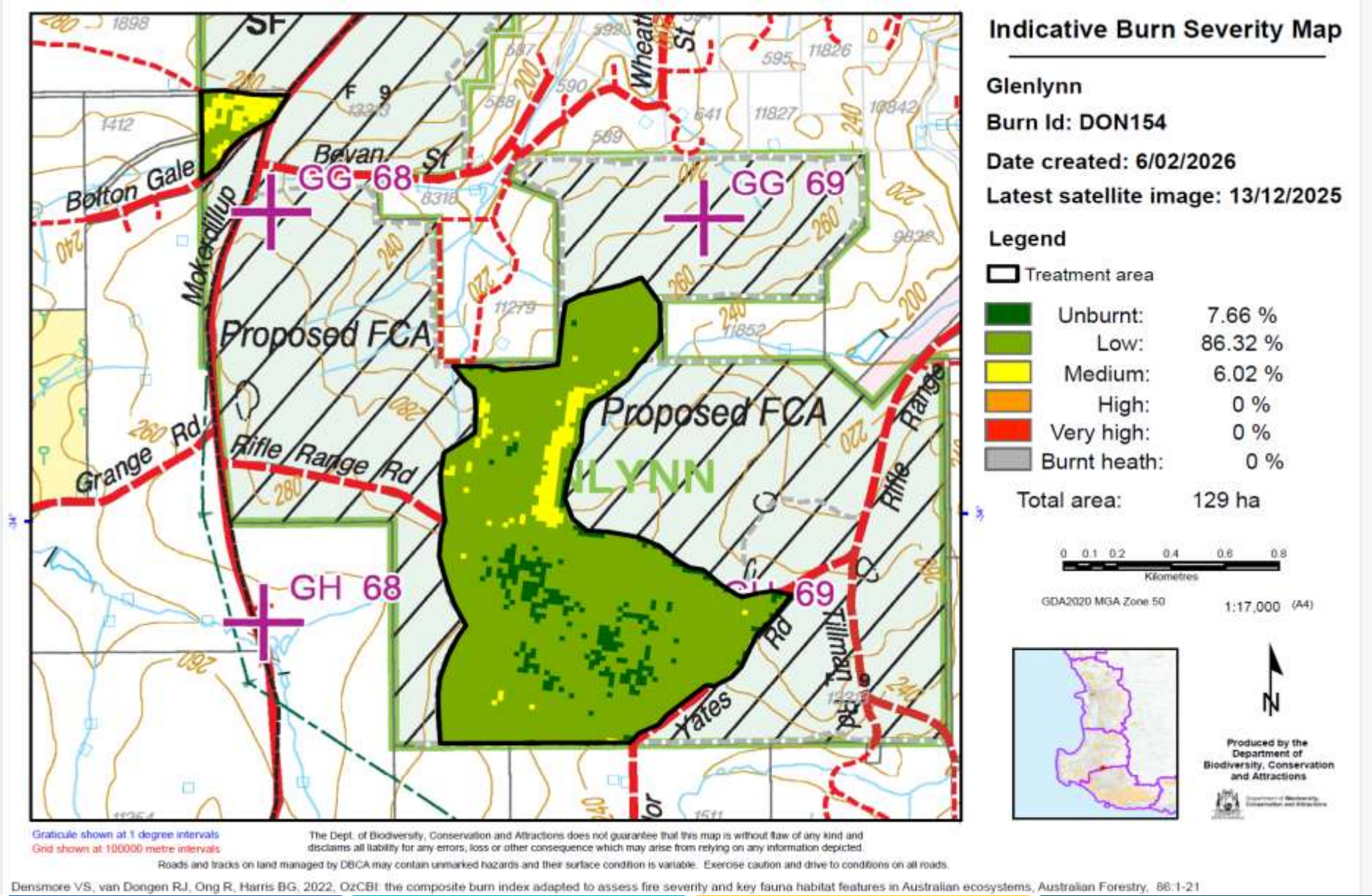
Graticule shown at 1 degree intervals
Grid shown at 100000 metre intervals

Densmore VS, van Dongen RJ, Ong R, Harris BG, 2022, OzCBI: the composite burn index adapted to assess fire severity and key fauna habitat features in Australian ecosystems, Australian Forestry, 86:1-21


50H
0440330mE
6225503mN
DIRECTION
West
34° 6.576′ S
116° 21.182′ E
ACCURACY 4m
Donnelly 25 26
ID: -1241265700
13 Nov 2025
15:19:26 (AWST)


50H
0440512mE
6226762mN
DIRECTION
North-West
34° 5.895′ S
116° 21.305′ E
ACCURACY 6m
Donnelly 25 26
ID: -2026872085
4 Jan 2026
13:57:02 (AWST)

DON_154 Glenlynn

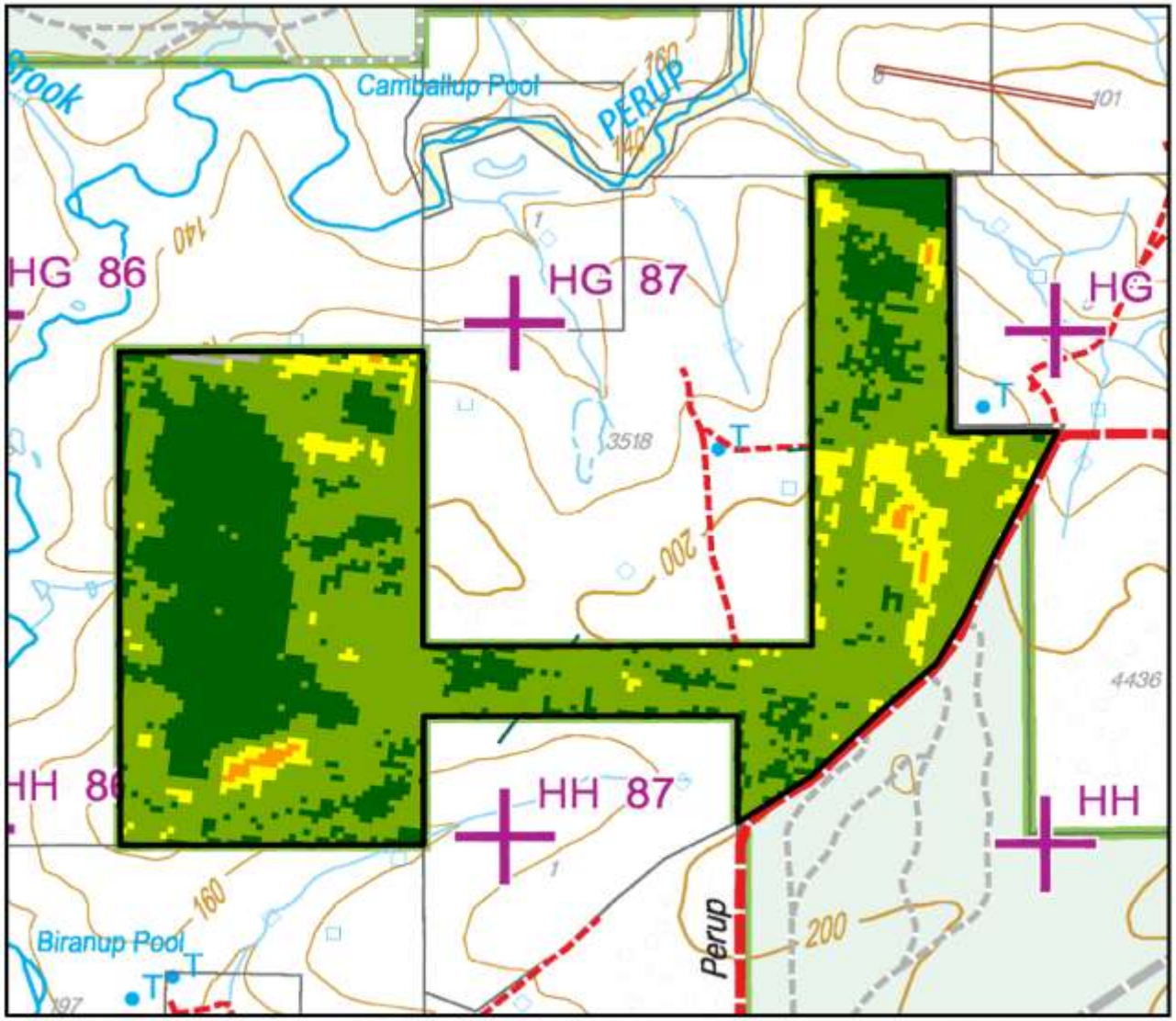


Densmore VS, van Dongen RJ, Ong R, Harris BG, 2022, OzCBI: the composite burn index adapted to assess fire severity and key fauna habitat features in Australian ecosystems, Australian Forestry, 86:1-21


50H
0420255mE
6237744mN
DIRECTION
West
33° 59.872′ S
116° 8.191′ E
ACCURACY 2m
Donnelly 25 26
ID: -2026872085
25 Sep 2025
14:26:35 (AWST)


50H
0419193mE
6238788mN
DIRECTION
South-West
33° 59.302′ S
116° 7.507′ E
ACCURACY 6m
Donnelly 25 26
ID: -2026872085
3 Nov 2025
15:43:09 (AWST)

DON_152 Topanup



Indicative Burn Severity Map

Topanup

Burn Id: DON152

Date created: 1/07/2026

Latest satellite image: 19/05/2026

Legend

Treatment area

Unburnt:	33.37 %
Low:	58.64 %
Medium:	7.14 %
High:	0.65 %
Very high:	0 %
Burnt heath:	0.21 %
Total area:	250 ha

0 0.1 0.2 0.4 0.6 0.8
Kilometres

GDA2020 MGA Zone 50

1:17,000 (A4)

N

Produced by the Department of Biodiversity, Conservation and Attractions

Graticule shown at 1 degree intervals
Grid shown at 100000 metre intervals

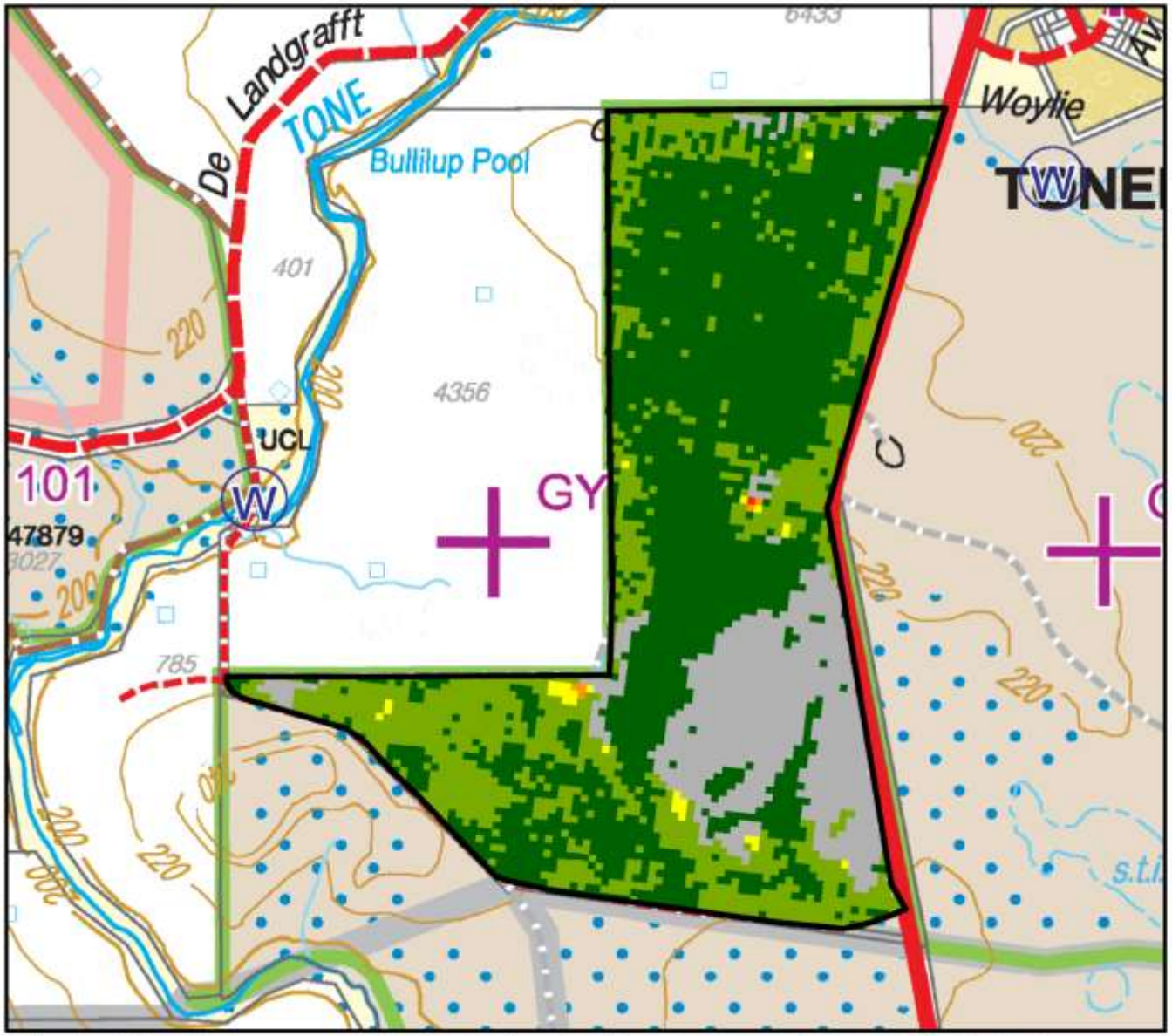
Roads and tracks on land managed by DBCA may contain unmarked hazards and their surface condition is variable. Exercise caution and drive to conditions on all roads.

ansmore VS, van Dongen RJ, Ong R, Harris BG, 2022, OzCBI: the composite burn index adapted to assess fire severity and key fauna habitat features in Australian ecosystems, Australian Forestry, 86:1-21


50H
0448452mE
6195934mN
DIRECTION
West
34° 22.601′ S
116° 26.359′ E
ACCURACY 2m
Donnelly 25 26
ID: -2019040475
15 Apr 2026
15:38:45 (AWST)


50H
0445168mE
6199253mN
DIRECTION
South-East
34° 20.795′ S
116° 24.229′ E
ACCURACY 4m
Donnelly 25 26
ID: -2019040475
17 Apr 2026
15:43:38 (AWST)

DON_146 Tonebridge



Indicative Burn Severity Map

Tonebridge

Burn Id: DON146

Date created: 1/07/2026

Latest satellite image: 19/05/2026

Legend

Treatment area

Unburnt:	54.98 %
Low:	27.27 %
Medium:	0.64 %
High:	0.11 %
Very high:	0.02 %
Burnt heath:	16.98 %
Total area:	187 ha

0 0.1 0.2 0.4 0.6 0.8
Kilometres

GDA2020 MGA Zone 50

1:15,000 (A4)

N

Produced by the Department of Biodiversity, Conservation and Attractions

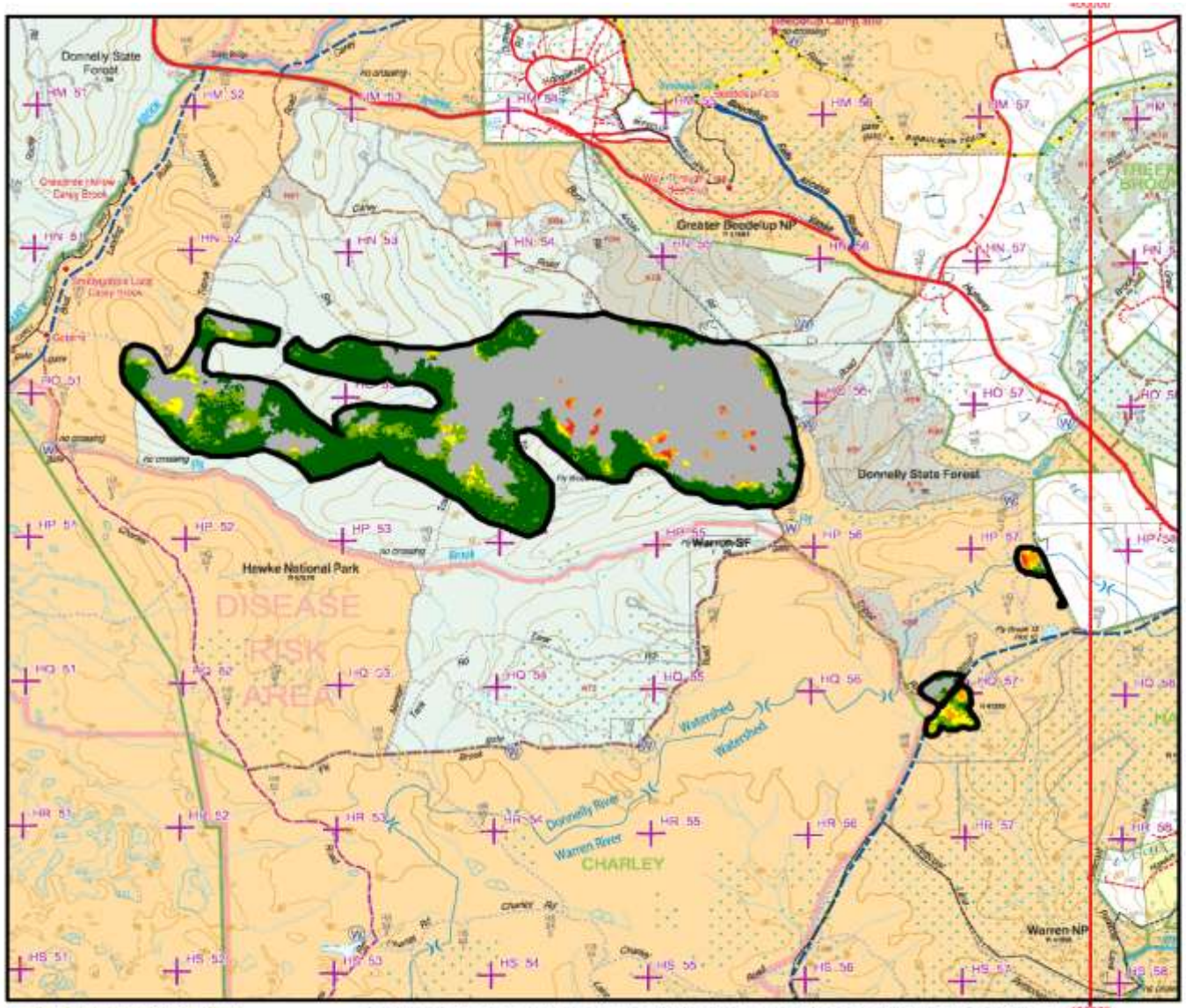
Graticule shown at 1 degree intervals
Grid shown at 100000 metre intervals

Densmore VS, van Dongen RJ, Ong R, Harris BG, 2022, OzCBI: the composite burn index adapted to assess fire severity and key fauna habitat features in Australian ecosystems, Australian Forestry, 86:1-21


50H
0470952mE
6210357mN
DIRECTION
South-West
34° 14.849′ S
116° 41.072′ E
ACCURACY 4m
Donnelly 25 26
ID: -2026872085
7 May 2026
14:49:42 (AWST)


50H
0472155mE
6212173mN
DIRECTION
West
34° 13.868′ S
116° 41.860′ E
ACCURACY 4m
Donnelly 25 26
ID: -2026872085
7 May 2026
14:48:47 (AWST)

DON_167 Flybrook



Indicative Burn Severity Map

Flybrook

Burn Id: DON167

Date created: 1/07/2026

Latest satellite image: 4/06/2026

Legend

Treatment area

Unburnt:	35.82 %
Low:	7.63 %
Medium:	1.85 %
High:	1.04 %
Very high:	0.46 %
Burnt heath:	53.2 %
Total area:	996 ha

0 0.4 0.8 1.6 2.4 3.2
Kilometres

GDA2020 MGA Zone 50 1:59,000 (A4)

N

Produced by the Department of Biodiversity, Conservation and Attractions

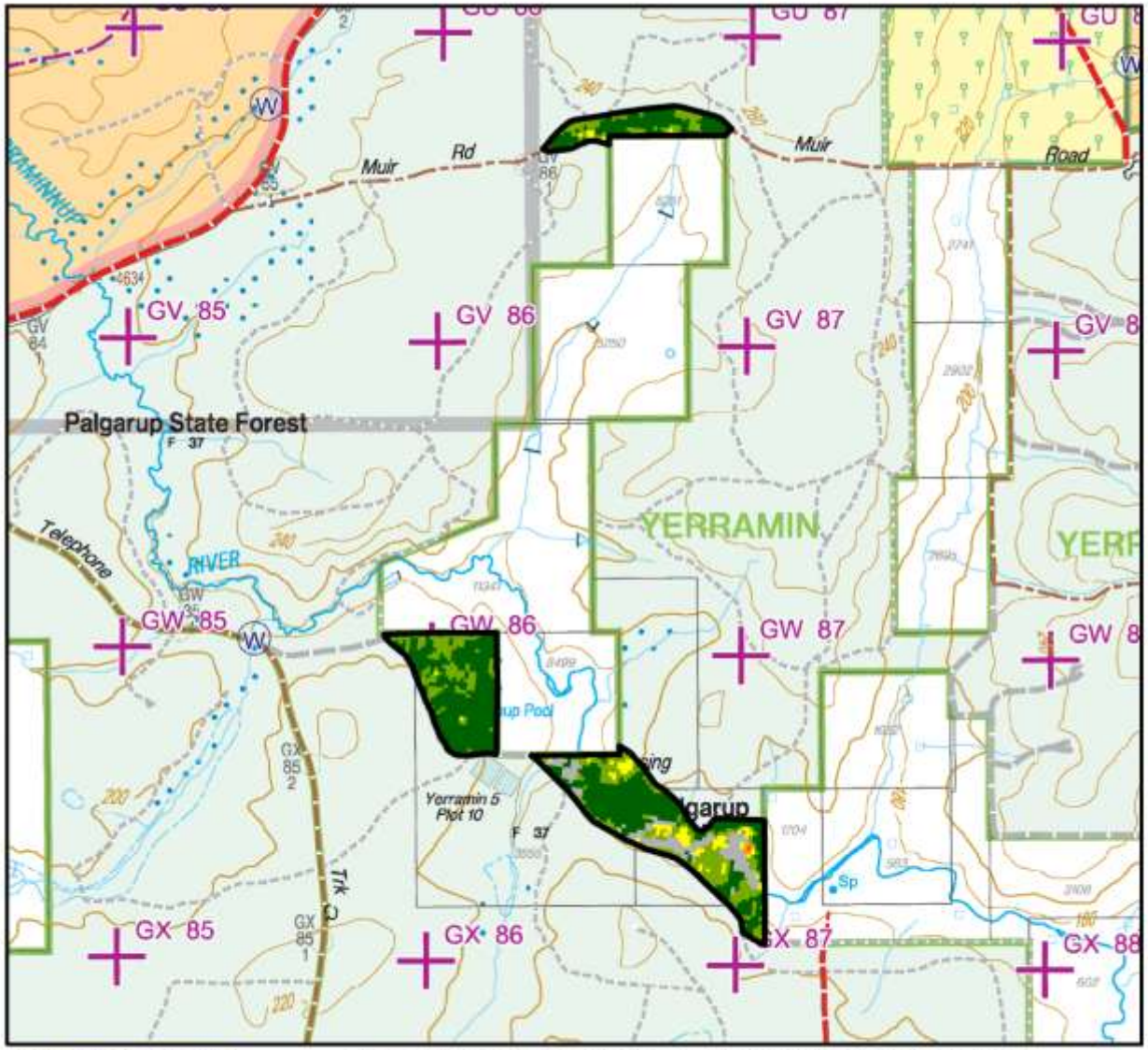
Graticule shown at 1 degree intervals
Grid shown at 100000 metre intervals

