



GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3421/2
File Number: DEC13662
Duration of Permit: From 5 September 2010 to 5 September 2012

PERMIT HOLDER

Todd Fysen Morris
Alison Barbara Morris

LAND ON WHICH CLEARING IS TO BE DONE

Lot 262 on Deposited Plan 238252 (LAGRANGE 6725)

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 300 hectares of native vegetation within the areas hatched yellow on attached Plan 3421/2.

CONDITIONS

1. Weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

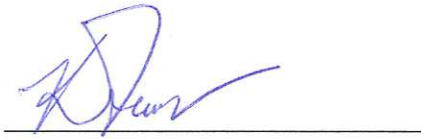
Definitions

The following meanings are given to terms used in this Permit:

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

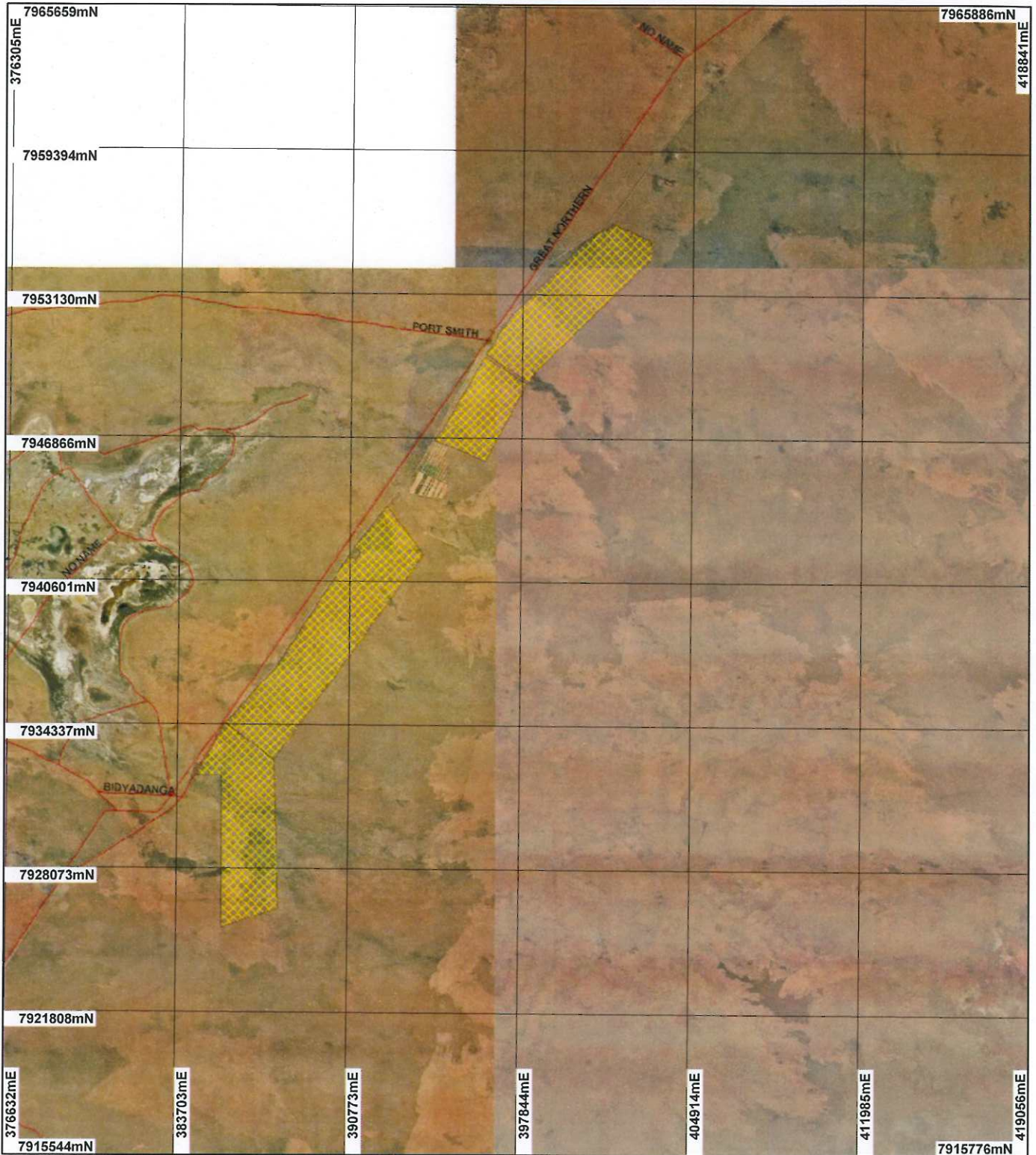


Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

21 April 2011

Plan 3421/2



LEGEND

Clearing Instruments

- Areas Approved to Clear
- Road Centrelines
- Cadastre

Villaret 50cm Orthomosaic - Landgate 2004

Biddles 20cm Orthomosaic - Landgate 2007

Lagrange 50cm Orthomosaic - Landgate 2004



Scale 1:232253

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: The data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Date

K. Faulkner

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 3421/2
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Todd Fysen and Alison Barbara Morris

1.3. Property details

Property: LOT 262 ON PLAN 238252 (LAGRANGE 6725)
Local Government Area: Shire of Broome

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
250		Mechanical Removal	Horticulture
50		Mechanical Removal	Road construction or maintenance

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 14 April 2011

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation association: 699 - Shrublands, pindan; Acacia eripoda shrubland with scattered low bloodwood (Eucalyptus dicromophloia) & E. setosa over soft & curly spinifex on sandplain (Shepherd, 2009).	The proposal is to clear to clear 300 hectares of native vegetation, 250 hectares for cultivating sweet corn and 50 hectares for access tracks. Native vegetation corridors are proposed to be left between the plots. The area under application and surrounding areas are known to contain mapped Beard vegetation association 699. Vegetation association 699 consists of Acacia eripoda shrubland with scattered low Eucalyptus dicromophloia (bloodwood) & E. setosa over soft & curly spinifex on sandplain (Shepherd 2009; site photos).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	Vegetation condition was confirmed through aerial imagery (Lagrange 50cm Orthomosaic - Landgate 2004) and site photos provided with the application.

