

ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN

Albany Highway (H001) (115 - 172 SLK)

Lateral Clearance Improvement

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Revision Table

Version	Date	Comment
1 (of EIA)	27/01/11	Inclusion of stake holders (DEC) submission (Appendix M)
		Inclusion of EnviroWorks' Environmental Survey (Appendix N)
		Amendments to relevant sections of the Summary to reflect results of the Environmental Survey (page 3).
2	08/02/11	Inclusion of fauna species in Clearing Assessment (b) – P59
		Amend Clearing Principle (a) to 'may be at variance'. P59
		Inclusion of Faunal Habitat Report 2009 – Appendix N
		Clarification of Aboriginal sites Summary and P9
		Justification of decision not to refer to State or Federal agencies

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PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN (MINOR PROJECTS)

Albany Highway (H001) (115 - 172 SLK) Lateral Clearance Improvement

1 SUMMARY

From the PEIA assessment it was considered that the clearing **may be at variance** with DEC's clearing principles (b) and (e), therefore letters were sent to relevant stakeholders inviting submissions. DEC Native Vegetation Conservation Branch responded agreeing that Principles (b) and (e) as well as Principle (h) 'may be at variance' (Appendix M). Main Roads has since engaged EnviroWorks Consulting to undertake an Environmental Survey of the project site to assess the significance of these issues. The results of the survey indicate that the proposed clearing is **not likely to be at variance** to any of the Clearing Principles (Appendix N).

Referral to State and Federal agencies is not warranted.

Works shall not be undertaken within 100m of the three known Aboriginal heritage sites 18555, 18556 and 27935 (Hotham River) that are in the vicinity of the works area. The exact location of Site 18556 (Modified Tree) at Crossman River crossing (465088mE 6366703mN) will need to be confirmed. (Appendix H)

There are several heritage listed sites along Albany Highway, particularly in the Shire of Williams that will need to be given consideration (Appendix H).

Any clearing that may need to be undertaken within 50m of a water course shall be carried out using manual (rather than mechanical) methods so as not to cause disturbance to beds and banks.

Occurrences of *Halgania corymbosa* P3, *Stylidium rhipidium* P3 and *Acacia cuneifolia* P4 have been recorded in proximity of the project area. The Environmental Survey indicated that the *Halgania* and *Stylidium* populations currently exist over 100 metres from the highway and will not be impacted by the proposed clearing (Appendix N).

Declared plants (Paterson's Curse and Cottonbush) have been recorded in the project area by the Department of Agriculture and Food (Appendix C) but were not relocated in the historical locations during the field study of the Environmental Survey. However, a number of other serious weeds were *identified and should be given appropriate treatment prior to delivery as recorded in the EMP*. (see weed locations in Appendix 5 of Environmental Survey Report in Appendix N).

Cleared vegetation shall be chipped and used for future rehabilitation or scattered directly into surrounding bush such that it cannot be blown or conveyed by stormwater into waterways.

2 PROJECT DESCRIPTION

Main Roads Wheat Belt South (WBS) Region proposes to establish the AustRoads standard lateral clear zone along Albany Highway between SLK 115 and 172 by selectively removing vegetation that currently is or has the potential to grow a trunk diameter larger than 300mm. The clear zone is the area from the edge of the traffic lane that is available for emergency use by errant vehicles. The width of the clear zone to AustRoads standards is dependent on the design speed of that section, the geometry of the road and the slope of the batter at that point. Vegetation alongside cuttings will need

less treatment as compared to locations where the road has been in-filled and is maintained by battered slopes.

The majority of this section of Albany Highway has a speed limit of 110kph. It is proposed to establish a clear zone of average 6.5m on straight sections and inside of curves; and up to 9.0m on the outside of curves. The project passes through the Shire of Wandering, Boddington and Williams (Figure 1).

3 BACKGROUND

Collisions of errant vehicles with trees are a major cause of damage to vehicles, personal injury and even death. The conflict between improving road safety by clearing trees and reducing environmental impacts is an ongoing and contentious issue. However, Main Roads has a responsibility to identify trees that are potentially a hazard and remove them where applicable.

Albany Highway is a high volume and high incident route, composed of tourism and heavy transport vehicles and forming a major link between the City of Albany and the City of Perth. Main Roads WBS Network Management team have undertaken extensive survey work to map trees along this section of Albany Highway that have a trunk diameter at breast height greater than 300mm in diameter. Additional calculations have been made to determine appropriate clear zone requirements at specific locations as dependent upon the AustRoads standards.