Densmore VS, van Dongen RJ, Ong R, Harris BG, 2022, OzCBI: the composite burn index adapted to assess fire severity and key fauna habitat features in Australian ecosystems, Australian Forestry, 86:1-21


50H
0390367mE
6190078mN
DIRECTION
South-West
34° 25.498′ S
115° 48.413′ E
ACCURACY 4m
Donnelly 25 26
ID: -2019040475
11 May 2026
13:55:06 (AWST)


50H
0394828mE
6188599mN
DIRECTION
South-West
34° 26.326′ S
115° 51.314′ E
ACCURACY 4m
Donnelly 25 26
ID: -1241265700
12 May 2026
14:38:24 (AWST)

DON_162 Yerramin



Indicative Burn Severity Map

Yerramin

Burn Id: DON162

Date created: 1/07/2026

Latest satellite image: 24/06/2026

Legend

Treatment area

Unburnt:	57.89 %
Low:	28.02 %
Medium:	4.92 %
High:	0.41 %
Very high:	0.05 %
Burnt heath:	8.71 %
Total area:	78 ha

0 0.2 0.4 0.8 1.2 1.6
Kilometres

GDA2020 MGA Zone 50 1:29,000 (A4)

N

Produced by the Department of Biodiversity, Conservation and Attractions

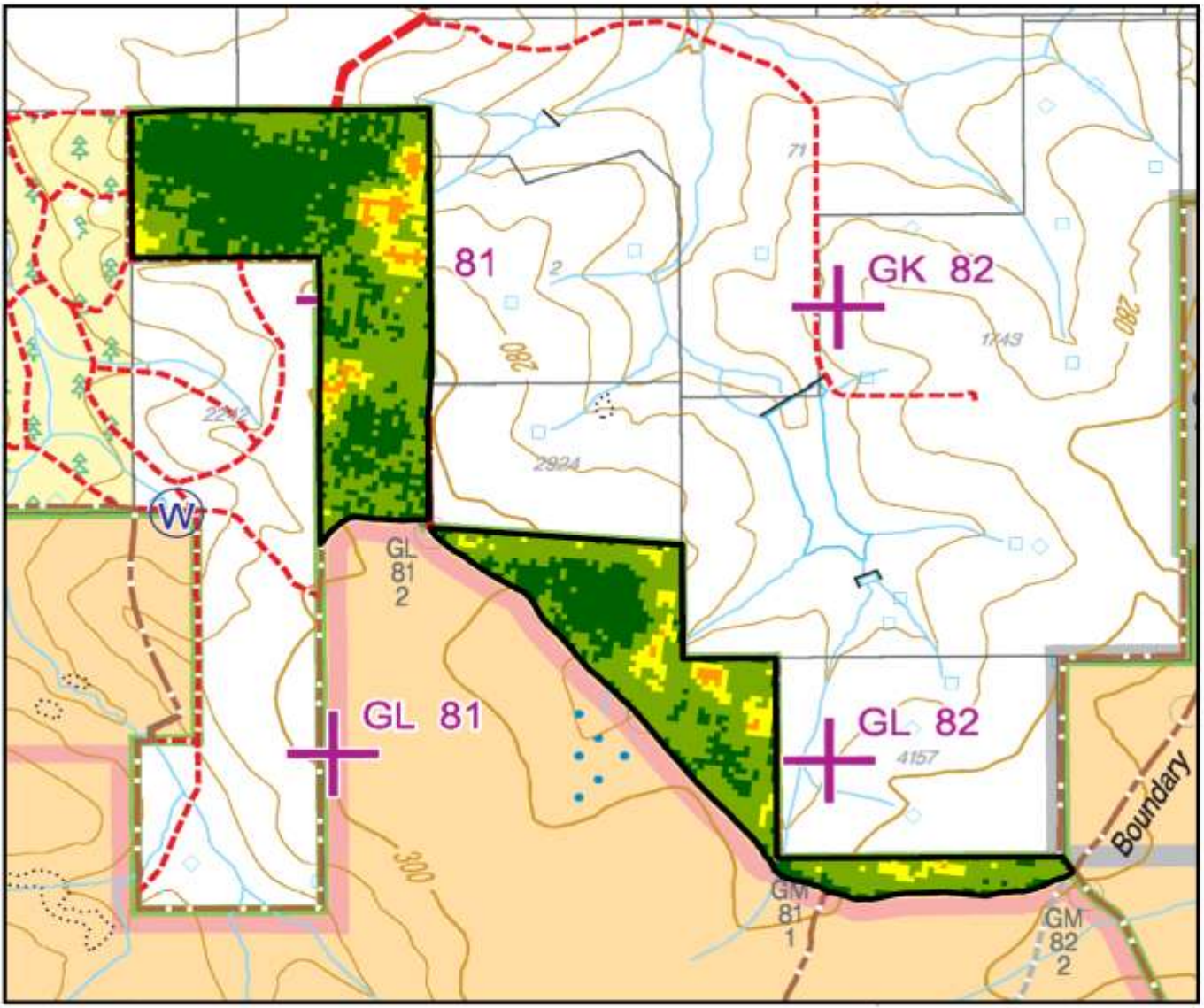
Graticule shown at 1 degree intervals
Grid shown at 100000 metre intervals

Densmore VS, van Dongen RJ, Ong R, Harris BG, 2022, OzCBI: the composite burn index adapted to assess fire severity and key fauna habitat features in Australian ecosystems, Australian Forestry, 86:1-21


50H
0447200mE
6220601mN
DIRECTION
South-West
34° 9.251′ S
116° 25.633′ E
ACCURACY 8m
Donnelly 25 26
ID: -2019040475
11 May 2026
13:12:41 (AWST)


50H
0449532mE
6212676mN
DIRECTION
West
34° 13.546′ S
116° 27.123′ E
ACCURACY 4m
Donnelly 25 26
ID: -1241265700
12 May 2026
13:45:52 (AWST)

DON_155 Winnejup



Indicative Burn Severity Map

Winnejup

Burn Id: DON155

Date created: 1/07/2026

Latest satellite image: 19/05/2026

Legend

Treatment area

Unburnt:	41.19 %
Low:	48.19 %
Medium:	8.44 %
High:	2.18 %
Very high:	0 %
Burnt heath:	0 %
Total area:	141 ha

0 0.125 0.25 0.5 0.75 1
Kilometres

GDA2020 MGA Zone 50

1:19,000 (A4)

N

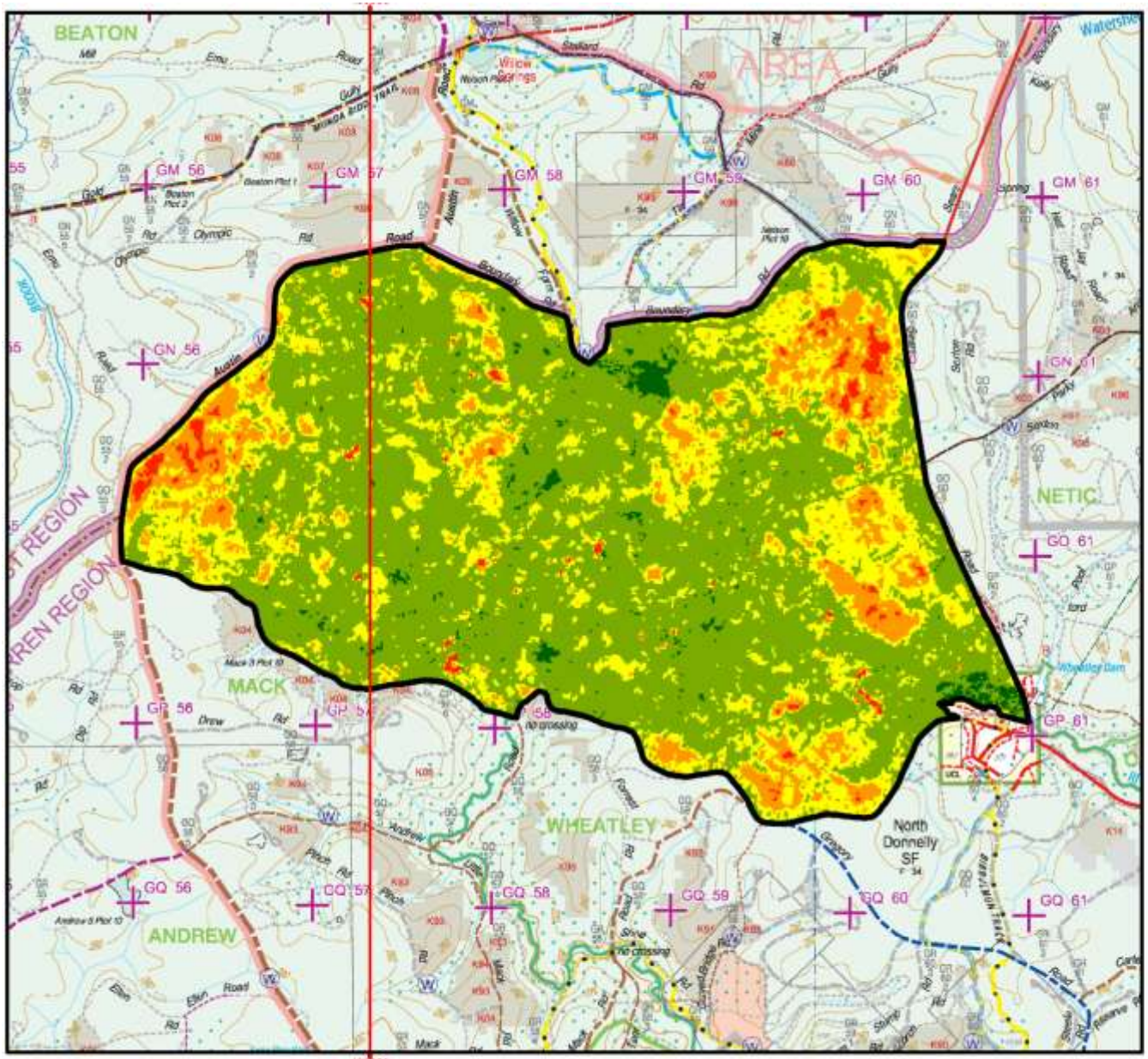
Produced by the Department of Biodiversity, Conservation and Attractions

Graticule shown at 1 degree intervals
Grid shown at 100000 metre intervals

nsmore VS, van Dongen RJ, Ong R, Harris BG, 2022, OzCBI: the composite burn index adapted to assess fire severity and key fauna habitat features in Australian ecosystems, Australian Forestry, 86:1-21


50H
0436791mE
6233664mN
DIRECTION
East
34˚ 2.147′ S
116˚ 18.915′ E
ACCURACY 2m
Donnelly 25 26
ID: -2026872085
13 Apr 2026
15:20:01 (AWST)


50H
0437845mE
6232267mN
DIRECTION
North-East
34˚ 2.907′ S
116˚ 19.594′ E
ACCURACY 4m
Donnelly 25 26
ID: -2026872085
12 Apr 2026
15:23:51 (AWST)



Indicative Burn Severity Map

Netic

Burn Id: DON164

Date created: 20/05/2026

Latest satellite image: 1/02/2026

Legend

Treatment area

Unburnt:	1.65 %
Low:	63.3 %
Medium:	24.19 %
High:	9.47 %
Very high:	1.4 %
Burnt heath:	0 %

Total area: 2695 ha

0 0.35 0.7 1.4 2.1 2.8
Kilometres

GDA2020 MGA Zone 50 1:50,090 (A4)

N

Produced by the Department of Biodiversity, Conservation and Attractions

Graticule shown at 1 degree intervals
Grid shown at 100000 metre intervals

nsmore VS, van Dongen RJ, Ong R, Harris BG, 2022, OzCBI: the composite burn index adapted to assess fire severity and key fauna habitat features in Australian ecosystems, Australian Forestry, 86:1-21

DON_164 Netic

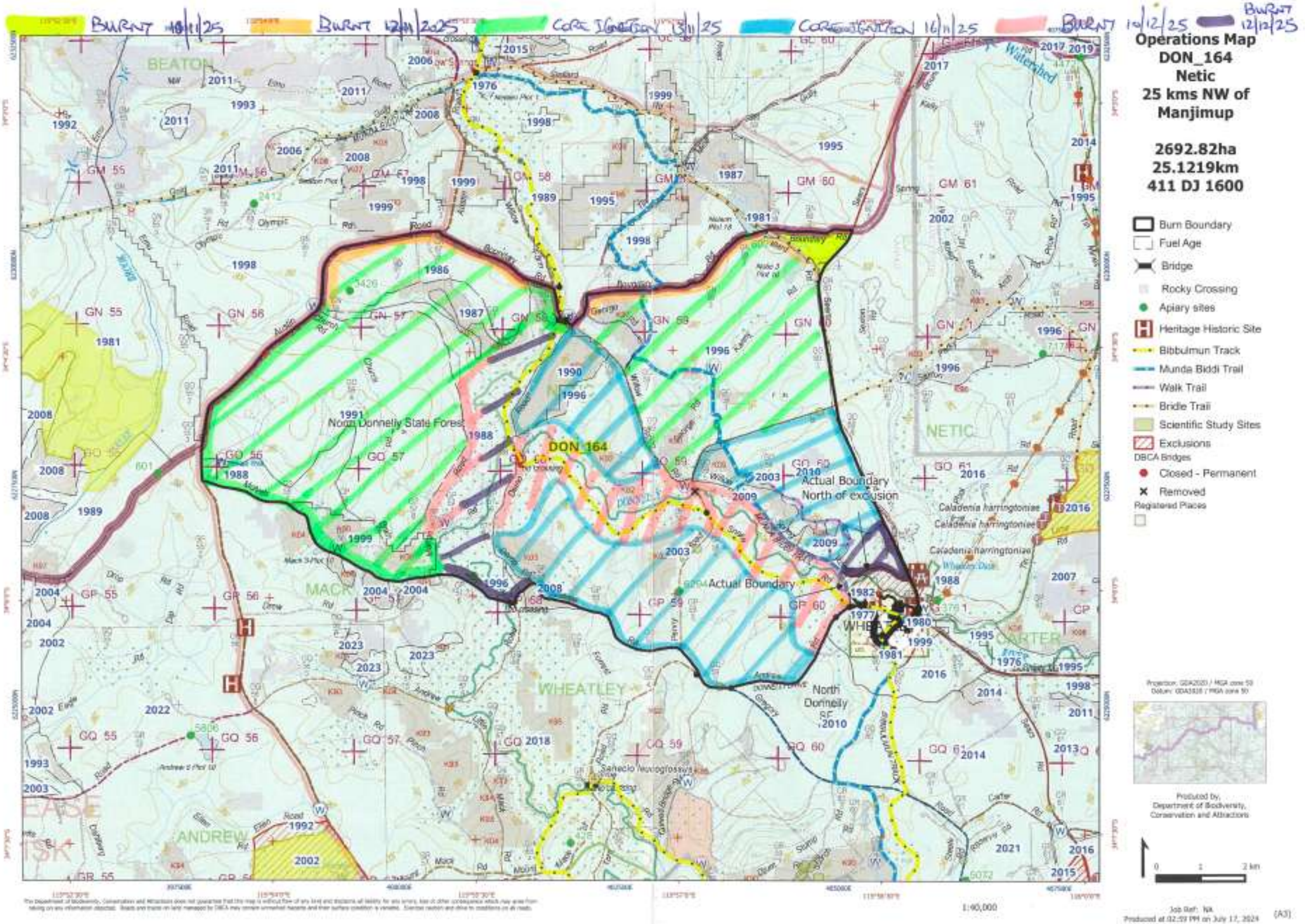

50H
0455836mE
6181856mN
DIRECTION
North-West
34° 30.239' S
116° 31.135' E
ACCURACY 4m
Donnelly 25 26
ID: 1175432600
2 Dec 2025
15:58:32 (AWST)


50H
0399641mE
6224672mN
DIRECTION
North
34° 6.838' S
115° 54.709' E
ACCURACY 4m
Donnelly 25 26
12 Dec 2025
11:40:34 (AWST)


50H
0398363mE
6226771mN
DIRECTION
South-East
34° 5.695' S
115° 53.893' E
ACCURACY 4m
Donnelly 25 26
ID: -2026872085
28 Dec 2025
11:17:07 (AWST)


50H
0397010mE
6226875mN
DIRECTION
East
34° 5.631' S
115° 53.014' E
ACCURACY 4m
Donnelly 25 26
ID: -2019040475
23 Jan 2026
16:35:04 (AWST)


50H
0397578mE
6227121mN
DIRECTION
North-East
34° 5.501' S
115° 53.385' E
ACCURACY 4m
Donnelly 25 26
ID: -2019040475
13 Mar 2026
11:11:05 (AWST)



BURNT 10/11/25
BURNT 12/11/2025
CORE IGNITION 13/11/25
CORE IGNITION 16/11/25
BURNT 10/12/25
BURNT 12/12/25
Operations Map
DON_164
Netic
25 kms NW of
Manjimup
2692.82ha
25.1219km
411 DJ 1600
Burn Boundary
Fuel Age
Bridge
Rocky Crossing
Apiary sites
Heritage Historic Site
Bibbulmun Track
Munda Biddi Trail
Walk Trail
Bridle Trail
Scientific Study Sites
Exclusions
DBCA Bridges
Closed - Permanent
Removed
Registered Places
DON_164
Actual Boundary
North of exclusion
Actual Boundary
North Donnelly State Forest
BEATON
NETIC
MACK
WHEATLEY
CARTER
ANDREW
North Donnelly SF
1:40,000
Produced by
Department of Biodiversity, Conservation and Attractions
Produced at 02:59 PM on July 17, 2024
(A3)

Prescribed Burning – Donnelly District History

DONNELLY

Financial Year	No. of burns on BOP	No. burns implemented or commenced	Area burnt prescribed burning (ha)	No. of escapes	No. of Bushfires	Area burnt bushfire (ha) (DBCA tenure)
2025/26	32	16	17255	0	26	12
2024/25	34	11	16321	0	48	43987
2023/24	37	17	12161	1	32	14867
2022/23	40	17	12404	2	29	321
2021/22	39	20	20268	1	37	17391
2020/21	36	15	18687	2	31	4426
2019/20	30	20	13002	2	33	113
2018/19	35	27	38172	0	24	62
T			148270			
A			18533.75			

Fire Science

Fire Science Program

- BCS: 10 programs, 220 staff
- Fire Science Program
  - 10 scientist + technical staff

  4 PhD students (UWA, Murdoch, ECU)
- Focus areas
  - Fire behaviour, fuel dynamics
    Fire regimes, severity, risk,
  - Fire ecology,
    Fire + conservation management
  - Weeds, mosaics
  - Kimberley, Pilbara, SW forests

>200 peer reviewed publications: 26 in 2025-26 *e.g.*

Tangney et al (2026) Assessing the effects of fire season, fire severity and rainfall on seedling establishment and mortality in dry eucalypt forests. *Forest Ecology and Management* **in press**

Doherty et al (2026) Animal taxa threatened by adverse fire regimes in Western Australia: a synthesis and outlook. *PCB* **32:**PC25051

Geary et al (2026) Optimising fire and predator management for conservation. *J Applied Ecology* **63**:e70256

Paroissien et al (2026) When is a resprouter a resprouter? Improving terminology to reflect ecological thresholds for post-fire plant persistence. *Science of The Total Environment* **1016**

Paroissien et al (2026) The post-fire recovery of soil seed banks along a fire severity gradient in an Australian threatened mesic forest. *Functional Ecology* **00:**1–17.