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposal is not likely to be at variance to this Principle

The amended proposal is to clear 300 ha of native vegetation, 250ha for cultivating sweet corn and 50ha for access tracks. The area under application is situated within a pastoral station subjected to historic and current livestock grazing. The proposed clearing consists of 50 circular plots, each measuring 5ha and up to 50ha for associated access tracks. A native vegetation corridor is proposed to be maintained between the plots. Mapped Beard vegetation association 699 covers vast areas, including the area under application, which consists of Acacia eripoda shrubland with scattered low Eucalyptus dicromophloia (bloodwood) & E. setosa over soft & curly spinifex on sandplain (Shepherd 2007).

There is approximately 99 percent vegetation cover remaining in the local area (50km radius). There is one known priority flora species, Tephrosia andrewii (P1), occurring approximately 9 kilometres north east of the area under application.

The proposed large scale clearing (300 ha) is likely to reduce the amount of existing habitats available for native flora and fauna however, given that the surrounding area retains approximately 99 percent vegetation cover the proposed clearing is not likely to have a significant impact on biological diversity.

A weed management condition will mitigate the risk of introduced weeds spreading onto adjacent land.

Therefore, the clearing as proposed is not likely to be at variance to this principle.

Methodology References:
Shepherd (2009)

GIS Databases:
- Lagrange 50cm Orthomosaic - Landgate 2004
- SAC Biodatasets - Accessed 14/01/2011

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments **Proposal is not likely to be at variance to this Principle**

There are two known records of threatened fauna species within the local area (50km radius); *Isodon auratus auratus* (Golden Bandicoot) and *Macrotis lagotis* (Bilby). The closest record is *Macrotis lagotis* (Bilby) (Declared Threatened Fauna). Four records of this species were recorded within 1km of the proposed clearing.