This particular section of Albany Highway (SLK 115-172) has been identified for clear zone establishment based on past accident statistics and the general proximity of large vegetation to the carriageway. Funding has been made available through the Safer Roads Project. It is anticipated that the establishment of clear zones to AustRoads standards will help to reduce roadside accidents and fatalities.

As per Main Roads' Environmental Assessment and Approval process, the Low Impact Environmental Screening Checklist has been completed for the proposal (Appendix A). As the proposed works involves clearing of native vegetation outside of the maintenance zone and the clearing of native vegetation that is older than 10 years within the maintenance zone, the preparation of a project specific Preliminary Environmental Impact Assessment (PEIA) and Environmental Management Plan (EMP) are required. This report fulfils this requirement.

4 DESCRIPTION OF THE PROJECT

The actual area of vegetation proposed to be cleared is difficult to establish as the majority of the larger trees that need to be removed are isolated specimens over a 57 kilometer distance. Not all of the length of the project area needs treatment as there is currently sections that have either adequate clear zone or have no vegetation at all. Also, different sections require differing widths of clearing to establish appropriate clear zones; in some instances only the fringing meter.

The majority of the larger trees within the clear zone to be removed are south of Williams and are isolated specimens on the western side of the highway. The average width of the reserve on the western side is 20m as compared to 10m on the eastern side. The majority of the clearing north of Williams will also occur on the western side of the highway.

A clearing area of 3.6ha has been estimated based on data obtained from the detailed survey of trees (1400) with a trunk diameter >300mm with an average canopy of 9m² and

increasing this by 10% of the clear zone area by taking into account specimens within the proposed clear zone with the potential to grow >300mm in the future that will also need to be removed.

As noted, only selected vegetation is to be removed; under storey, and all other frangible vegetation is to be retained. Cleared material will be chipped and either dispersed immediately into the adjacent bushland or stockpiled for use as mulch in future rehabilitation works.

3.1 Project Location

The location of the study area in relation to Local Government Authorities and is shown below in Figure 1.

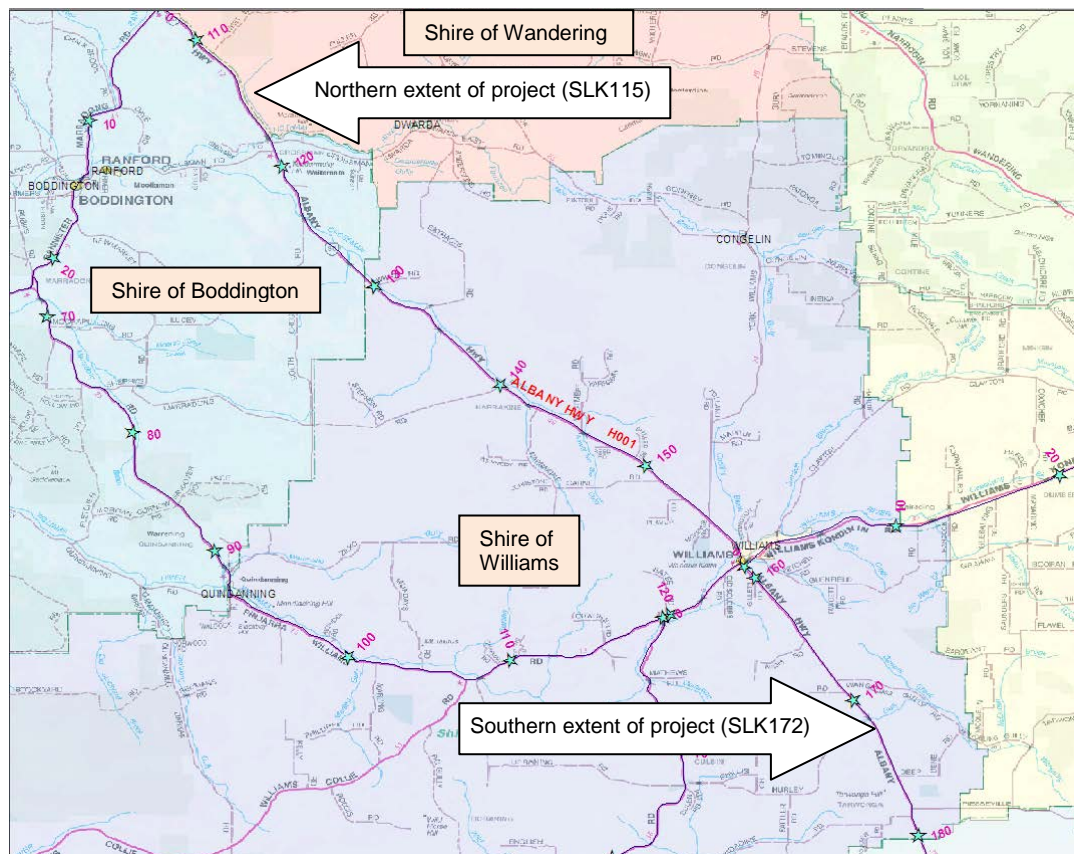


Figure 1: Site location and Local Government Authorities traversed by the project

4 ASSESSMENT METHODOLOGY

Low Impact Environmental Screening Checklist

A Low Impact Environmental Screening Checklist was completed by the Project Manager and reviewed by the Environment Officer (Appendix A).