Doherty (2026) Fire responses of fauna in south-western Australia: clarifying some recent assertions. *Aust J Zoology* **74:**ZO25049

Burrows et al (2026) Observations of fire regime and overstorey tree canopy decline in karri forests. *Fire Ecology* **22**:1

Geelen et al (2026) Burn coverage more important than patchiness for desert predator communities. *J Arid Environments* **236:**105644

Hollis et al (2025) An efficient and comprehensive field protocol for assessing fuel characteristics for fire behaviour modelling in Australian open forests. *MethodsX* **14:**103345

Tangney et al (2025) Defining the pyro-thermal niche: Do seed traits, ecosystem type and phylogeny influence thermal thresholds in seeds with physical dormancy? *New Phytologist* **246:**1567-82

Brace et al (2025) Herbicide, not prescribed burning, drives larger shifts in soil fungal communities in a Mediterranean-type urban woodland. *Urban Forestry & Urban Greening* **105:**128728

Miller et al. (2025) Using patterns of post-fire plant reproduction to inform minimum fire intervals for conservation management in a fire-prone woodland. *Austral Ecology* **50:**e70023

García-Carmona et al (2025) Pyrogenic carbon production in eucalypt forests under low to moderate fire severities. *FEM*, **585:**122590

Gibson et al (2025) Remotely sensed fire heterogeneity and biomass recovery predicts empirical biodiversity responses. *Global Ecol Biogeogr.* **34:**e70040

Densmore and Barnesby (2025) For peat's sake! Peat type influences critical moisture thresholds that prevent combustion of organic soils in Western Australia. *IJWF* **34:**WF24204

Threatened fauna fire response database

CSIRO PUBLISHING
COLLECTION | REVIEW
https://doi.org/10.1071/PC25051
PACIFIC CONSERVATION BIOLOGY

Animal taxa threatened by adverse fire regimes in Western Australia: a synthesis and outlook

Tim S. Doherty[A,*], Mark G. Allen[B], Karlene Bain[C], Stephen J. Beatty[B], Allan H. Burbidge[D], Renee A. Catullo[E], Sarah Comer[F], Ben Corey[G], Saul J. Cowen[D,E], Robert A. Davis[H], Martin A. Dziminski[D], J. Anthony Friend[F], Bruce Greatwich[G], Mark S. Harvey[E,I], Hannah Killian[D], Michael W. Klunzinger[U], Damian C. Lettoof[K,L], Nicola J. Mitchell[E], Melinda Moir[M], Harry A. Moore[D,E], David L. Morgan[B], Ian J. Radford[A], Michael G. Rix[N], Tom Vigilante[O], Adrian F. Wayne[E,P], Corey Whisson[I], Nicole Willers[E,Q] and Matthew R. Williams[R]

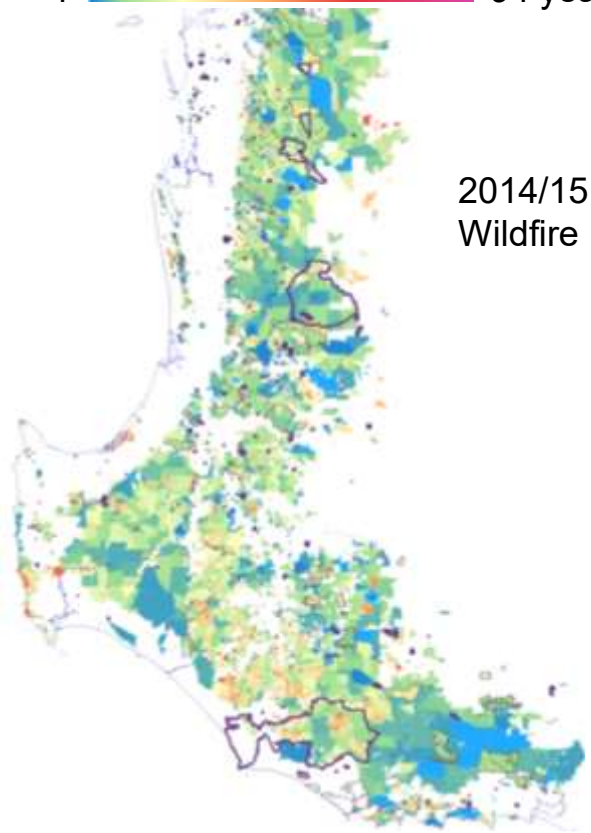
	Taxonomic group	Scientific name	Common name	WA conservation status	Fire impact ranking	Primary pathway of fire threat
3	MAMMAL	*Petrogale lateralis lateralis*	black-flanked rock-wallaby, black	EN	medium	General (no clear primary pathway)
1	REPTILE	*Pseudemydura umbrina*	western swamp turtle	CR	medium	Limited recolonisation capacity
7	MAMMAL	*Pseudocheirus occidentalis*	western ringtail possum, ngwayir	CR	high	Loss of key habitat features (e.g., hollows)
8	BIRD	*Rostratula australis*	Australian painted snipe	EN	no impact	NA
3	MAMMAL	*Setonix brachyurus*	quokka	VU	medium	Loss of long unburnt habitat
5	BIRD	*Sternula nereis nereis*	fairy tern	VU	no impact	NA
6	MAMMAL	*Tarsipes rostratus*	honey possum	not listed	[requires assessment]	Loss of long unburnt habitat

Taxonomic group	Scientific name	Common name	WA conservation status	Fire impact ranking	Citation	Broad finding
INVERT (crustaceans)	Hurleya sp. (WAM C23150)	Crystal Cave crangonyctoid	CR	high	Horwitz et al. 1997	Although not a direct study of Crystal Cave or the crangonyctoid, the following was reported as unpublished data by Jasinska. The karri forest above Carpark Cave at Yanchep NP was burnt by an intense wildfire in 1991. There was a decrease in stream level and flow. The root mats remained alive, but did not produce new growth for two years post-fire. (full methods/data not presented)
MAMMAL	*Pseudocheirus occidentalis*	western ringtail possum, ngwayir	CR	high	Inions et al. 1989	In Perup Nature Reserve, 36% of 82 den trees previously inhabited by either ngwayir or koomal (brushtail possum) were severely damaged or destroyed in a high intensity prescribed burn. Three years post-burn, there were 254 den trees in use, which may have been due to both the creation of new hollows by fire and an influx of possums exploiting epicormic growth.
BIRD	*Zanda latirostris*	Carnaby's cockatoo	EN	medium	Johnston et al. 2016	Cone availability (representing cockatoo food) was highest at 11-20 years since last fire for Banksia attenuata and B. menziesii, and 6-11 years for B. sessilis.

Effectiveness of prescribed burning

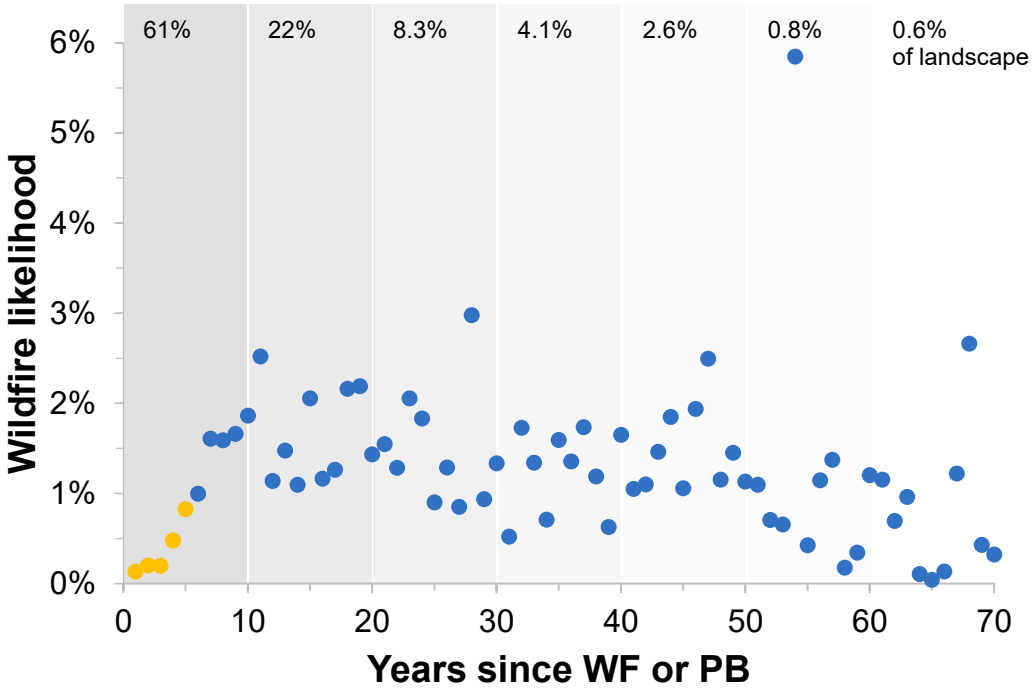
Landscape TSF June 2014

1 94 years



2014/15 Wildfire

Wildfire likelihood by Time Since Fire.
SW forest landscape 1973-2025



Effectiveness of prescribed burning

Effectiveness – at a point

(46-91%) 77% less WF risk for 1st 5y

Effectiveness – of Landscape management

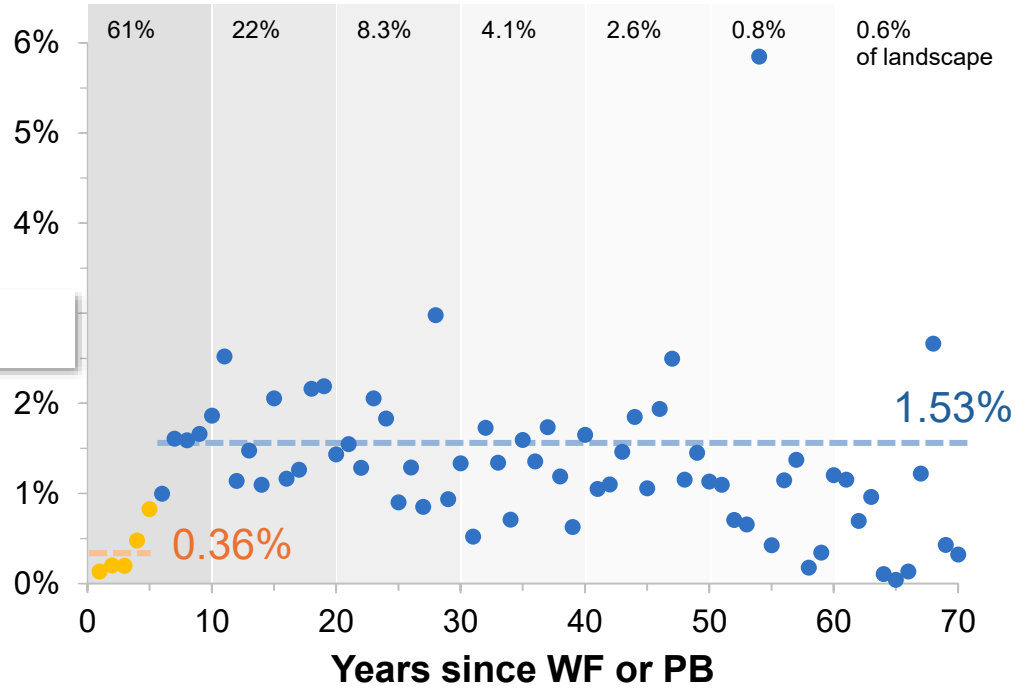
Landscape risk reduction 45% <6y

32% less WF risk

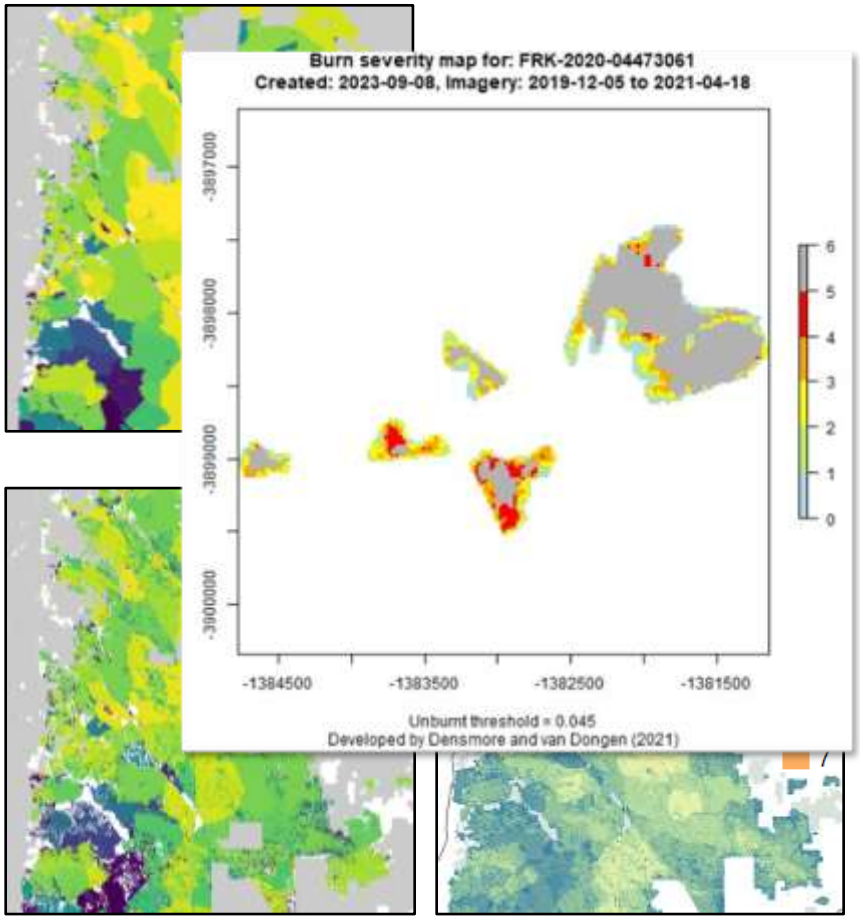
Settlement hazard separation 60%< 6y

47% less risk

Wildfire likelihood by Time Since Fire.
SW forest landscape 1973-2025



Severity mapping: improving fire history data



TSF – updated data

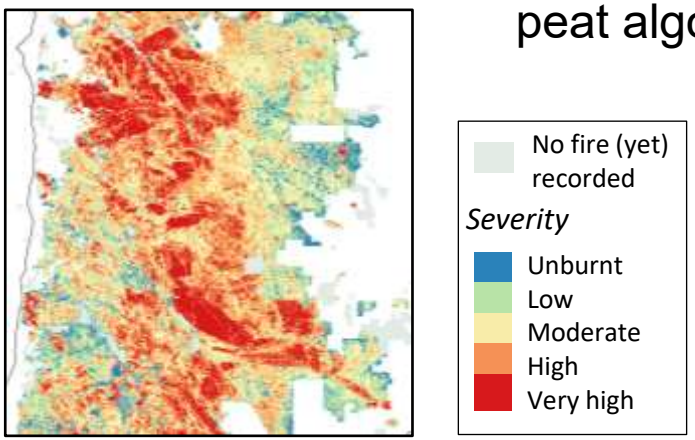
Fire frequency

Improved fire regime data

- Resolution, Accuracy
- Severity
- Date
- Patchiness

Ongoing

- Heathland, peat algorithms



Fire severity - Max observed

Effectiveness of prescribed burning: severity

Effectiveness – severity

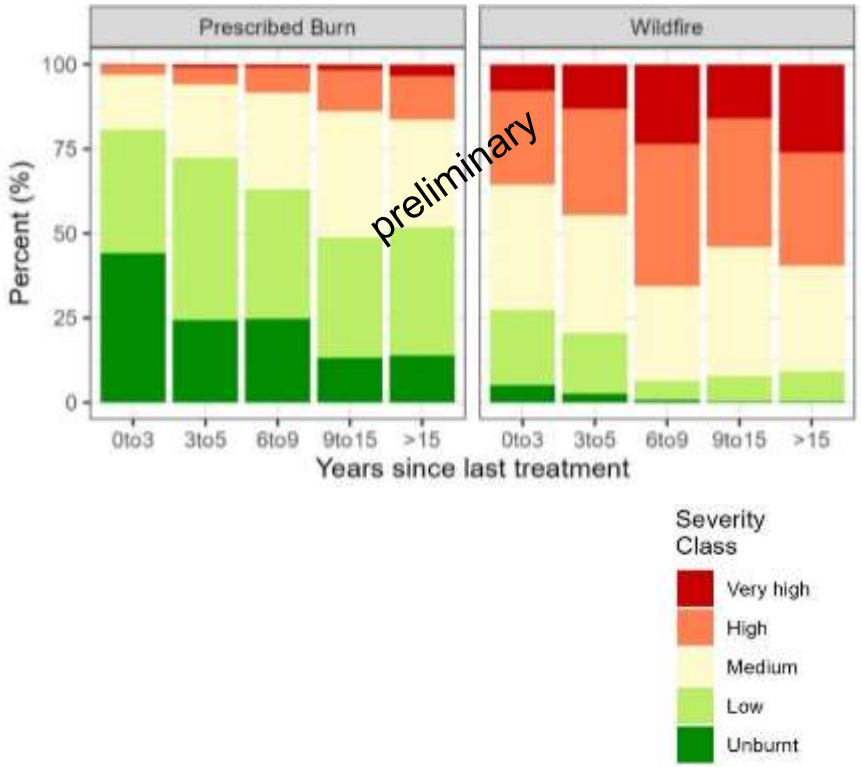
Effectiveness – at a point

(46-91%) 77% less WF risk for 1st 5y

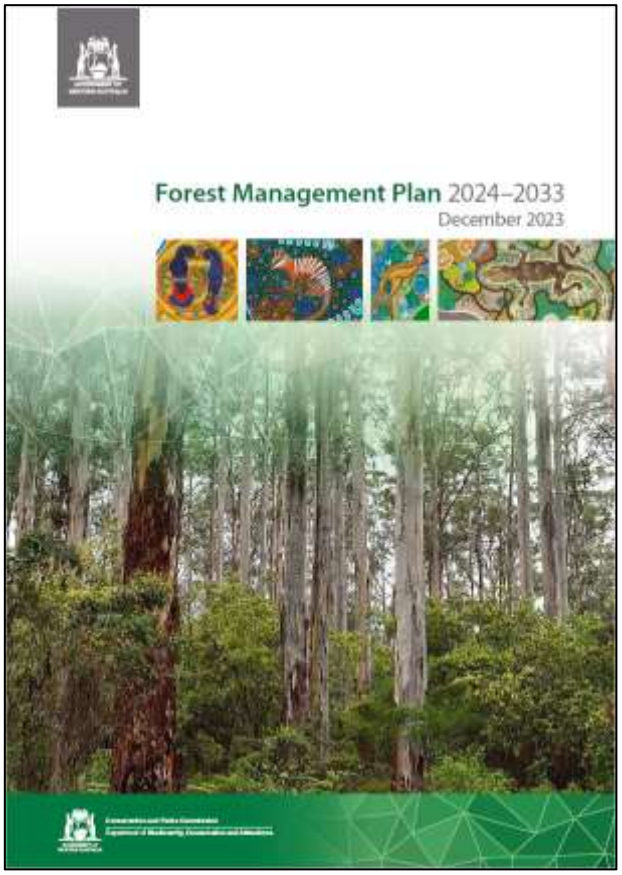
Effectiveness – of Landscape management

Landscape risk reduction 45% <6y
32% less WF risk

Settlement hazard separation 60%< 6y
47% less risk



FMP-FRC: Fire Research Collaboration



Forest Management Plan 2024-33

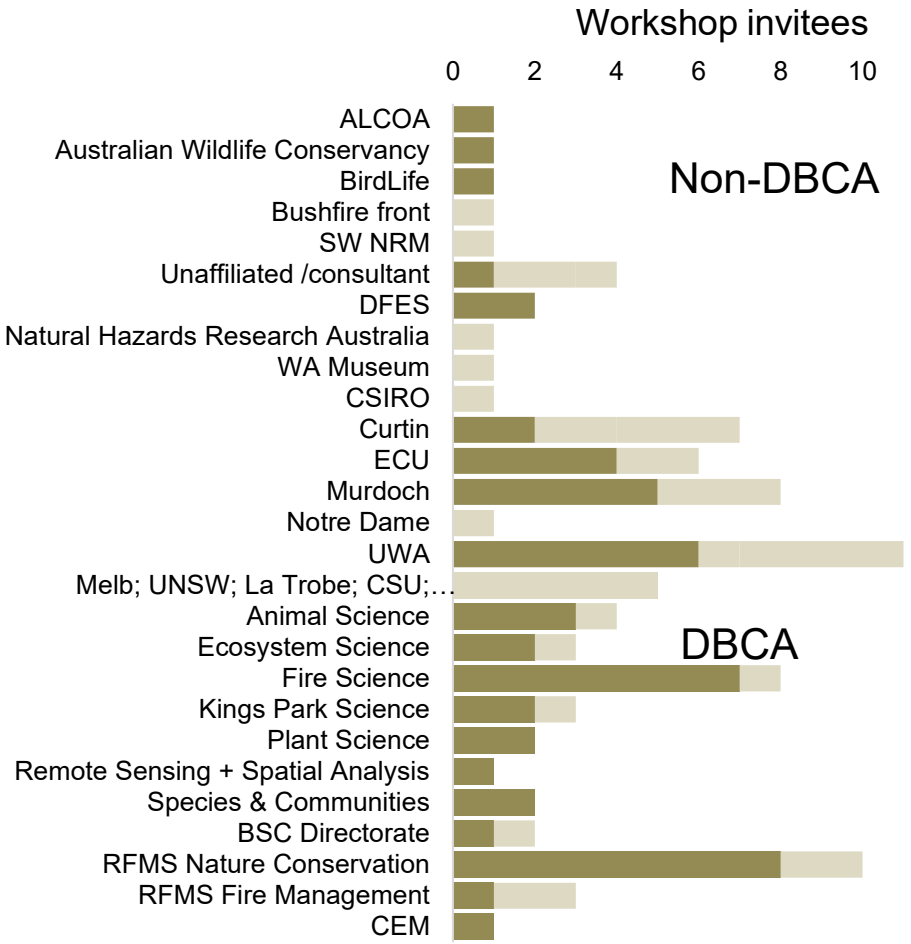
a scientific research program into prescribed burning, with the aim of investigating the measured impacts on forest ecosystems and biodiversity from fire management strategies and bushfires, to be carried out for the 10-year life of the FMP, without compromising the broader responsibility of prescribed burning.

- *provide advice to the Minister, CPC and DBCA.*
- *enable decisions regarding current practices to identify adjustments to protect vulnerable aspects of biodiversity*
- *design and implementation of the research and review of the results should involve DBCA scientists and experts in the field, including those in the various research institutions in WA*

FRC: Research priorities determined collaboratively

Expert consultation: late 2024

- 91 ‘experts in the field’ invited to identify research needs;
- 66 Research scientists
- 21 external organisations:
  - fire-ecology researchers;
  - potential collaborators;
  - stakeholders in research to inform management
- 39 DBCA staff: 22 Research scientists
- **58 research questions prioritised**



FRC: phase 1 collaboration

Biodiversity and Conservation Science

ECU EDITH COWAN UNIVERSITY

MU Murdoch University

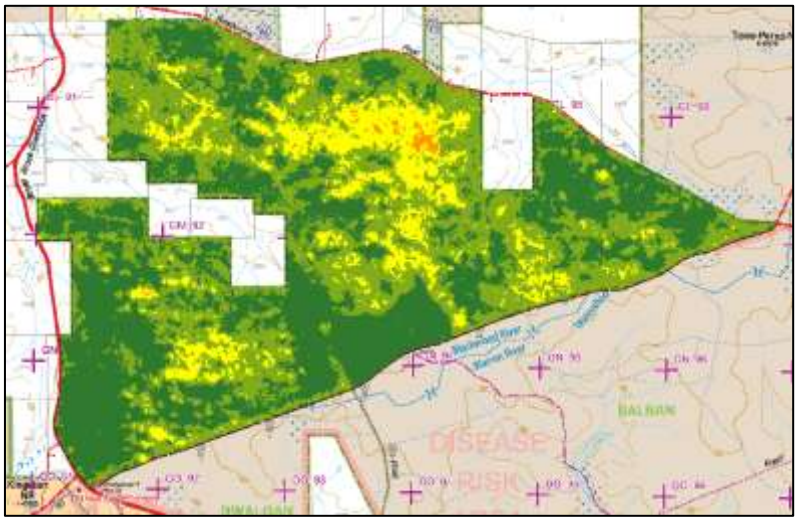
	Fauna	Flora
Ben Miller	Tim Doherty	Ryan Tangney
	Rob Davis	Joe Fontaine
	Holly Sitters	post-doc

+ other collaborators:
DBCA, Murdoch, ECU,
UWA
Latrobe
UNSW
…
+ (4) Postgrad students

Fauna: Highly ranked questions and themes

- Threatened fauna – time since fire and severity
- Fire effects on coarse woody debris and tree hollows
- Fire mosaics – landscape scale and burn scale
  - Unburnt patches, severity patchiness, age classes
- Fire interactions with drought and forest die-off
- Other topics: fire season, fire size, invertebrates, aquatic biota, invasive predators and herbivores

A1: SJF mammals and PB



ECU PhD Student

- Multi-year before-after control-impact experiment in the Upper Warren
- Camera trapping: ~480 cameras deployed simultaneously
- + a spotlighting component led by DBCA

Questions:

- How does mammal abundance/activity change in response to PBs?
- Are these responses mediated by fire patchiness and severity?