Other conservation significant fauna known to occur within the local area (50 kilometre radius) include *Mormopterus loriae cobourgiana* (Little North-western Mastiff Bat) (P1), *Lerista separanda* (P2), *Heteromunia pectoralis* (Pictorella Mannikin) (P4), *Burhinus grallarius* (Bush Stonecurlew) (P4), *Ardeotis australis* (Australian Bustard) (P4), *Numenius madagascariensis* (Eastern Curlew) (P4), *Polytelis alexandrae* (Princess Parrot) (P4), *Leggadina lakedownensis* (Lakeland Downs Mouse) (P4), *Cacatua leadbeateri* (Major Mitchell's Cockatoo) (Other Specially Protected Fauna) and *Falco peregrinus* (Peregrine Falcon) (Other Specially Protected Fauna)

The proposal is to clear 50, 5ha circular plots with a native vegetation corridor between the pivots allowing fauna movement. Compared to the extensive, undeveloped surrounding landscape with approximately 99 percent vegetation remaining, this proposal is not likely to cause significant reduction in habitat availability for fauna indigenous to Western Australia.

Therefore, this proposal is not likely to be at variance to this principle.

Methodology GIS Databases:
- Lagrange 50cm Orthomosaic - Landgate 2004
- SAC Biodatasets - Accessed 14/01/2011

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments **Proposal is not likely to be at variance to this Principle**

There are no known records of rare flora species within the local area (50 km radius).

Therefore, this proposal is not likely to be at variance to this principle.

Methodology GIS Databases:
- CALM Managed Lands and Waters - CALM 01/07/05
- Lagrange 50cm Orthomosaic - Landgate 2004
- SAC Biodatasets - Accessed 14/01/2011

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments **Proposal is not likely to be at variance to this Principle**

There is one known record of a threatened ecological community (TEC) in the local area (50 kilometre radius) occurring 35.5 kilometres northeast of the area under application. It is known as Roebuck Bay mudflats. This is a species rich faunal community occurring on the coast on a different soil and habitat type.

Given the distance between the TEC and the area under application it is not likely that the proposed clearing will be whole or part of, or is necessary for the maintenance of this TEC.

Therefore, this application is not likely to be at variance to this principle.

Methodology GIS Databases:
- Lagrange 50cm Orthomosaic - Landgate 2004
- SAC Biodatasets - Accessed 07/12/2009

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposal is not likely to be at variance to this Principle

The vegetation under application has been mapped as Beard vegetation association 699 - Shrublands, pindan; Acacia eripoda shrubland with scattered low bloodwood (*Eucalyptus dicromophloia*) & *E. setosa* over soft & curly spinifex on sandplain (Shepherd 2009). This vegetation type is represented by approximately 99.95 percent within the Dampierland Bioregion.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion Dampierland	8,345,179	8,315,458	99.6	1.03
Shire Shire of Broome	5,469,433	5,429,693	99.3	
Beard vegetation type 699	1,985,724	1,984,695	99.95	
Beard vegetation type within Bioregion 699	1,976,299	1,975,269	99.95	

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

Given the vegetation is represented above recommended threshold levels, the proposed clearing areas are not considered to be significant as remnants.

Therefore, this proposal is not likely to be at variance to this principle.

Methodology References:
Commonwealth of Australia (2001)
Shepherd (2009)

GIS Databases:
- Interim Biogeographic Regionalisation of Australia - EA
- Lagrange 50cm Orthomosaic - Landgate 2004
- Local Government Authorities - DOLA
- SAC Biodatasets - Accessed 14/01/2011

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments Proposal is not likely to be at variance to this Principle

The nearest water feature is the ocean which is situated approximately 13 kilometres west of the area under application. The nearest inland water feature is a minor, perennial watercourse situated approximately 20 kilometres east of the area under application.

The Roebuck Bay RAMSAR wetland is situated 20km north of the area under application.

Due to the distance, the proposed clearing is not likely to have any impact on the environmental values of these aquatic ecosystems.

Therefore, this proposal is not likely to be at variance to this principle.