A2: Effects of fire on hollow logs

ECU Masters student

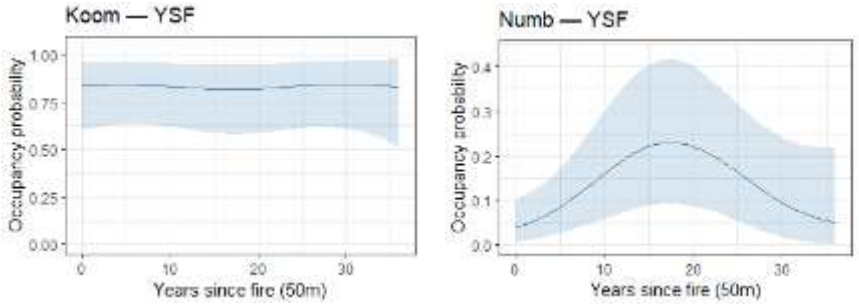
- Surveys before and after multiple burns near Manjimup
- + survey of sites stratified by fire frequency, severity

Questions:

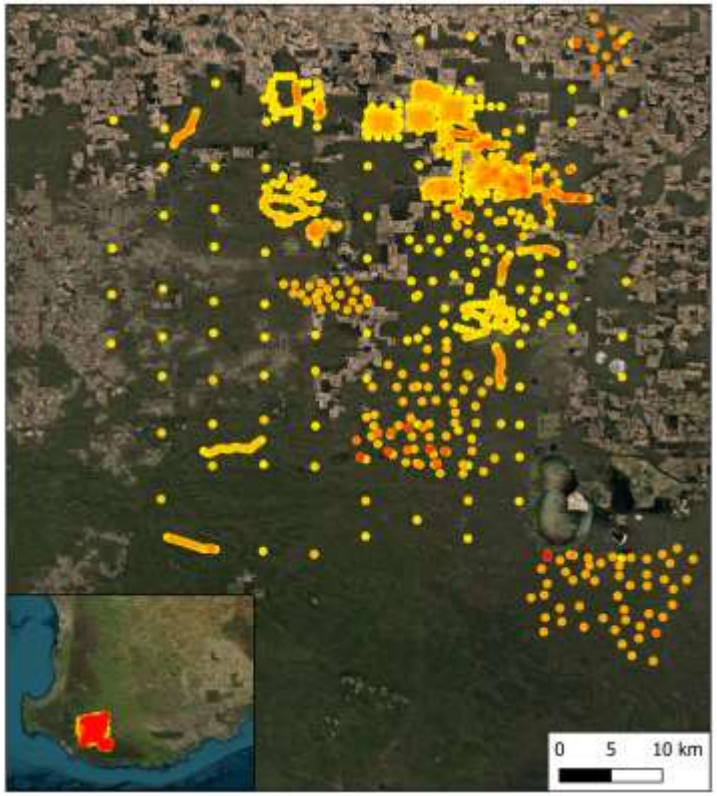
- What drives hollow occurrence in logs? (size, species, fire damage)
- How do burn severity and log characteristics influence log fate during burns?
- What is the net effect of prescribed burns on hollow log (+CWD) availability?
- How does fire severity and frequency influence log availability across the landscape?

A3: SJF mammal fire response curves

- Collation of camera trap data spanning 13 years and >1000 sites
- 0-35 years with severity, 0-60 years without
- Testing the effects of time since fire and fire severity on Upper Warren Mammals



*some preliminary results



A4: Tree hollows and mosaic burning

- Logging and fire are key long-term drivers of hollow availability
- Surveys before and after multiple burns

  + broader surveys of sites stratified by fire frequency, severity and time since fire
- More landscapes with known cockatoo hollows wanted!

Questions:

- How do burn severity and hollow characteristics influence hollow fate during burns?
- What is the net effect of prescribed burns on hollow availability?
- How does the history of fire severity and frequency influence hollow availability across the landscape?

Photos by Michael Craig

A5: Jarrah forest birds and fire

- Effects of time since fire, severity and fire season on birds and their habitat

Questions:

- How does bird species occurrence vary with time since fire, and is this influenced by fire severity?
- Do bird responses depend on season of burn?
- What role do unburnt patches play in bird responses to fire, and does this vary with time since fire?
- How do fire variables influence habitat elements important to individual bird species?

Flora: Highly ranked questions and themes

- Suitable fire intervals for vulnerable ecosystems
- Interval and season interactions with climate events
- Which ecosystems are most vulnerable to fire?
- What makes ecosystems vulnerable varying fire regime?
- Where are the species vulnerable to varying fire regime?
- Interval-severity/ patchiness trade-offs for sensitive flora

P1: Tingle population modelling

- What fire management scenarios (none, low-/ v. high severity fire; range of intervals) support tingle populations' persistence?
- What are outcomes for population structure
- Re-measure historic plots
- Collate key life history data
- Develop a population demography model in relation to fire management scenarios

P4: Analysing fire regimes of threatened plant populations using a trait focused framework

- What functional traits are associated with listed and priority species?
- What fire regimes have their populations experienced?
- Review and collate threatened species traits
- Document fire regime since the 1988's for each threatened species population
- Assess plant traits & regime attributes posing the most risk, including absence of fire

Critically endangered
Andersonia annelsii

P5: Peat ecosystem soil moisture and seasonal flammability

- Does moisture retention increase and fire hazard decline in peat as TSF increases?
- Assess moisture dynamics with time since fire over seasonal cycles across a range of times since fire.
- Prediction of peatland vulnerability by correlating soil moisture and seasonal weather data.

- What are safe burning thresholds for peat systems
- Refine moisture thresholds for safe burning

GOVERNMENT OF WESTERN AUSTRALIA

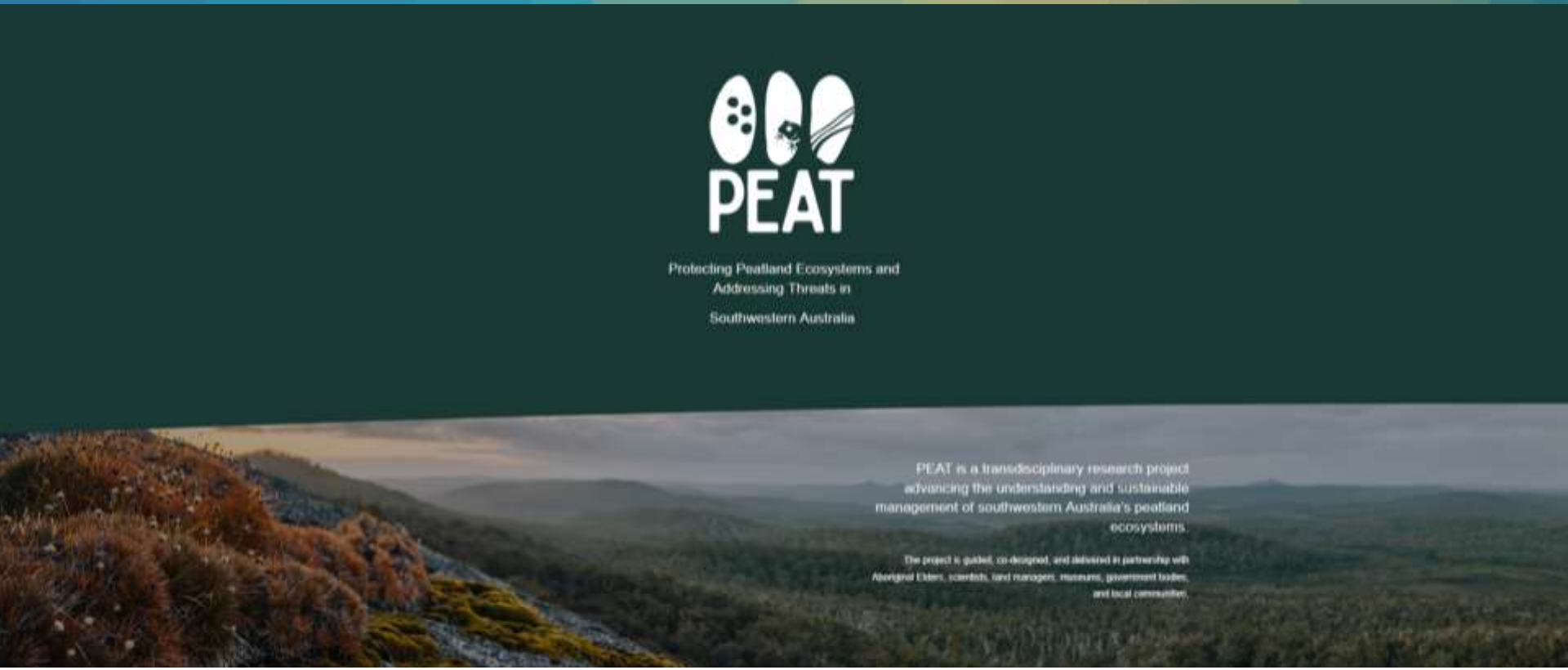
Department of **Biodiversity, Conservation and Attractions**

Biodiversity and Conservation Science

PEAT

Protecting Peatland Ecosystems and Addressing Threats in

Southwestern Australia



PEAT is a transdisciplinary research project advancing the understanding and sustainable management of southwestern Australia's peatland ecosystems.

The project is guided, co-designed, and delivered in partnership with Aboriginal Elders, scientists, land managers, museums, government bodies, and local communities.

The Ian Potter Foundation

THE UNIVERSITY OF WESTERN AUSTRALIA

AUSTRALIA ECU EDITH COWAN UNIVERSITY

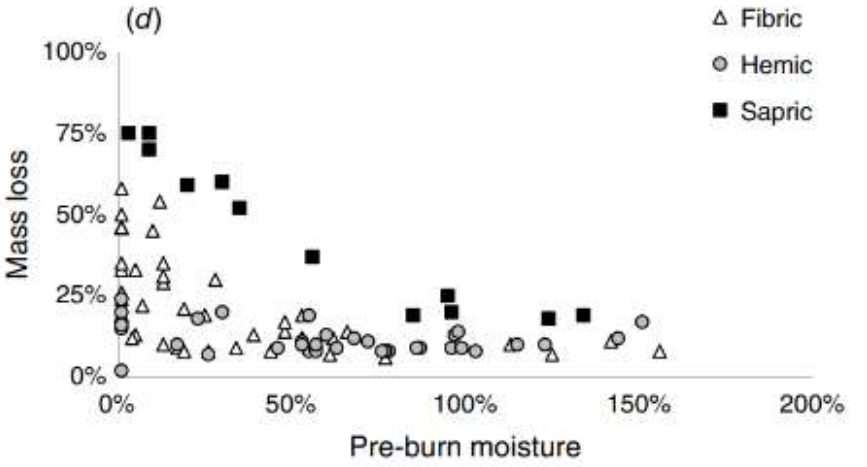
WALPOLE NORNALUP NATIONAL PARKS ASSOCIATION

Undalup Association Inc.

WAM

Department of **Biodiversity, Conservation and Attractions**

DBCA - PEAT project research



CSIRO PUBLISHING
COLLECTION | RESEARCH PAPER
https://doi.org/10.1071/WF24184
International Journal of WILDLAND FIRE
International Association of Wildland Fire

For peat's sake! Peat type influences critical moisture thresholds that prevent combustion of organic soils in Western Australia

Valerie S. Densmore[A,C,*] and Taiya K. Barnesby[B]

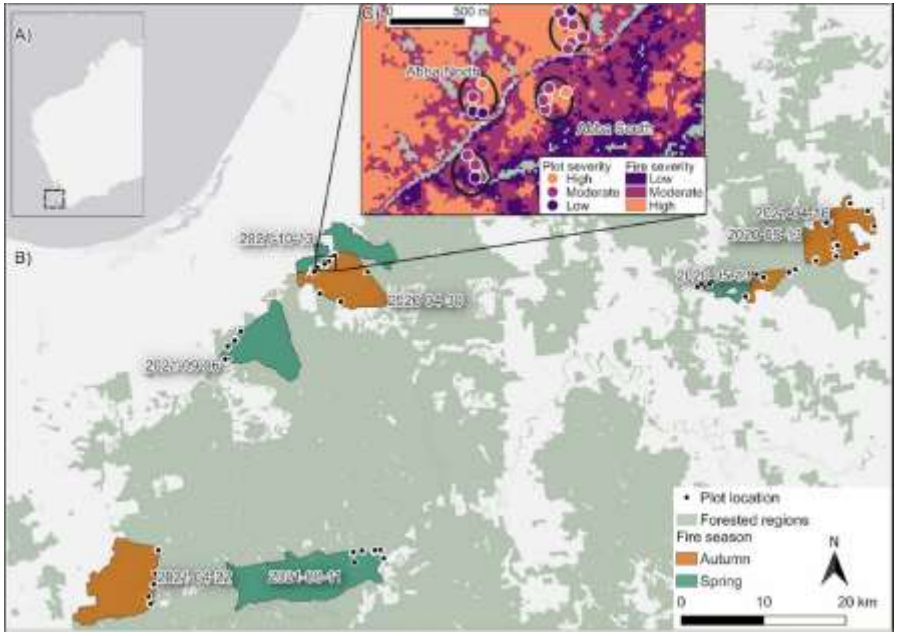
- Peat ignition and combustion likelihoods
  - Informs prescription thresholds
- ECU PhD
  - Improving peat fire severity mapping
- ECU PhD
  - Fire regime effects on peat ecosystem plant community composition

P7: Vulnerability of geophytes to fire management and changing fire regimes: *Caladenia erythrochila*

- How does sensitivity of orchids and other geophytes to fire vary with fire season?
- Track phenology through flowering and tuber development,
  + long-term microclimatic monitoring
- Identify environmental triggers of tuber development to predict orchid vulnerability to fire
- Case study: larger ARC-grant application submitted with Latrobe Uni

P8: Effects of fire season, fire severity and rainfall on jarrah forest understory seedling recruitment.

- How do fires in different seasons affect post-fire recruitment from seeds?
- Do fire season and severity interact to influence post-fire recruitment?
- Assessed seedling abundance and richness after fire in spring v autumn
- 330 1m^2 plots. 3 severity classes, 11 fires



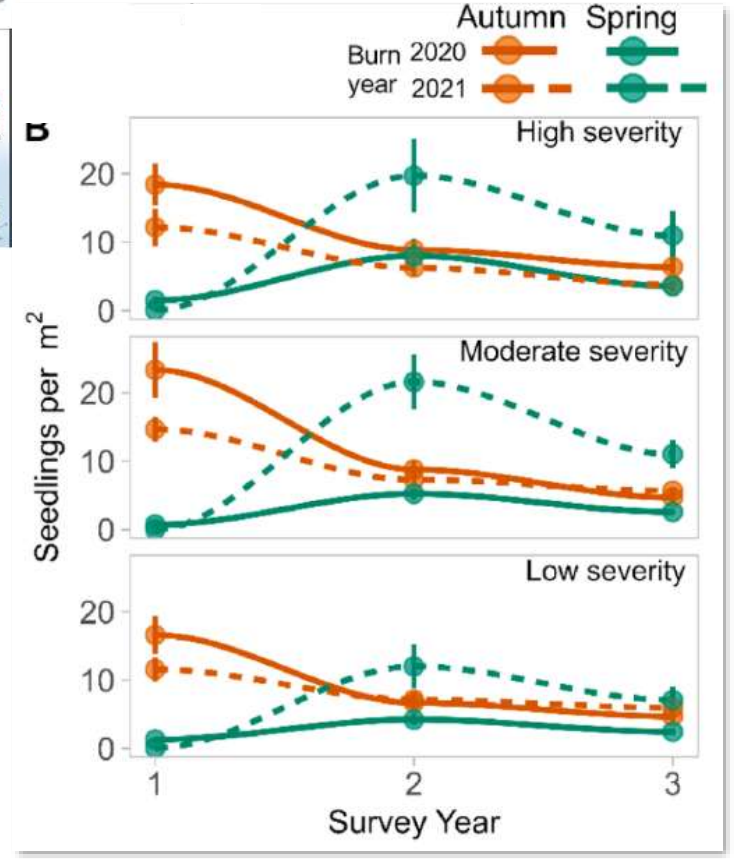
ARTICLE IN PRESS

Assessing the effects of fire season, fire severity and rainfall on seedling establishment and mortality in dry eucalypt forests

Ryan Tangney [a,b,d,*], Ben P. Miller [a,c], Mark K.J. Ooi [b]

[a] Kings Park Science, Biodiversity, and Conservation Science, Department of Biodiversity, Conservation, and Attr
[b] Centre for Ecosystem Science, School of Biological Earth and Environmental Sciences, University of New South
[c] School of Biological Sciences, The University of Western Australia, Crawley, WA 6009, Australia
[d] School of Agriculture and Environment, The University of Western Australia, 35 Stirling Highway, Crawley, W

ELSEVIER
FOREST ECOLOGY AND MANAGEMENT



- Diverse post-fire recruitment after fire in both seasons
- Fire season, severity, post-fire weather, interactions shape recruitment patterns
- JF recruitment resilient to variation in fire season and severity

Landscape moisture variation can be used to develop fire refugia and retain habitat patches

- Characterise soil / litter moisture dynamics associated with seasonally wet areas
- Correlate soil moisture and satellite vegetation moisture indices
- Assess seasonal and spatial dynamics of fire refugia persistence to support patchy burning that excludes targeted mesic habitat (e.g. riparian, peat, quokka habitat)

Middle Rd Wildfire
April 2024

GOVERNMENT OF WESTERN AUSTRALIA

Department of Biodiversity, Conservation and Attractions

PARKS AND WILDLIFE SERVICE

DRAFT

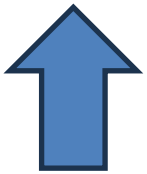
Burn Options Program 2026/27
Donnelly District

Burn programs

- DBCA continues to apply fire to the landscape with a program based on risk to communities, property, assets and ecological and cultural sensitivities.
- The burn options plans are a result of a landscape scale risk assessment.
- The options represent varying vegetation types, seasonality requirements, fuel loading and structure, species and communities and provides flexibility to cater for a raft of variables.
- The burn outcomes of each treatment area are varied.

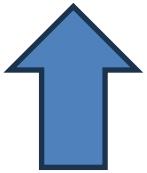
DBCA Burn Options Program

Approved by DBCA Director General

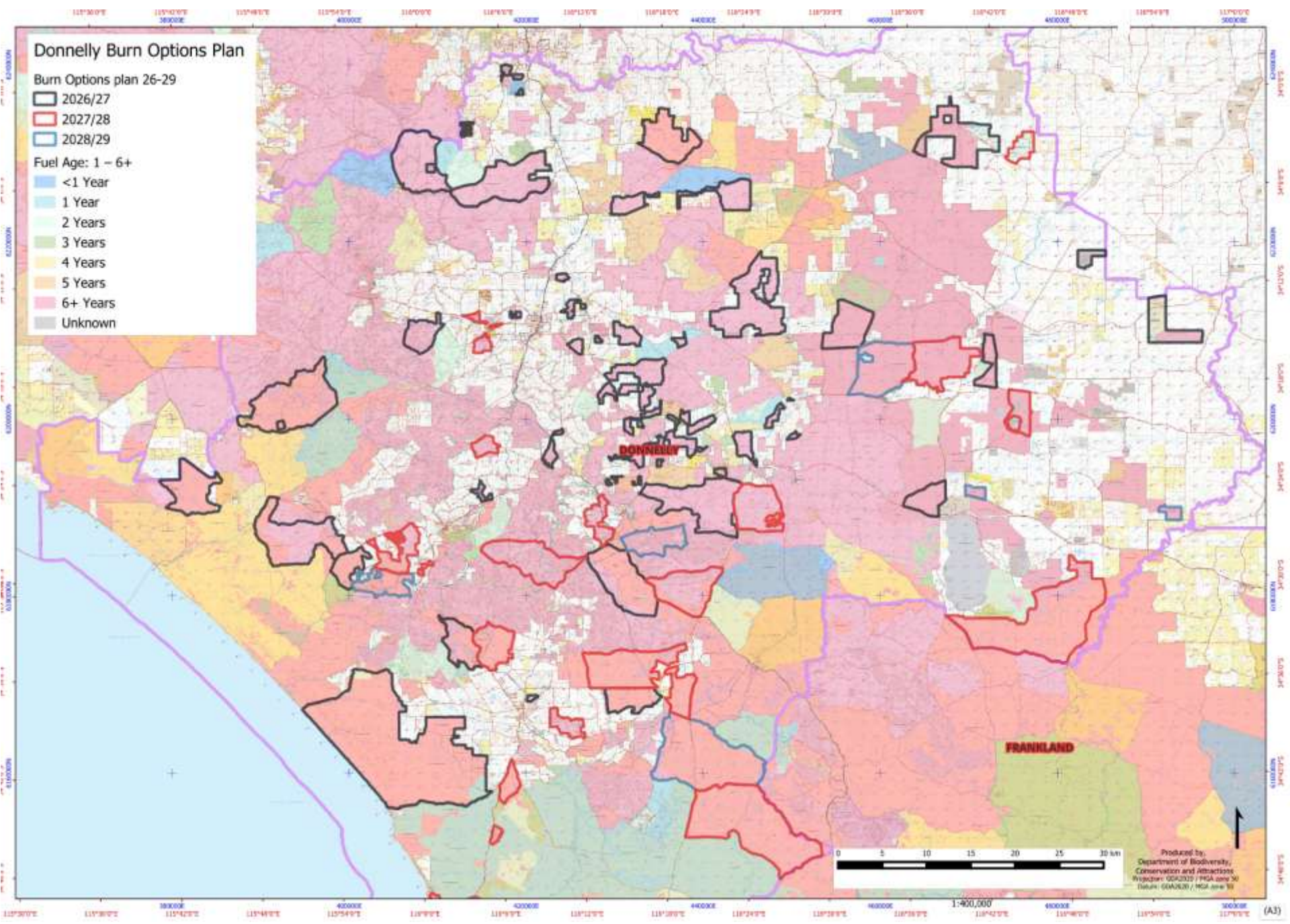


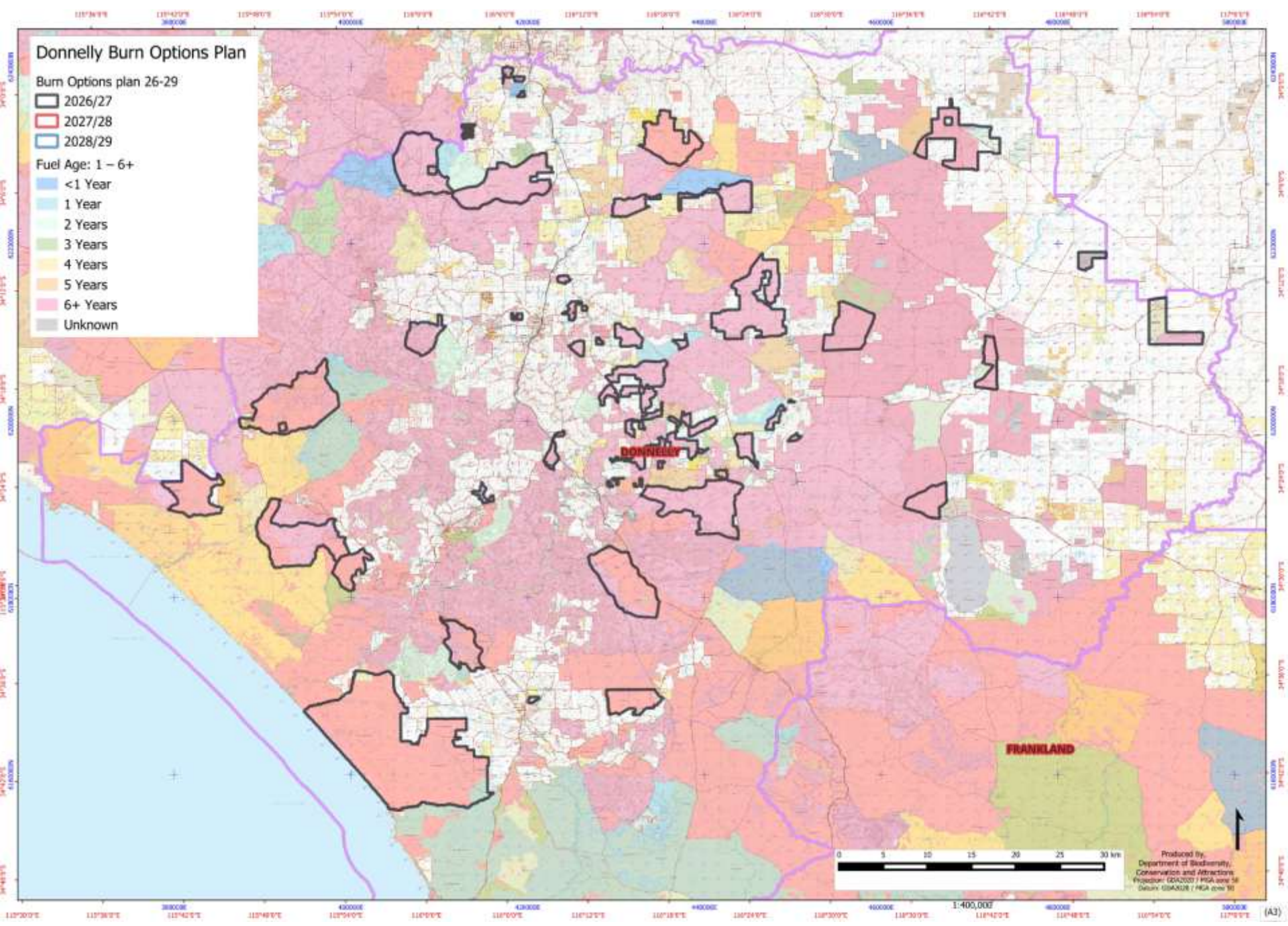
Endorsed by Executive Director

Endorsed by the Regional Team



Developed by the District Team


Donnelly Burn Options Plan
Burn Options plan 26-29
2026/27
2027/28
2028/29
Fuel Age: 1 – 6+
<1 Year
1 Year
2 Years
3 Years
4 Years
5 Years
6+ Years
Unknown
DONNELLY
FRANKLAND
0 5 10 15 20 25 30 km
Produced by:
Department of Biodiversity,
Conservation and Attractions
1:400,000
(A3)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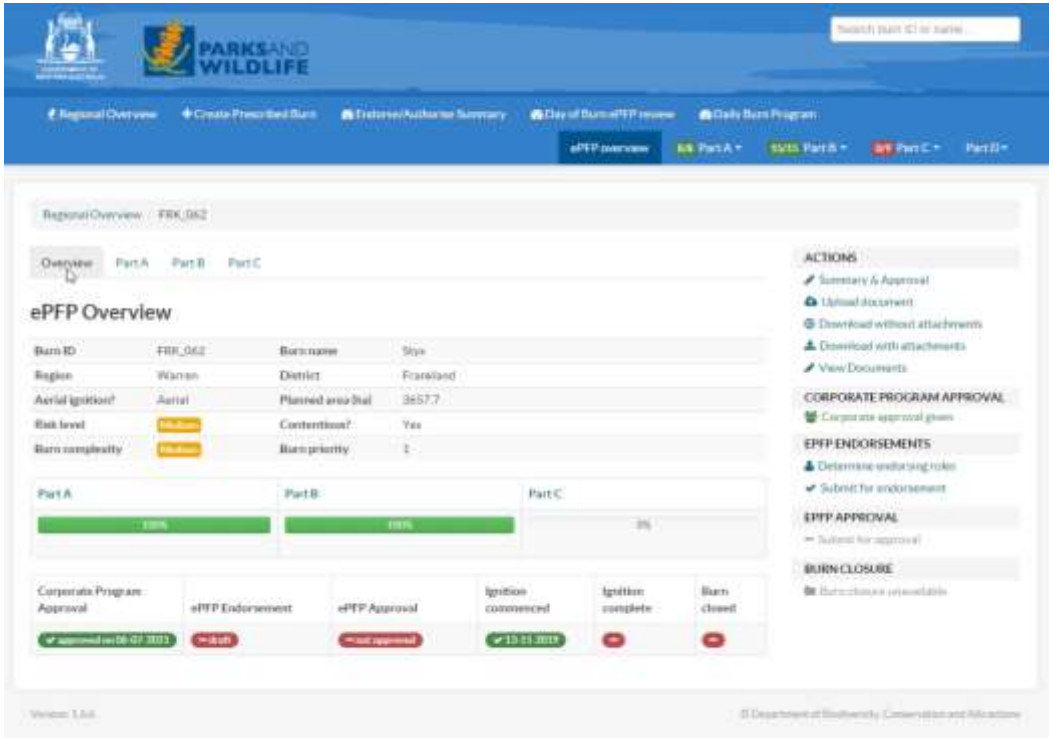
DONNELLY
FRANKLAND
0 5 10 15 20 25 30 km
1:400,000
Produced by:
Department of Biodiversity,
Conservation and Attractions
(A3)

3-6 months prior

- Prescribed Fire Plan
  - Objectives
  - Success criteria
  - Values in the area
  - Pre-Burn inspections
  - Maps
  - Fuel measurements
  - Prescribed fire behaviour
  - Approvals
  - Traffic Management Plan
  - Contingency Plan
  - Risk Analysis



Approvals and Notifications

- DBCA - District/Regional/State
- Minister approval to include non-CALM tenure
- PP owners agreements
- s40 BC Act approvals
- ARC infrastructure
- DFES
- Prohibited Season exemptions
- Local Governments
- Main Roads
- Regional ILUA groups
- DPLH
- Western Power
- Telstra
- Vineyard Associations
- Water Corporation
- DWER
- Neighbour notifications

Spring

- Widespread moisture in landscape = more patchiness
- Lower scorch
- Gradual drying of vegetation and vegetation types
- Wider window of opportunity for burning

- Potential for reignition (and escape) throughout summer

Autumn

- Winter rainfall prevents reignition
- Grass intrusion/ Weed/Introduced species management

- Landscape is more uniformly dry = less patchiness
- Higher scorch
- Potential impacts on winery industry
- Generally short window due to rainfall

Department of Biodiversity, Conservation and Attractions

PARKS AND WILDLIFE SERVICE

DBCA Day of Burn Approval Process

State Duty Officer

Regional Duty Officer

District Duty Officer

Department of Biodiversity, Conservation and Attractions

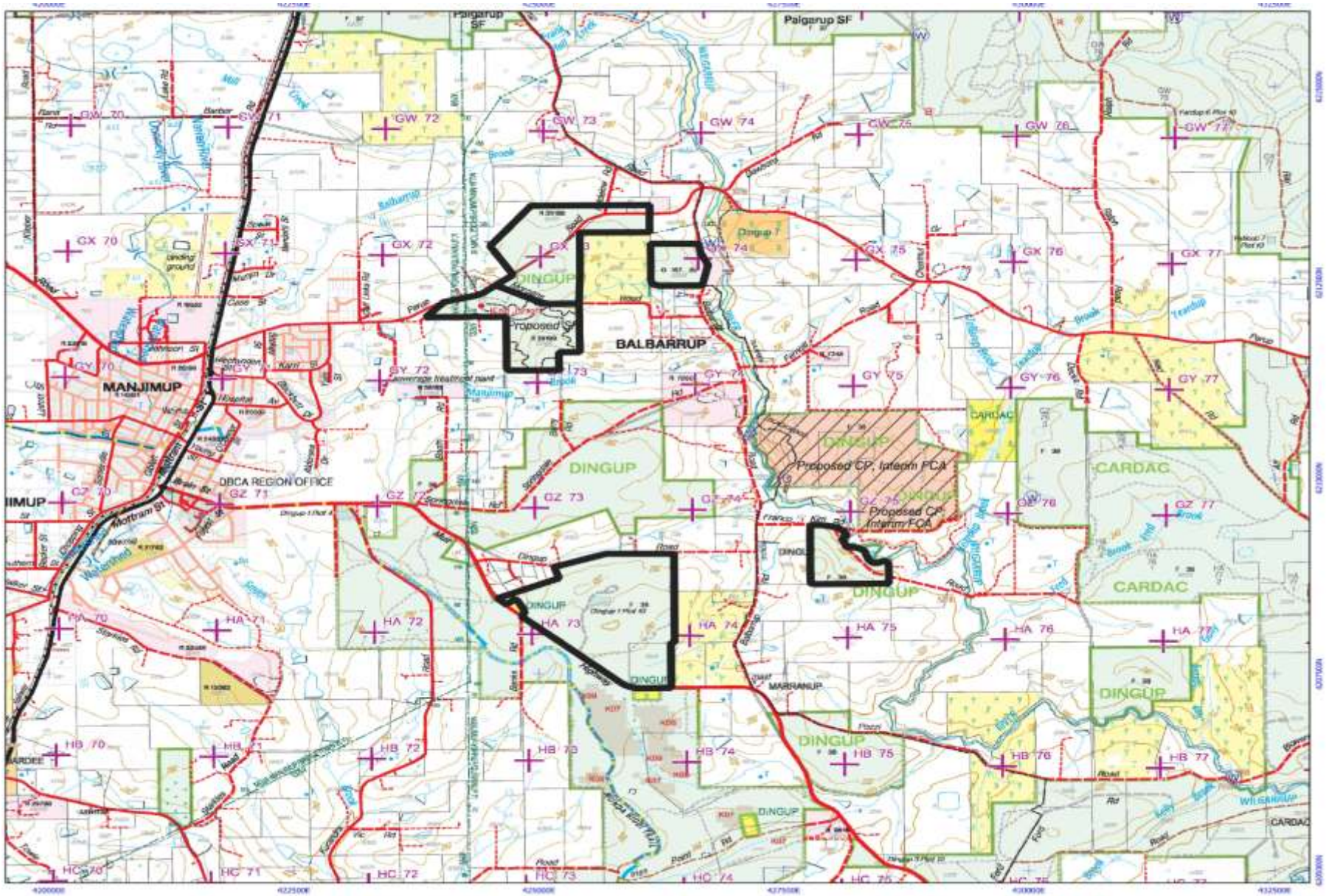
PARKS AND WILDLIFE SERVICE

Overview

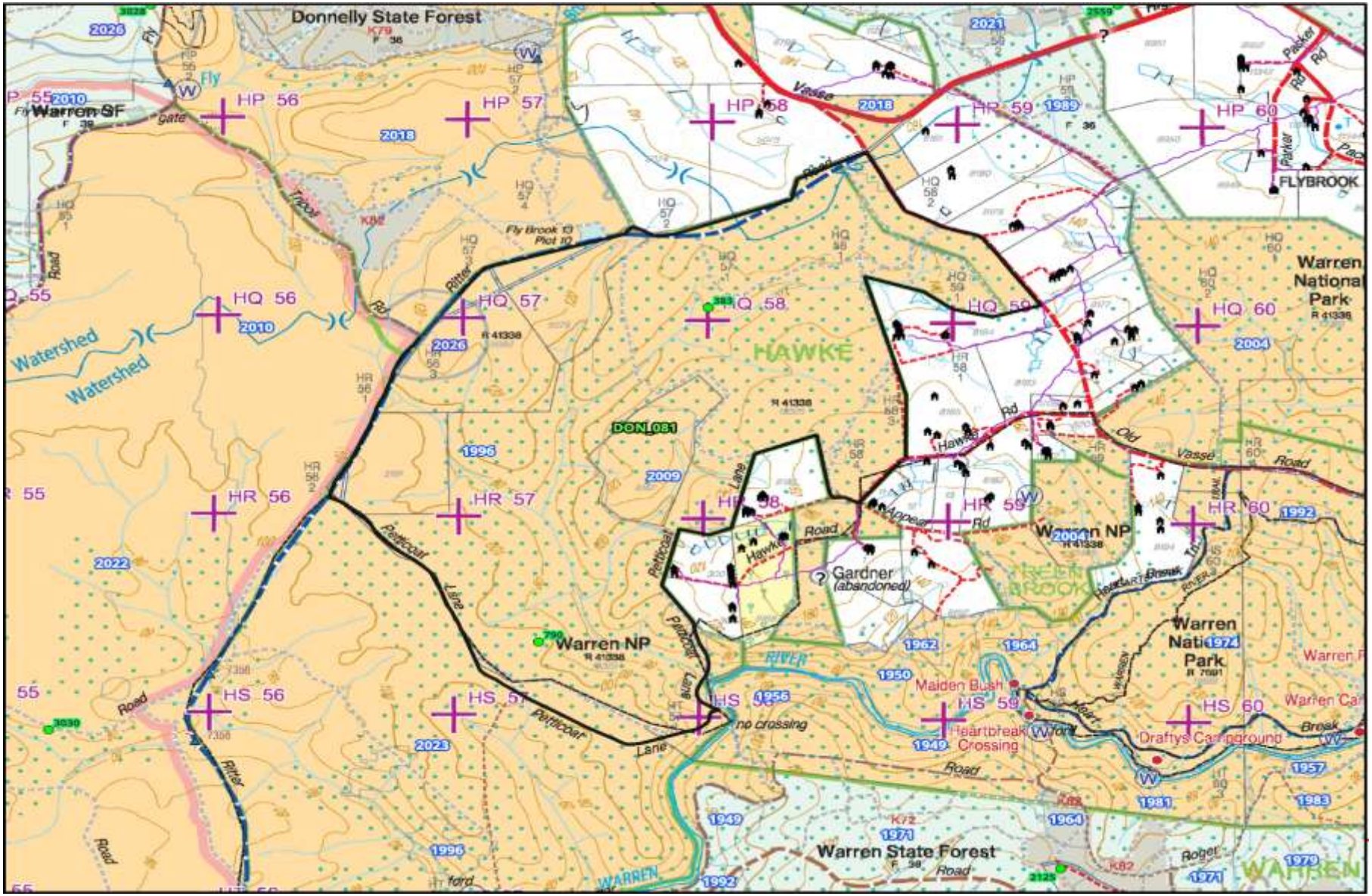
Burn Options Program 2026/27

- Many carry over burns from 25/26 with previous ignitions
- New burns to the program