Methodology GIS Databases:
- ANCA wetlands - Environment Australia 26/3/99
- EPP Lakes Policy Area - DEP 14/05/97
- Lagrange 50cm Orthomosaic - Landgate 2004
- Hydrography, linear - DoW
- Hydrography, linear (hierarchy) - DoW
- Ramsar wetlands - DEC 03

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments Proposal is not likely to be at variance to this Principle

The chief soil over the area under application is the Pindan soil of the Yeeda land system (DAFWA, 2009). The area under application lies within a region receiving a mean annual rainfall of 500 millimetres.

Water erosion is not likely to be an issue due to the porous nature of the sandy soils and the low regional rainfall. Wind erosion is likely to be an issue in the short term until the sweet corn crops are established, however it can be easily managed where irrigation is available (DAFWA, 2009). Additionally, it is likely that the native vegetation corridor retained between the circular plots buffers against potential wind erosion.

Therefore, this application is not likely to be at variance to this principle.

Methodology References:
DAFWA (2009)

GIS Databases:

- Average Annual Rainfall Isohyets - WRC 29/09/98
- Groundwater Salinity, Statewide - DoW
- Salinity Risk LM 25m - DOLA
- Soils, Statewide - DA
- Topographic Contours, Statewide - DOLA

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments Proposal is not likely to be at variance to this Principle

There are no mapped conservation areas within the local area (50 kilometre radius).

Therefore, this application is not likely to be at variance to this principle.

Methodology GIS Databases:
- Lagrange 50cm Orthomosaic - Landgate 2004
- Register of National Estate - EA
- CALM Managed Lands and Waters - DEC
- Systems 1-5 and 7-12 Areas - DEC

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments Proposal is not likely to be at variance to this Principle

The area under application is located above the deep and extensive Broome Sandstone aquifer. The groundwater salinity is less than 500 mg/L TDS.

Compared to the extensive vegetated areas in the surrounding landscape which retains approximately 99 percent of the vegetation, the proposed clearing of 300 ha is not likely to significantly alter the quality of the groundwater or increase recharge.

Therefore, this application is not likely to be at variance to this principle.

Methodology GIS Databases:
- Lagrange 50cm Orthomosaic - Landgate 2004
- Groundwater Salinity, Statewide - DoW
- Hydrogeology, Statewide
- Hydrographic Catchments - Catchments - DoW
- Hydrography, linear - DoW
- Public Drinking Water Source Areas (PDWSAs) - 07/02/06
- RiWI, Areas - DoW
- Salinity Risk LM 25m - DOLA
- Topographic Contours, Statewide - DOLA

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments Proposal is not likely to be at variance to this Principle

The chief soils covering the area under application have been mapped as red earthy sands (Northcote et al. 1960-68). The regional rainfall in this locality is 500 millimetres per annum.

Given the porous nature of the sandy soil, low regional rainfall and retention of vegetation between plots, the clearing as proposed is not likely to increase the incidence or intensity of flooding.

Therefore, this proposal is not likely to be at variance to this principle.

Methodology References:
Northcote et al. (1960-68)

GIS Databases:
- Average Annual Rainfall Isohyets - WRC 29/09/98
- Hydrographic Catchments - Catchments - DoW
- Hydrography, linear - DoW
- Soils, Statewide - DA
- Topographic Contours, Statewide - DOLA

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

The Department of Water has issued Jack Morris a Licence to Take Water for the proposed horticultural activities (DoW, 2011)

Department of Regional Development and Lands has advised that the applicant has requested to amend his pastoral diversification permit.

Methodology References:
DoW (2011)

GIS database:
- Cadastre - Landgate Dec 07
- Native Title Claims - LA 2/5/07
- Town Planning Scheme Zones - MFP 31/08/98
- Country Area Water Supply Act (Part IIA) Clearing Control Catchments 29/06/2006
- Aboriginal Sites of Significance 26 April 2007

4. References

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DAFWA (2009) Department of Agriculture and Food Western Australia Advice for Clearing Permit Application CPS 3421/1, Lot 262 on Plan 238252, Lagrange (DEC TRIM Ref: DOC113448).
- DoW (2011) Issue of a Licence to Take Water, Lot 262 on Plan 238252, Lagrange. Department of Water, Western Australia (DEC Ref: A385474).
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

5. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)