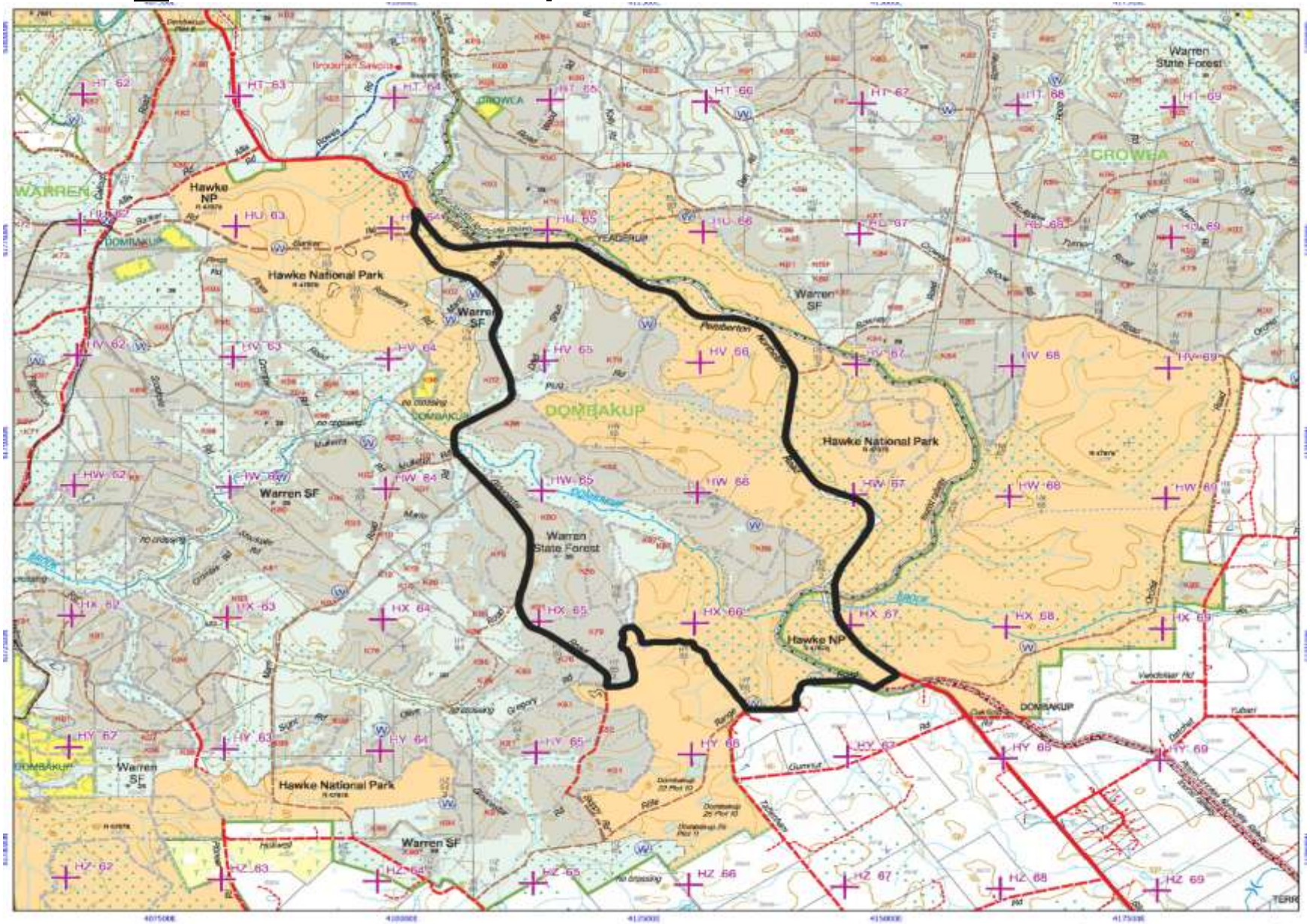
DON_065 Dingup



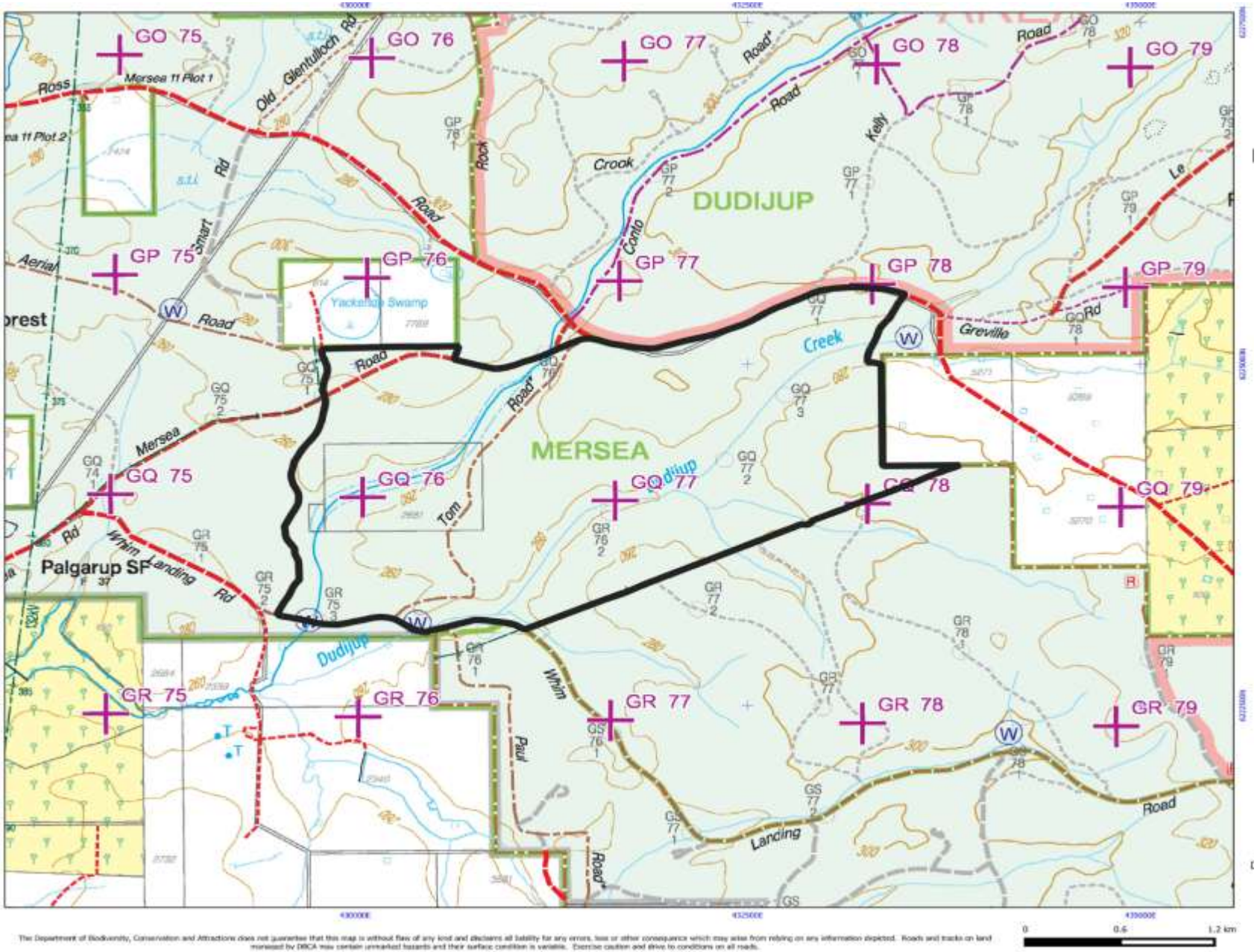
DON_081 Hawke



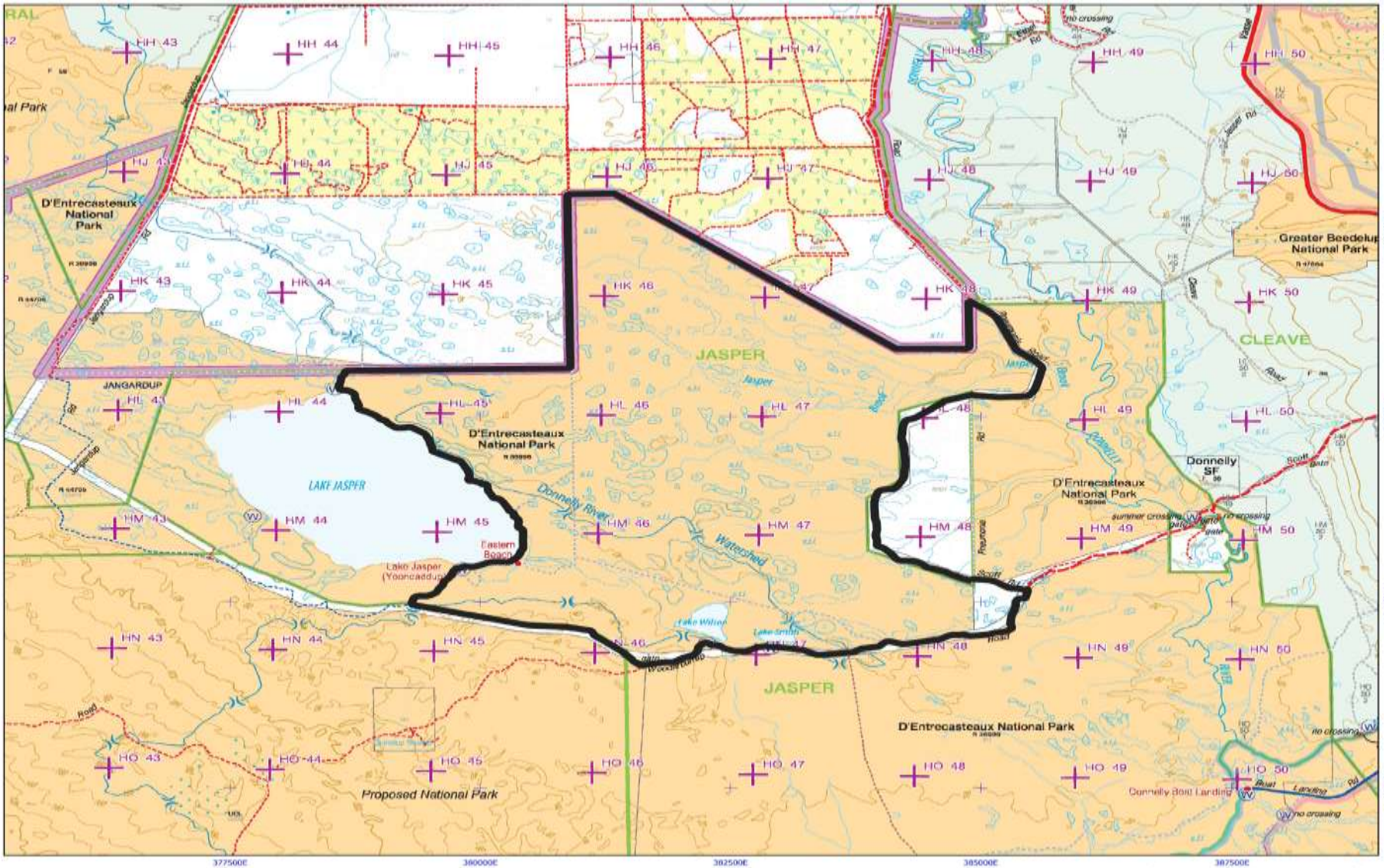
DON_106 Dombakup



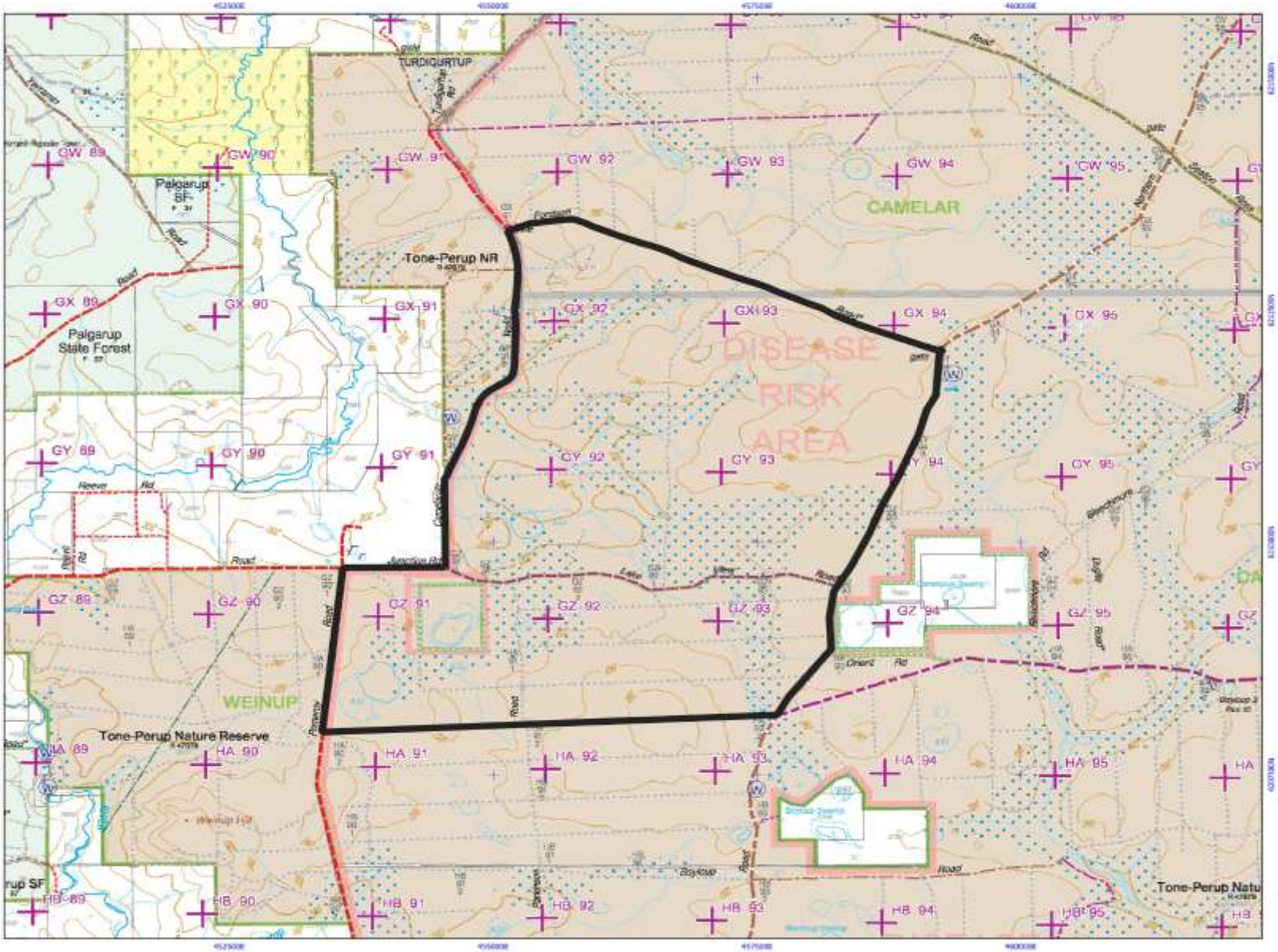
DON_107 Mersea



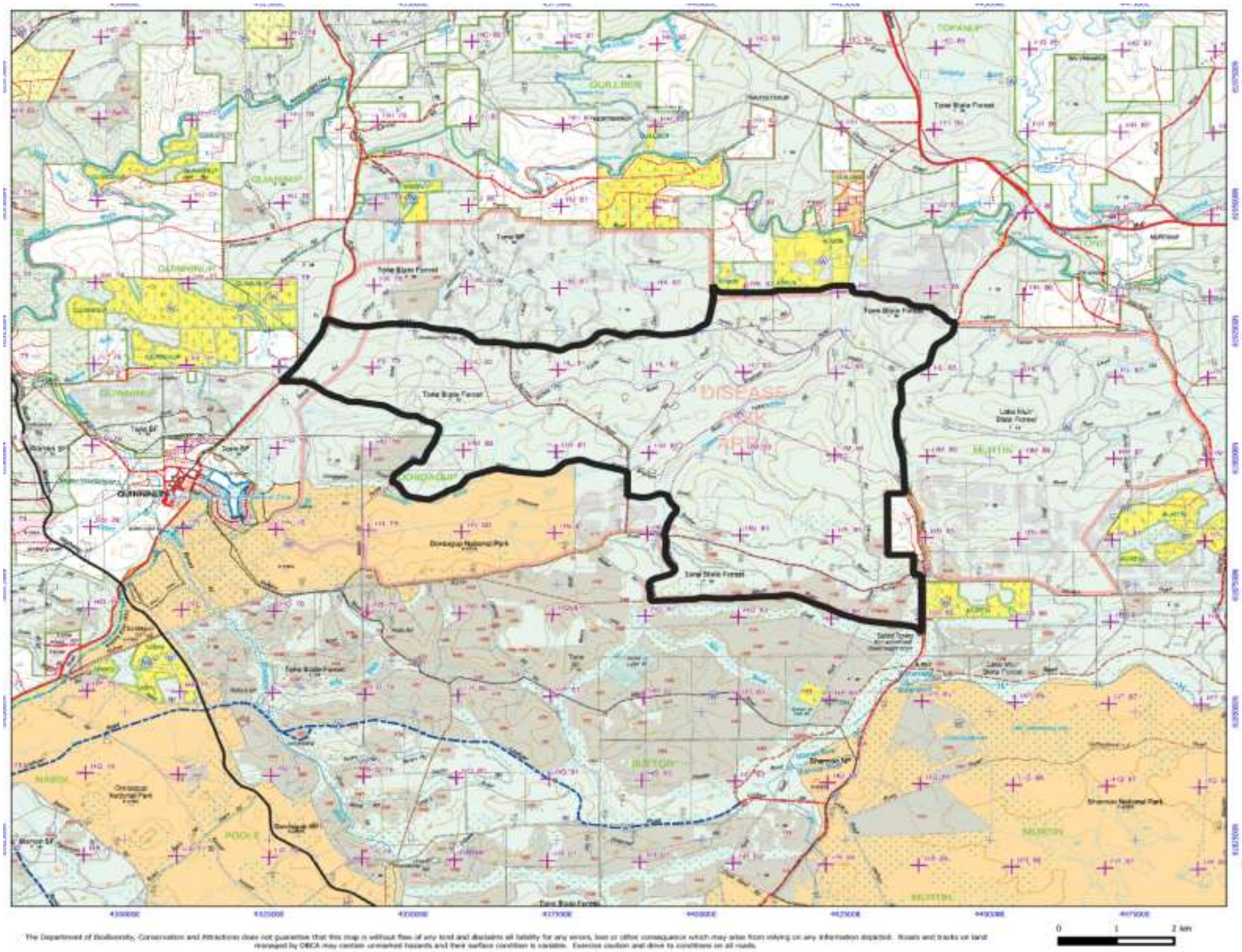
DON_108 Jasper



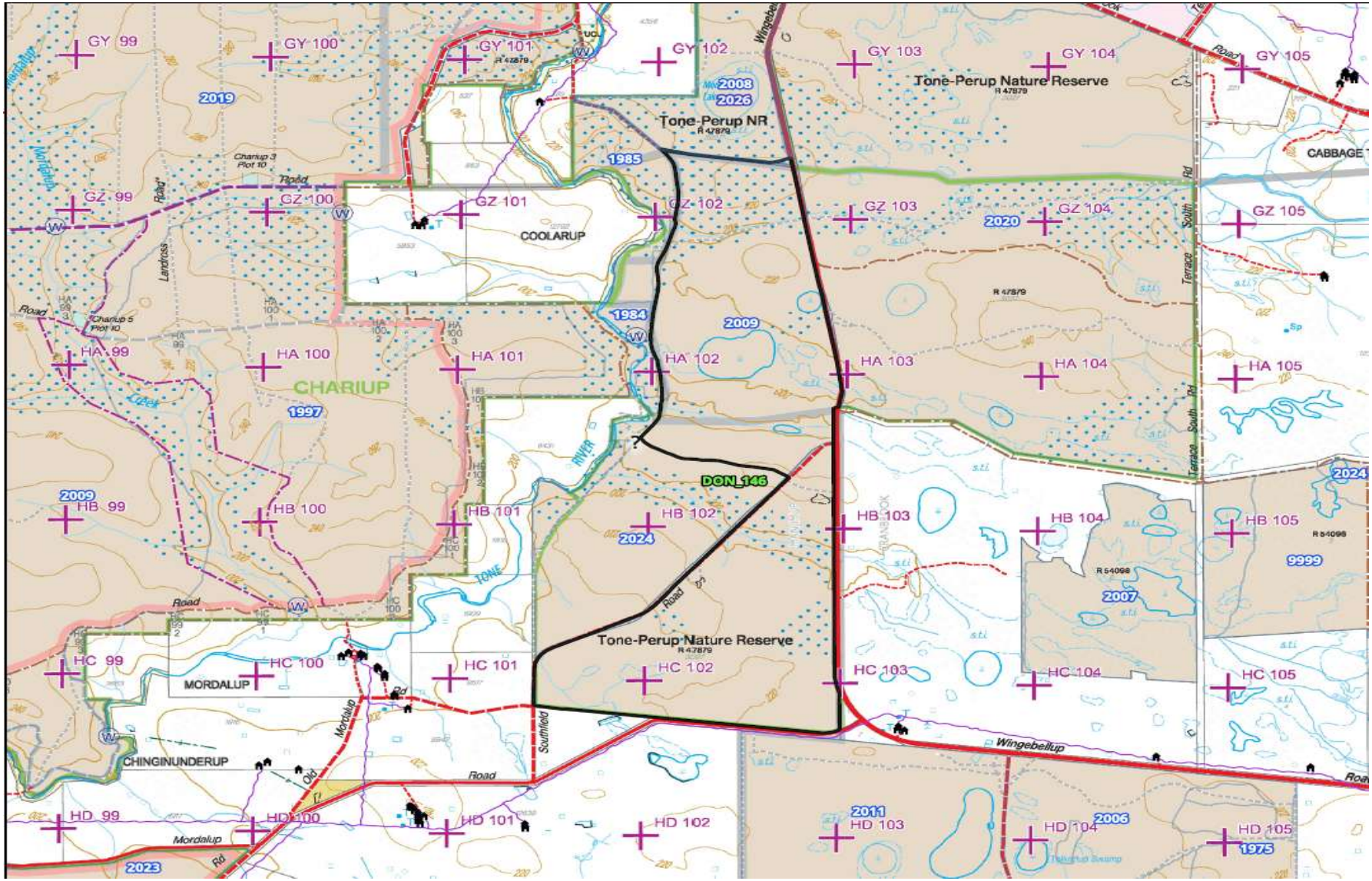
DON_123 Boyicup/Camelar



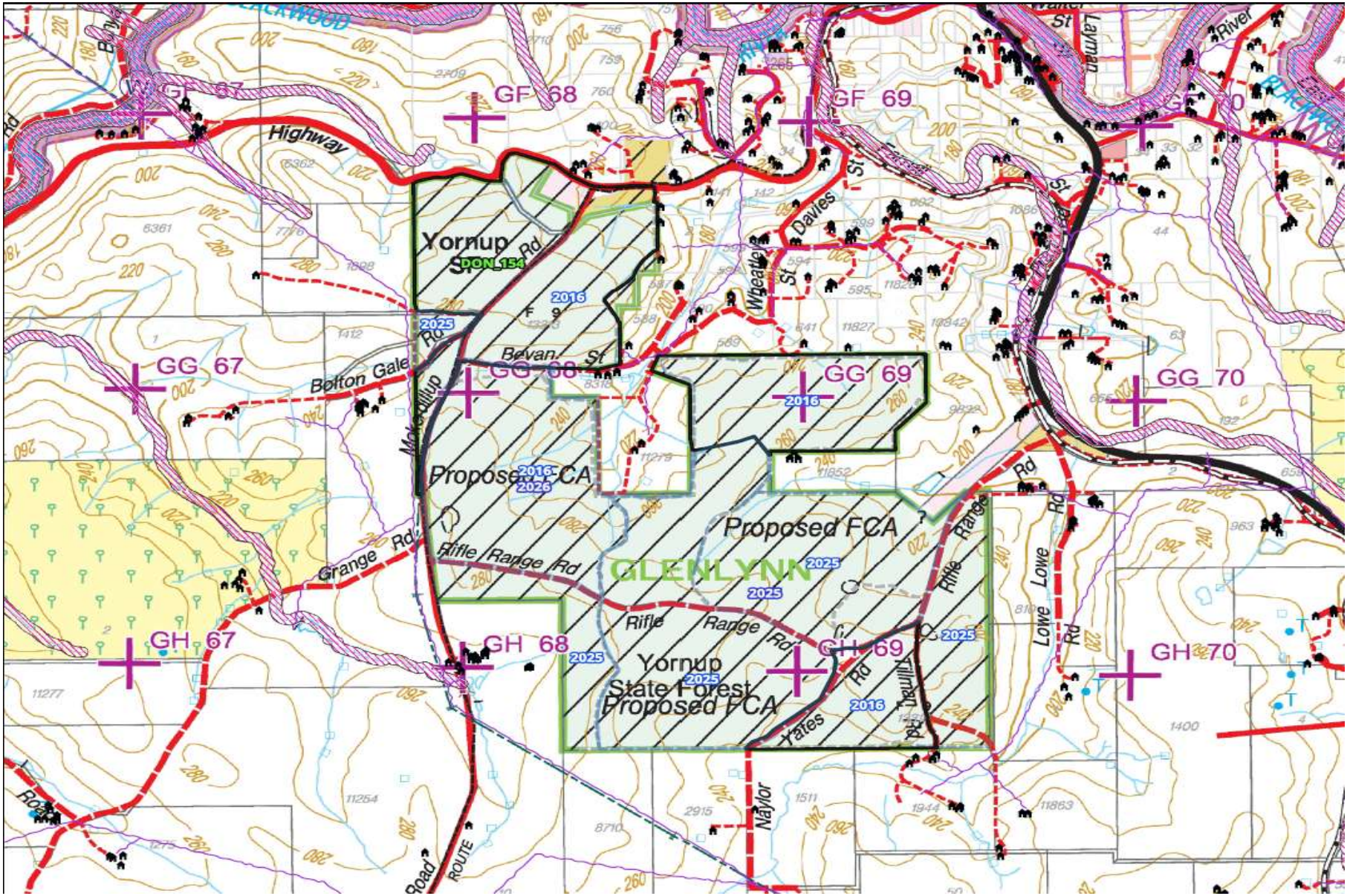
DON_129 Dordagup/Kin Kin



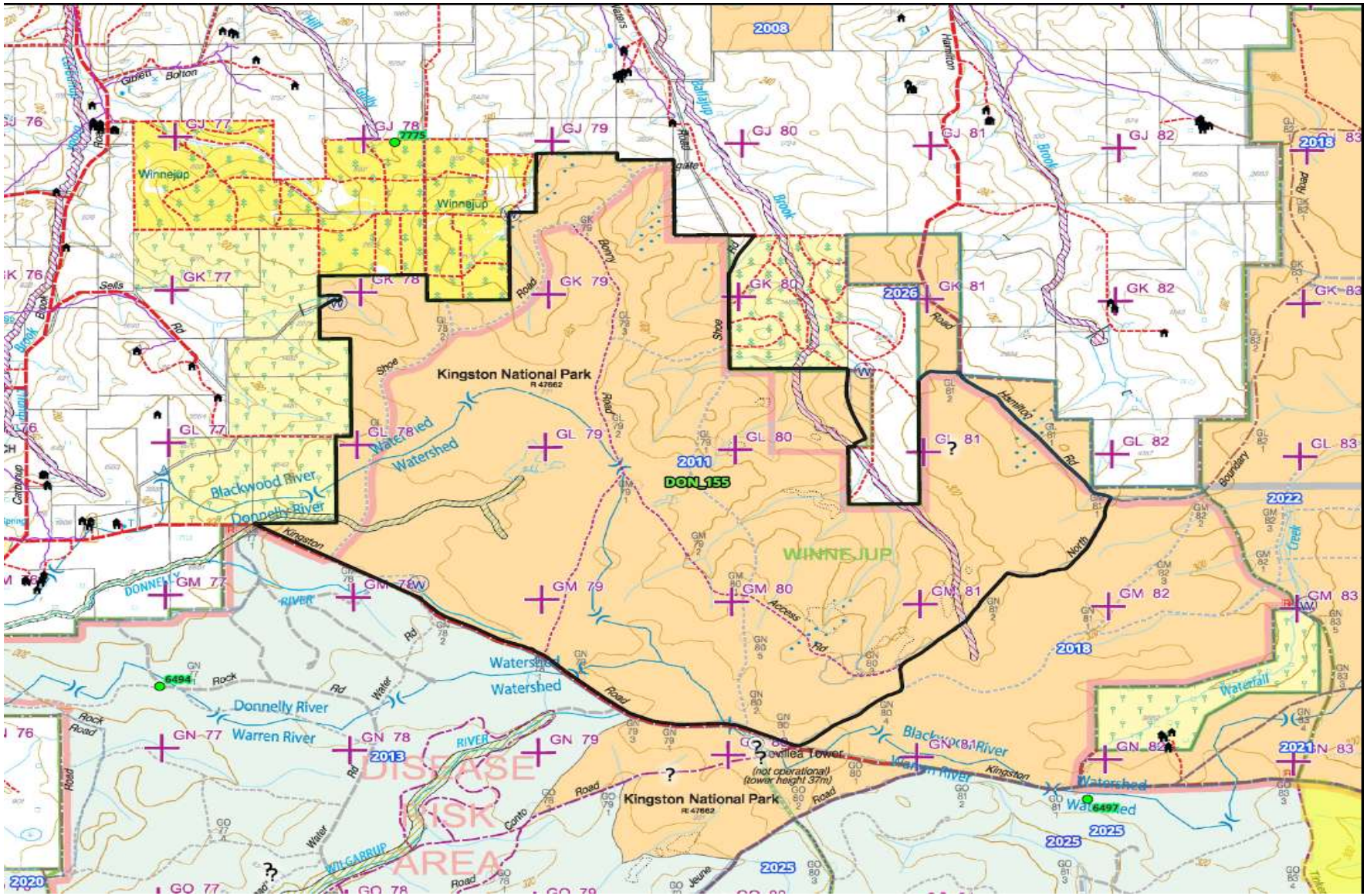
DON_146 Tonebridge



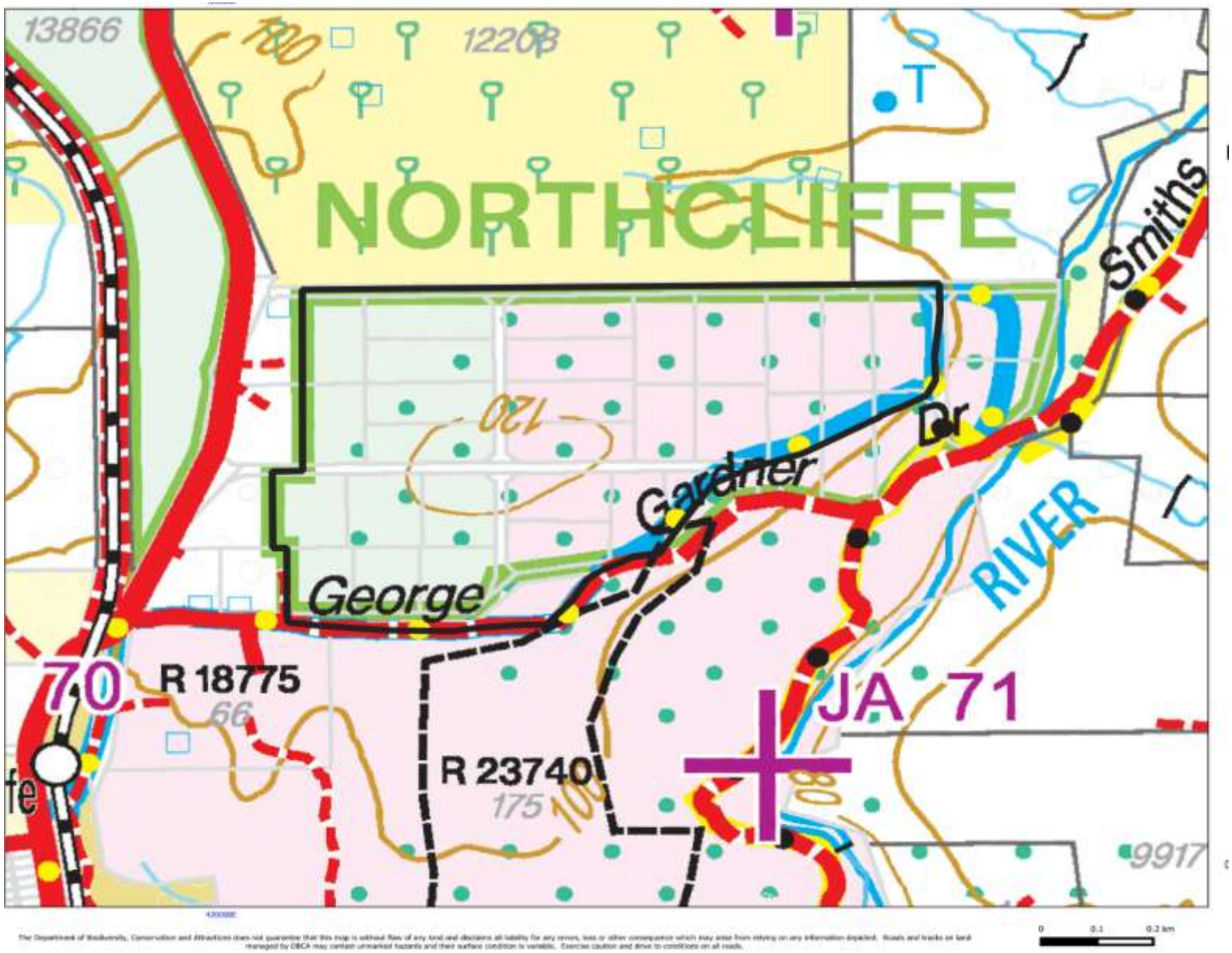
DON_154 Glenlynn



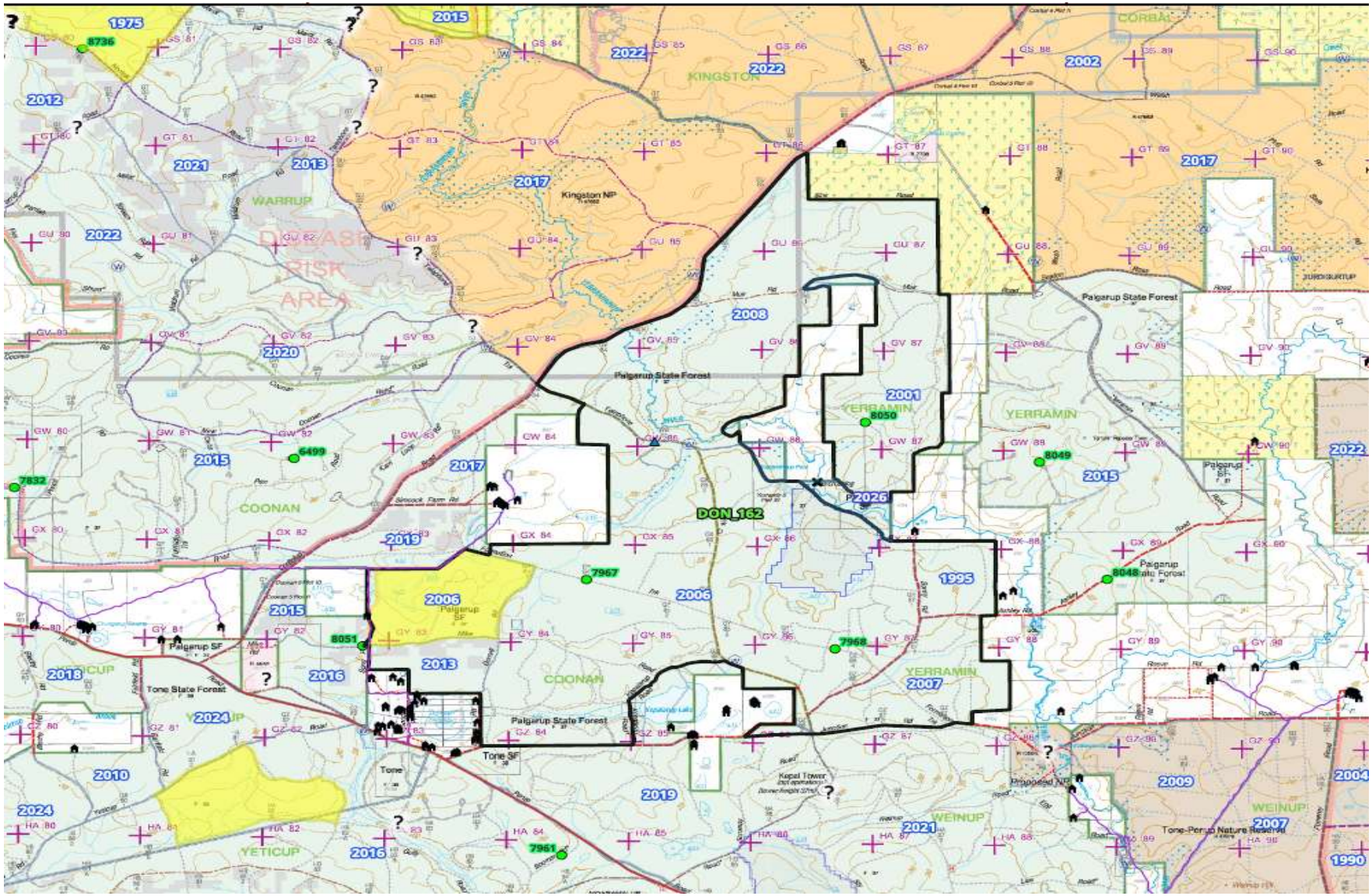
DON_155 Winnejup



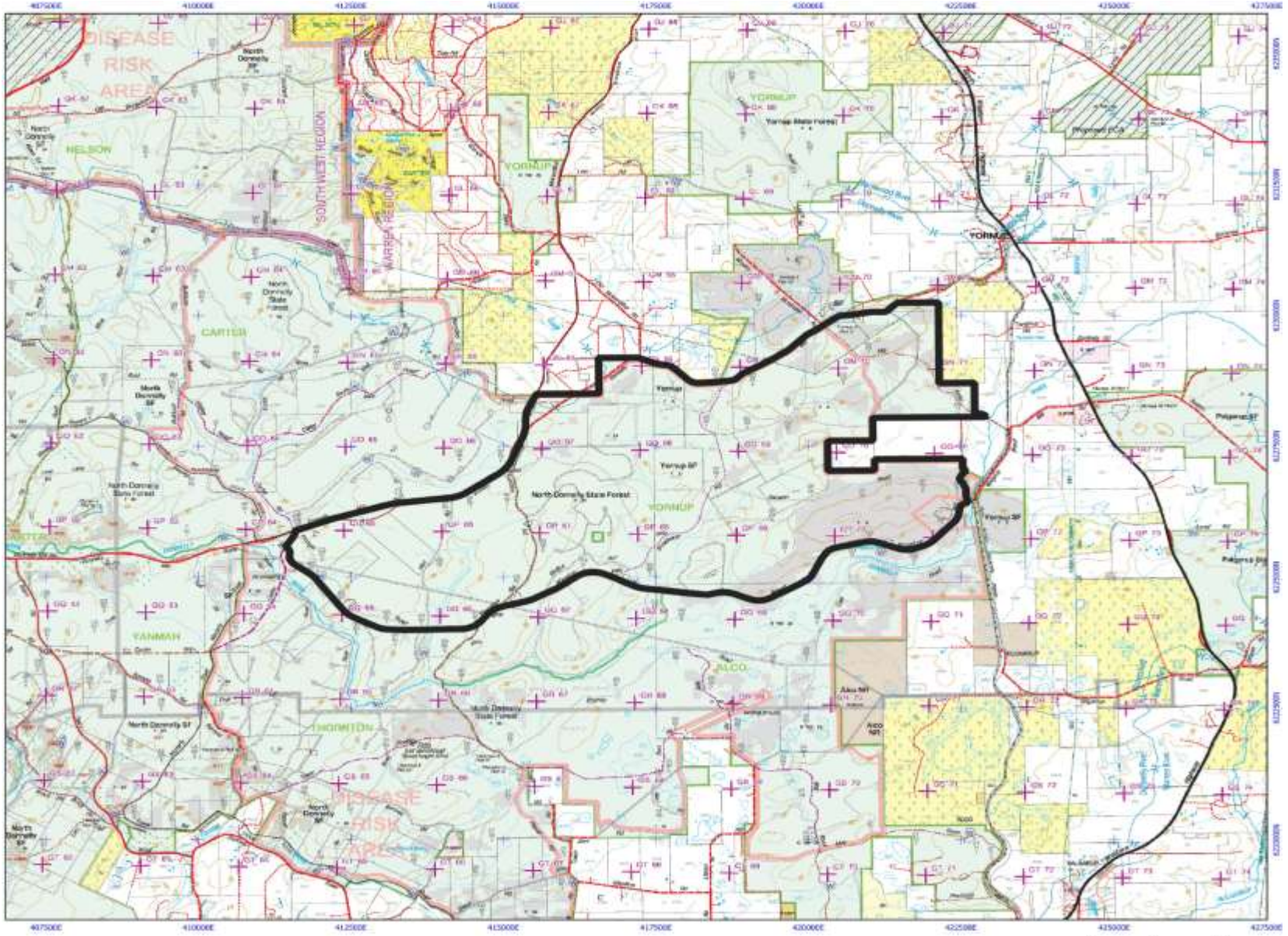
DON_156 Northcliffe



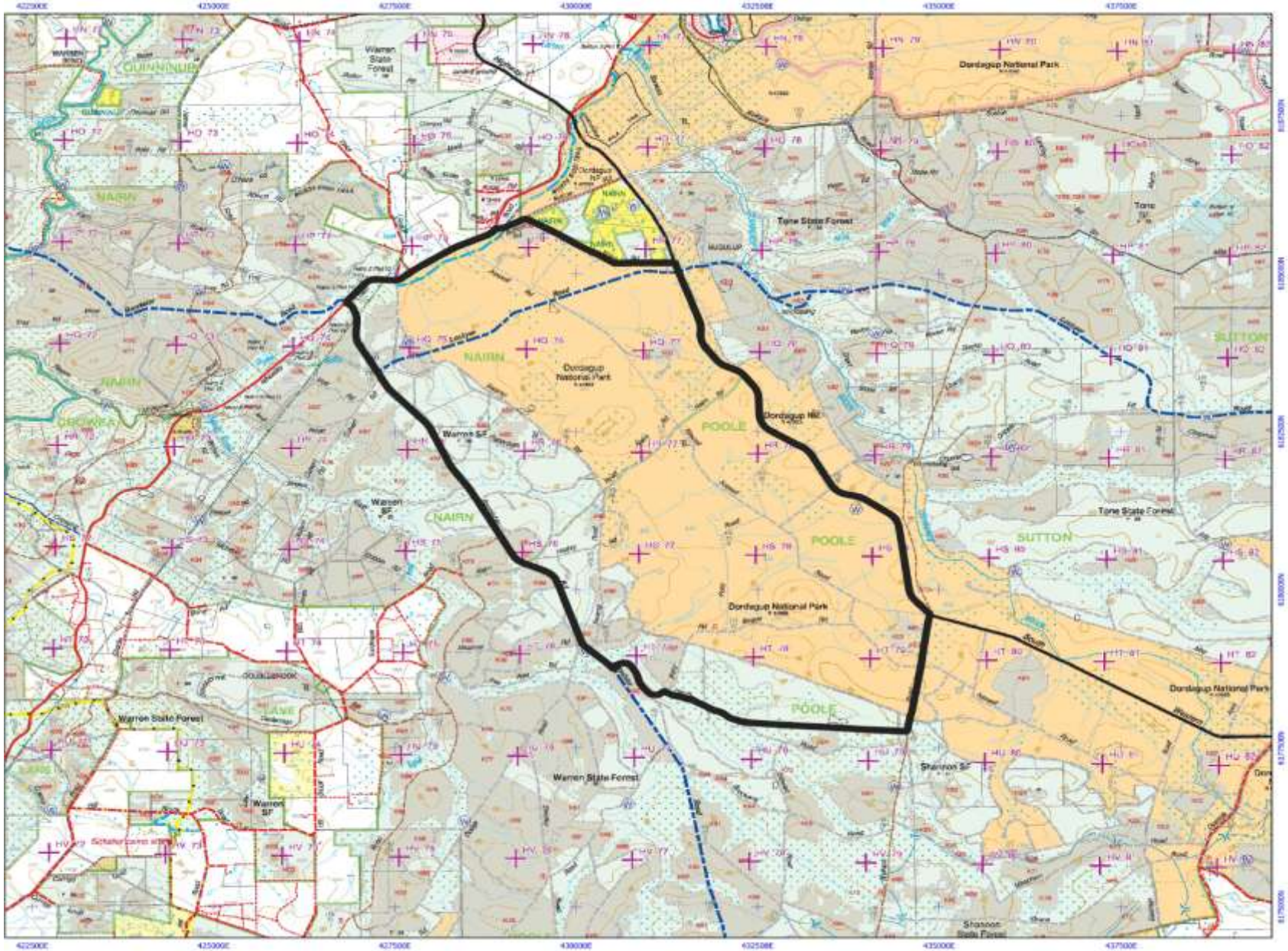
DON_162 Coonan/Yerramin



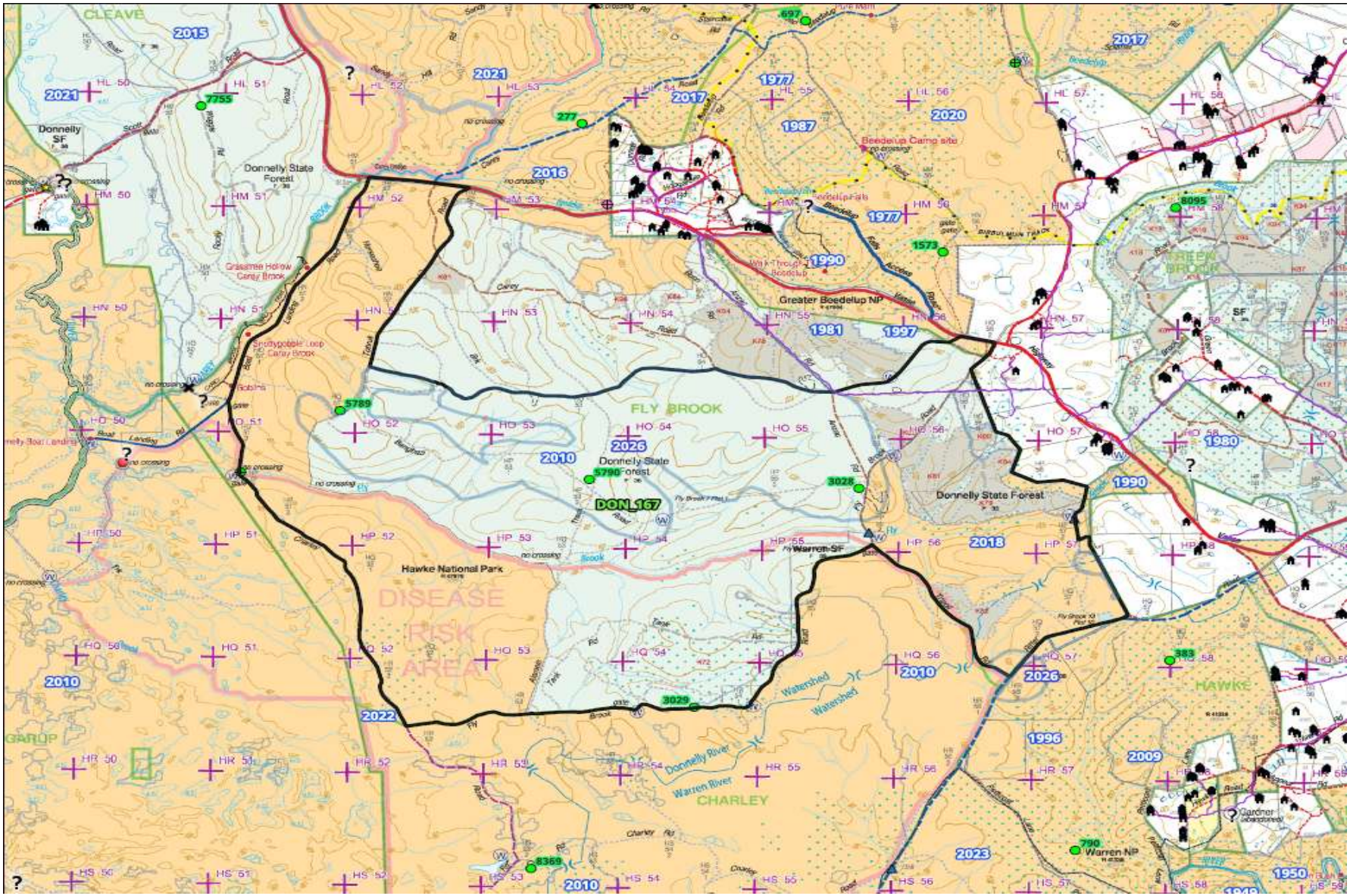
DON_165 Yornup



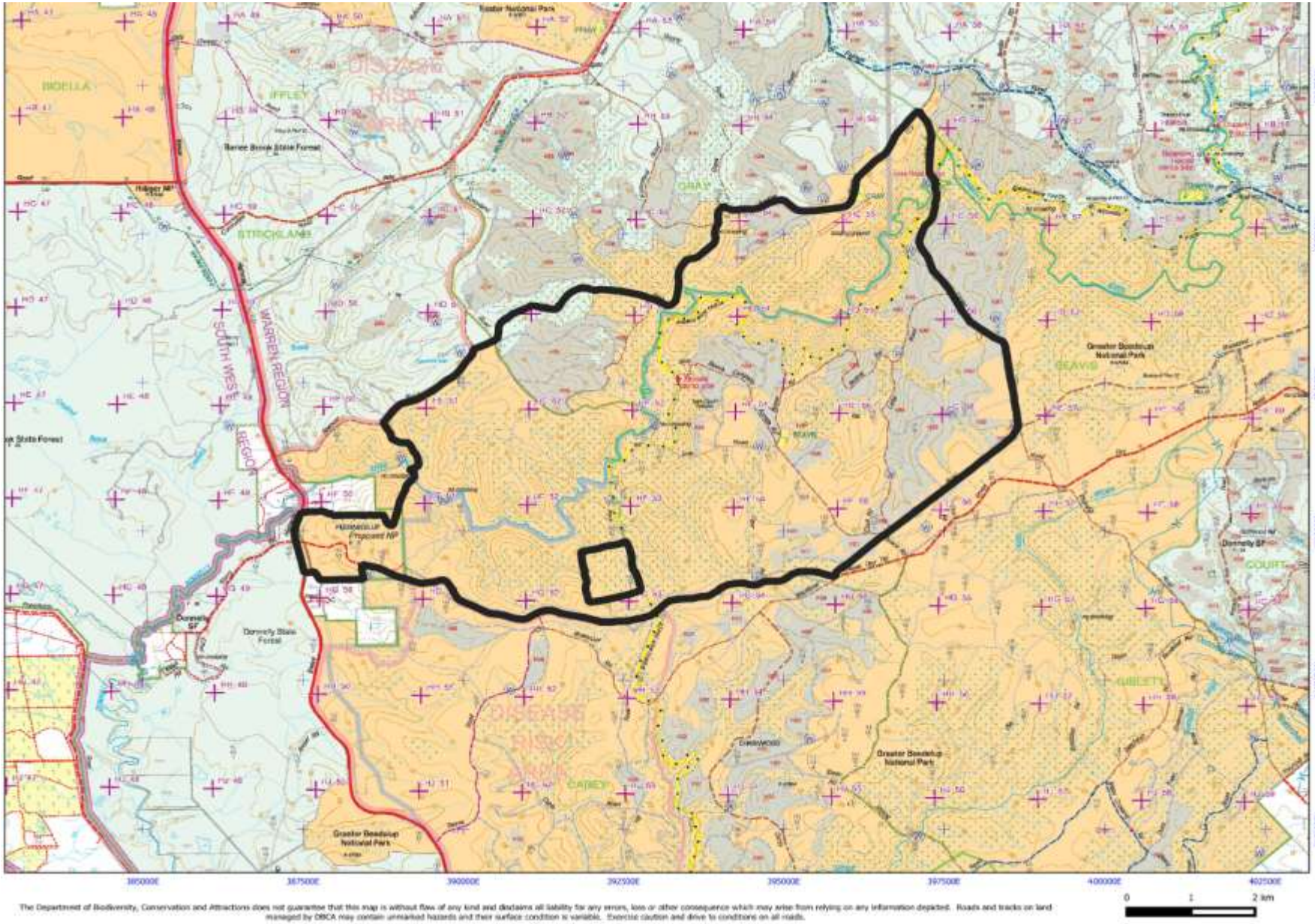
DON_166 Poole



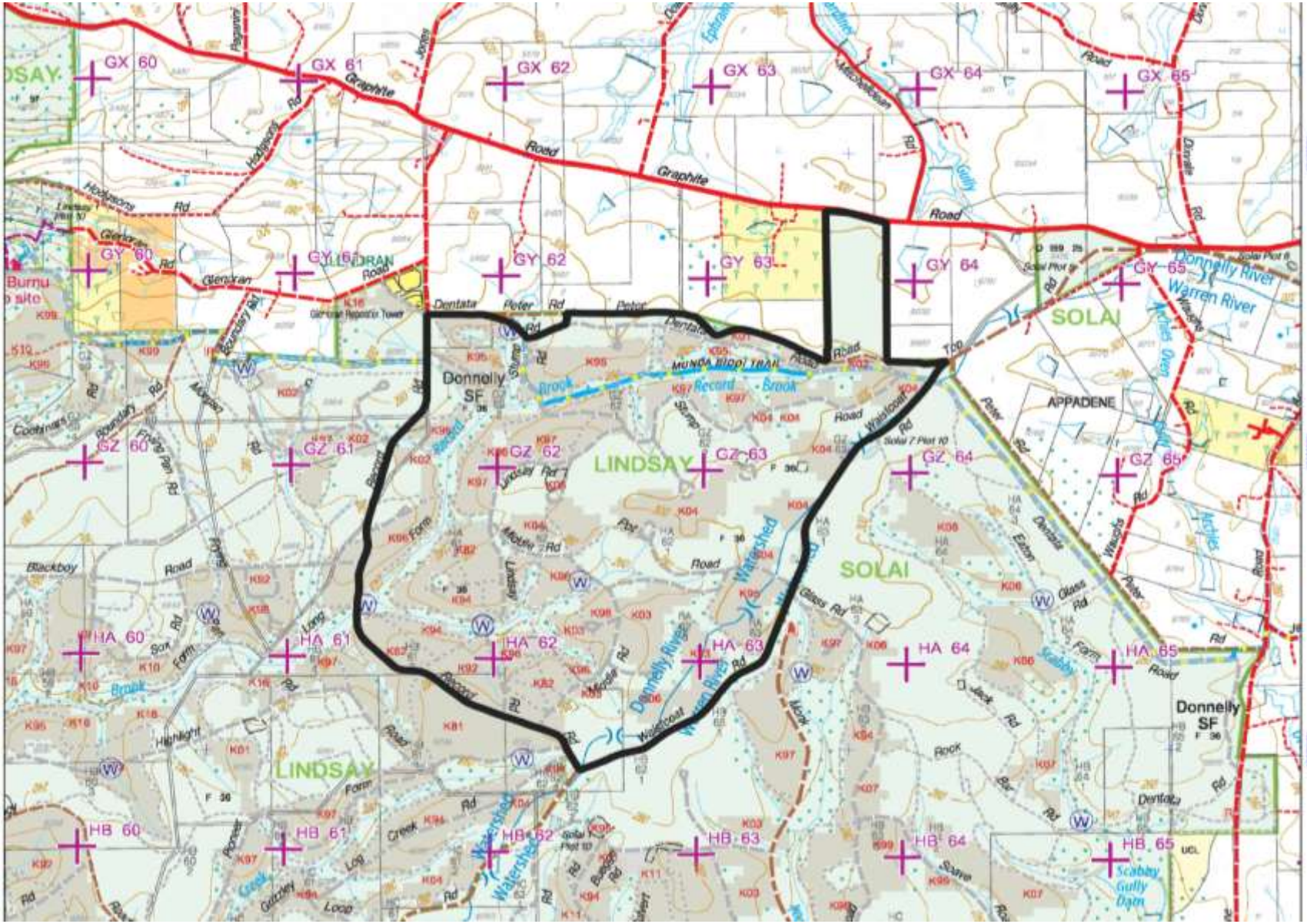
DON_167 Flybrook/Charley



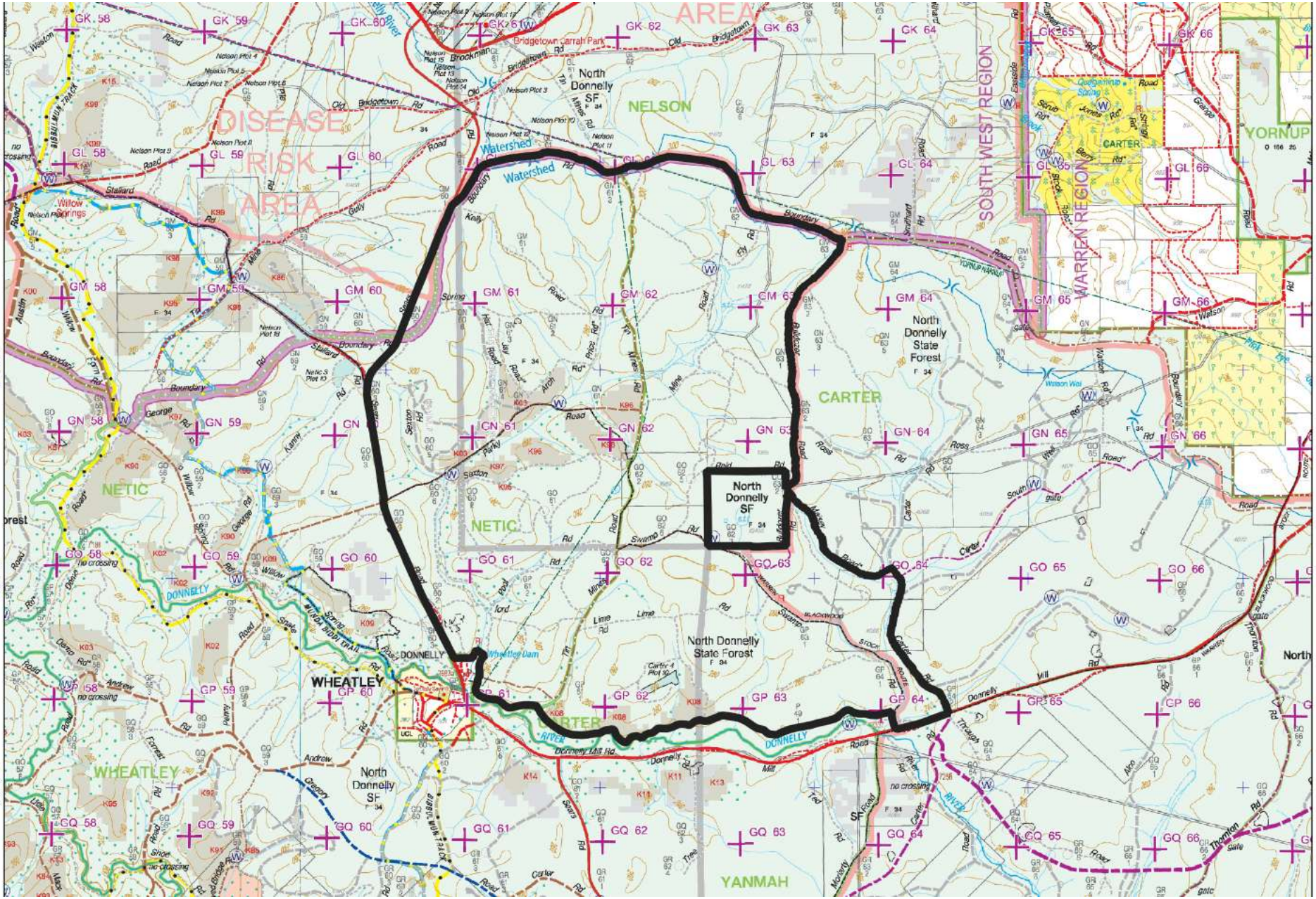
DON_168 Gray



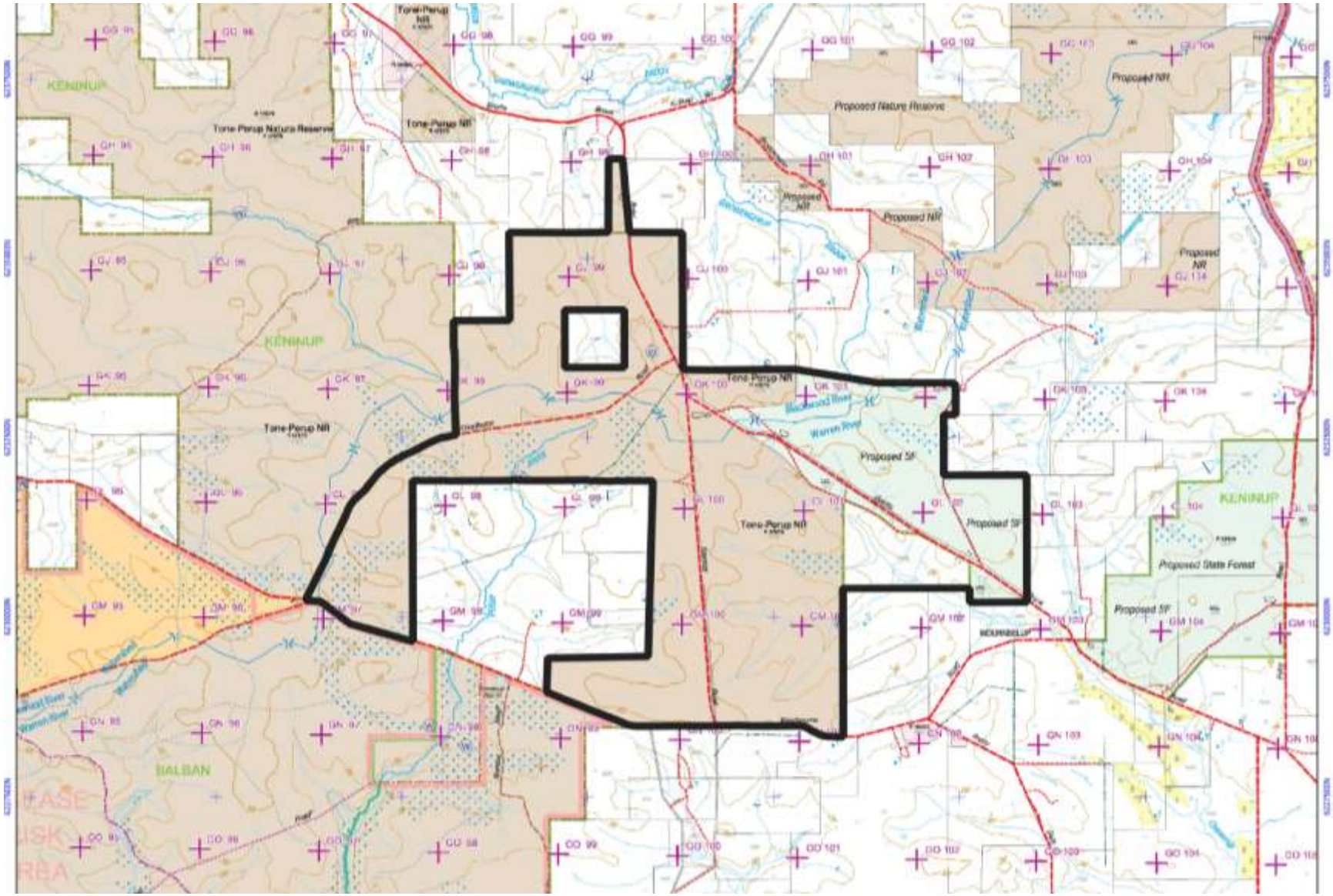
DON_173 Lindsay



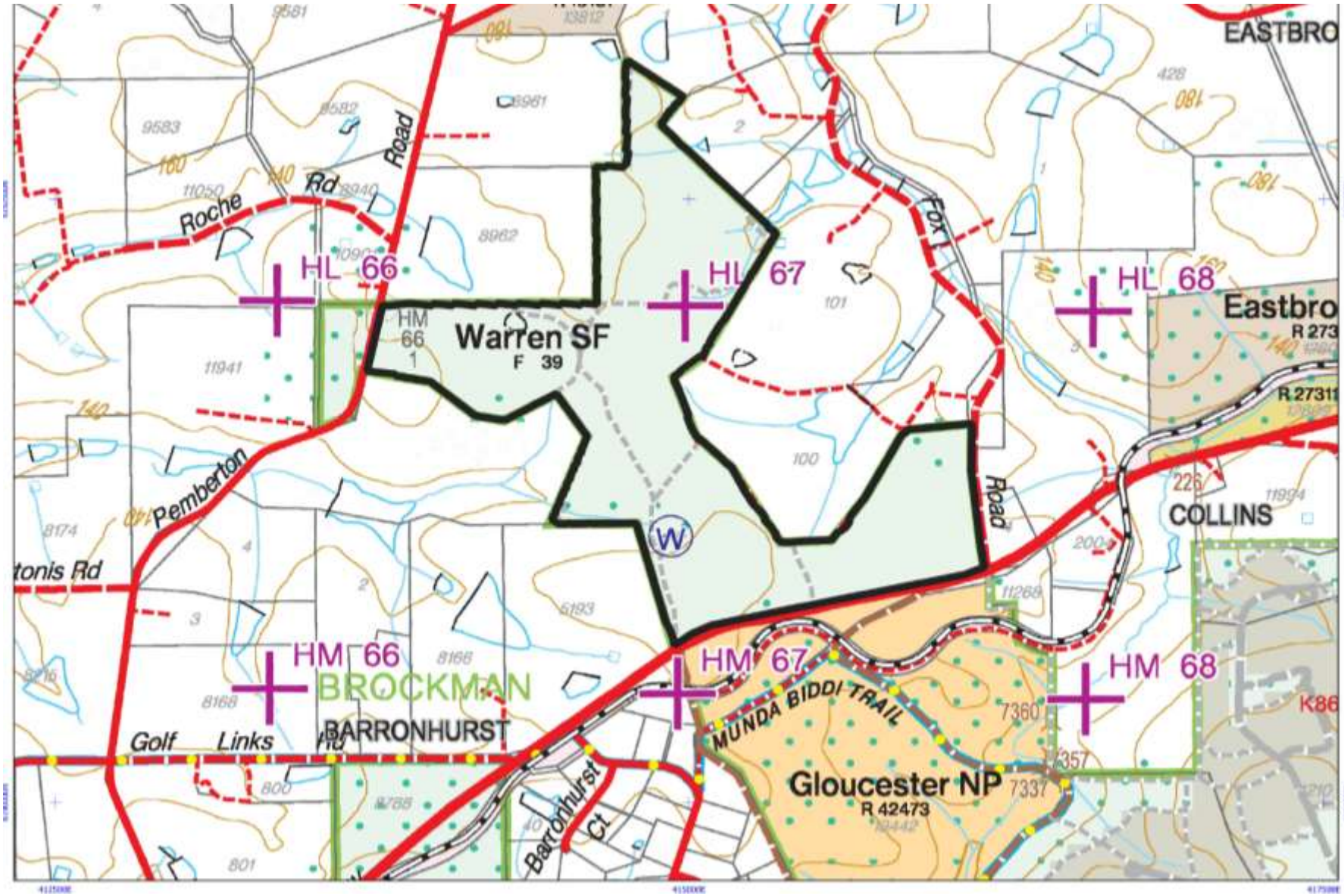
DON_174 Netic



DON_175 Keninup

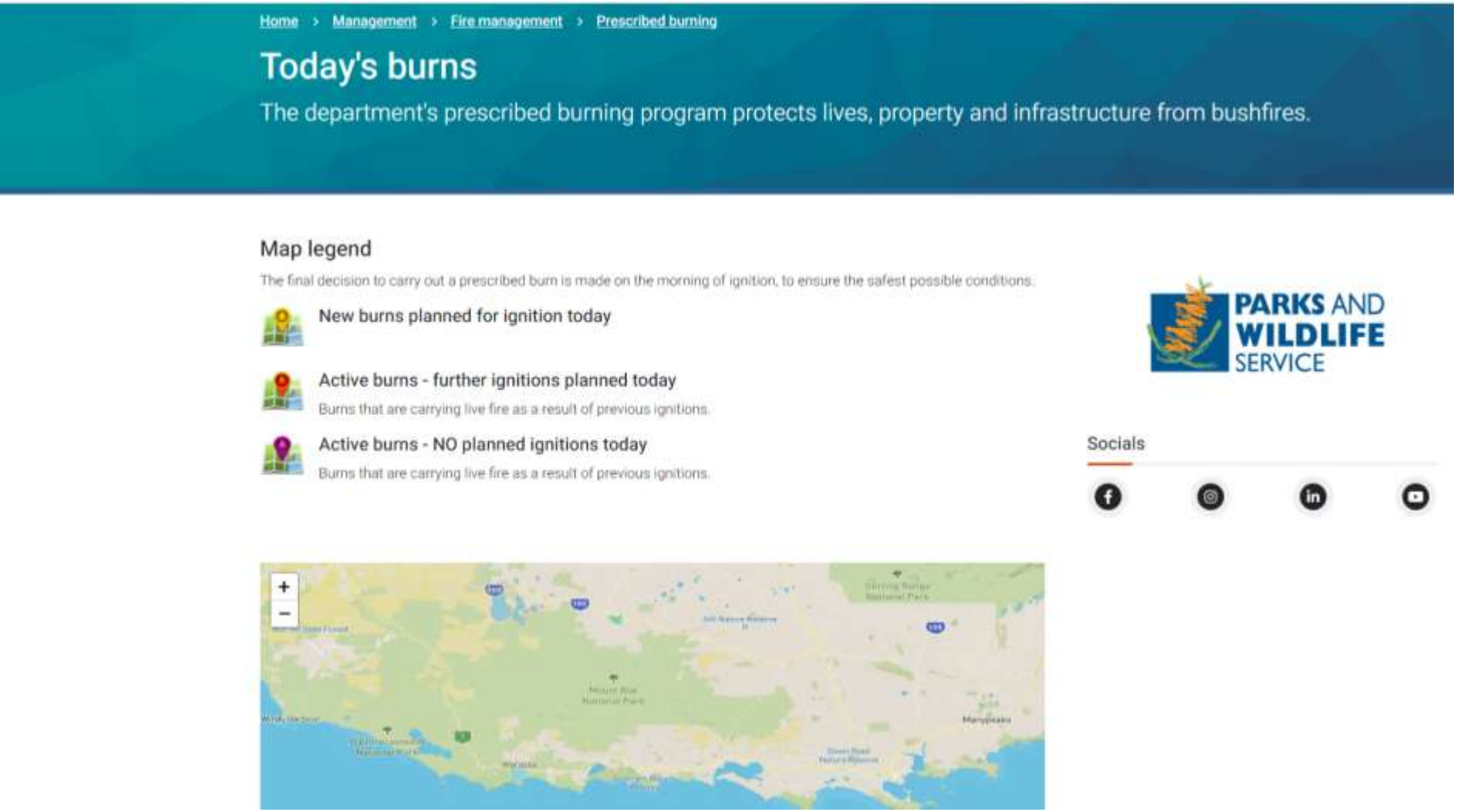


DON_176 Brockman

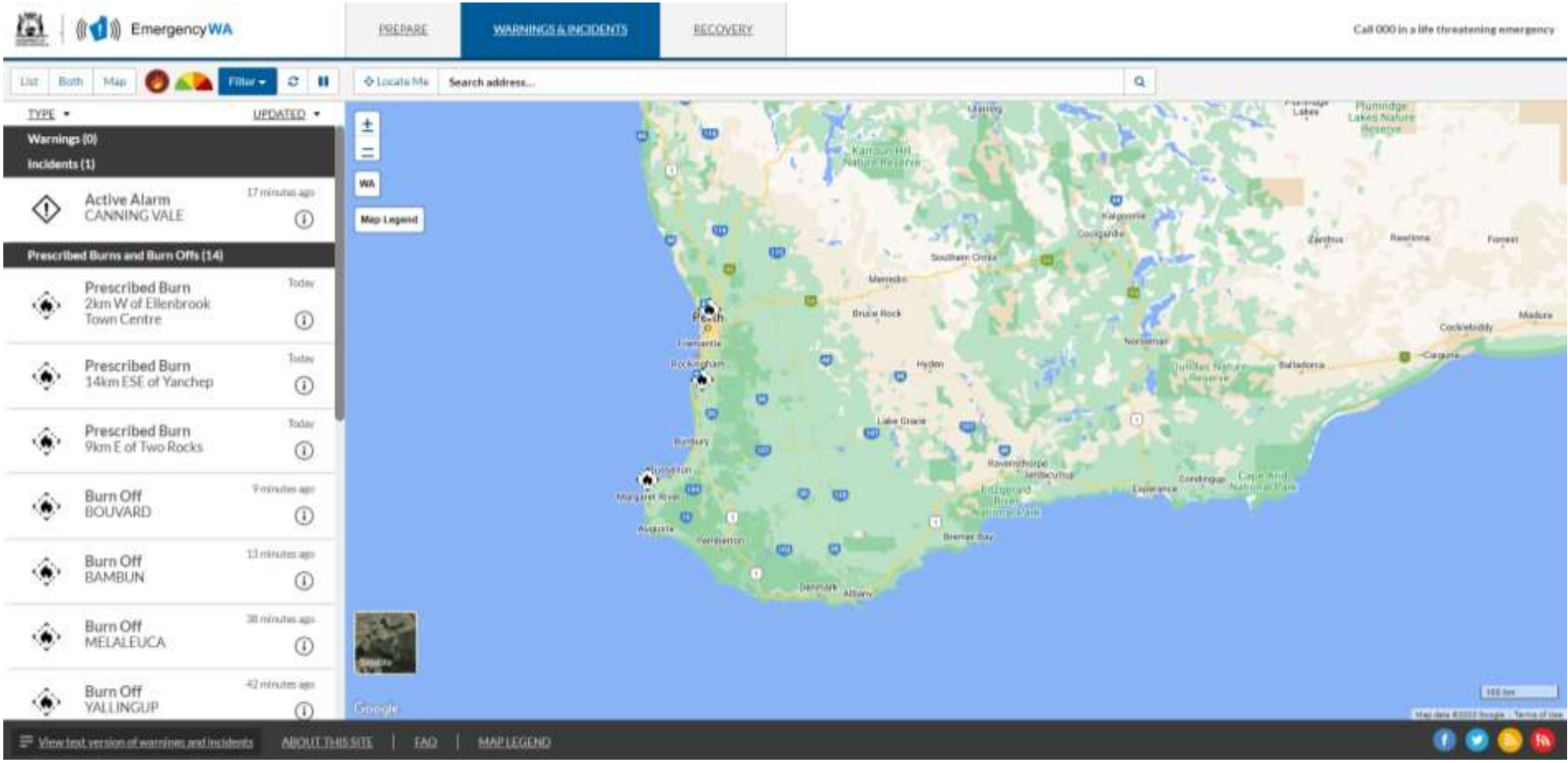


Parks and Wildlife Service – Burn Information

www.dbca.wa.gov.au/todaysburns



www.emergency.wa.gov.au



Department of Biodiversity, Conservation and Attractions

PARKS AND WILDLIFE SERVICE

GOVERNMENT OF WESTERN AUSTRALIA

To find out more…

- DBCA Donnelly District (Pemberton)
- 9776 1207
- donnellyd@dbca.wa.gov.au

Questions