Preliminary Desktop Study

A preliminary assessment of the project area and its potential constraints was undertaken by reviewing a number of government agency managed databases and consulting with the relevant government organisations where necessary. Additional surveys have also been undertaken to further investigate aspects that were identified as being potentially impacted.

Environmental Constraints

Main Roads GIS database
Appendix B

Flora

DEC Native Vegetation Map Viewer
Department of Agriculture and Food: Vegetation Types and Extents
Correspondence with DEC Threatened Species Branch
Declared Plant / Weed information from DAF
Appendix C

Fauna

DEC Threatened and Priority Fauna data base search
Fauna Survey locations and Extracts from '*Faunal Habitat along 4 Segments of the Albany Highway*', Connell 2009
Appendix D

Land

WA Atlas (Landgate) Acid Sulphate Soils search
<https://www2.landgate.wa.gov.au/slip/portal/services/wa-atlas.html>
Appendix E

Dieback

Main Roads GIS database
Appendix F

Water

Department of Water's Geographic Data Atlas
Correspondence with Department of Water re: proclaimed surface water areas, Priority public drinking water source areas and interference of watercourses
Landgate: Shared Land Information Platform (SLIP)
<https://www2.landgate.wa.gov.au/slip/portal/services/wa-atlas.html>
Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) mapping tool <http://www.anra.gov.au/mapmaker/mapservlet?app=anra>

Appendix G

Heritage

Australian Heritage Places Inventory <http://www.heritage.gov.au/ahpi/index.html>
Western Australian Heritage Council Register <http://register.heritage.wa.gov.au/>
Shires of Boddington, Williams and Wandering Heritage Inventories
Department of Indigenous Affairs Heritage Enquiry System
<http://www.dia.wa.gov.au/AHIS/Default.aspx>
Appendix H

Matters of National Significance

EPBC Act Protected Matters Search Tool
<http://www.environment.gov.au/erin/ert/epbc/index.html>
Appendix I

Air Quality

The need for a local air quality assessment was determined using the criteria outlined in the MRWA environmental guideline, Air Quality Assessment.

Commonwealth and State Referral

The decision to refer the project to the State's Environmental Protection Authority (EPA) is based on whether significant environmental impact, amendment to TPS or the project is of significant size and/or public interest. The decision to refer the project to the Commonwealth's Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) is based upon whether the project would significantly impact upon matters of national environmental significance, e.g. World Heritage properties, protected wetlands and migratory species, Commonwealth marine areas, threatened species or communities or nuclear actions.

5 EXISTING ENVIRONMENT

Description

There is a range of vegetation types and conditions throughout the 57 kilometer length of the project area. In general though, the vegetation proposed to be cleared is of a Degraded condition (Kieghery 1994) comprising a narrow strip of roadside remnant native plants remaining after early land clearing. For the majority of the project length there is virtually no understorey, no adjacent vegetated areas and a proliferation of weed (pasture) grass species and other exotic plants. There are some stands of vegetation in Good to Very Good condition in locations proximate to some of the water courses that cross the highway. Some sections that do not require treatment are revegetation areas that have been planted by Main Roads in the past. Most of the larger trees proposed to be removed are south of Williams and are within the current maintenance zone.

Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management.

Good: Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate it.

Very Good: Vegetation structure altered, obvious signs of disturbance. (Kieghery 1994)

The Department of Agriculture and Food NRM SLIP System was used to identify vegetation associations within the project area (Appendix C).

The majority of the vegetation within the project area however is comprised of Beard Type 4 (*Medium Woodland: Marri, Wandoo*), which is represented by 25.15% with 15.89% remaining in Wandering, 20.88% in Boddington and 12.85% in Williams. At the Hotham River and Crossman River crossings between SLK 118 and 128 there are isolated vegetation associations of Beard type 1003 (*Medium Forest: Jarrah, Marri & Wandoo*) & 1005 (*Low woodland; Allocasuarina huegeliana*) represented with 42.36% and 51.79% respectively remaining in the LGA.

Further south at SLK 155 there is an occurrence of vegetation association 352 (*Medium woodland; York gum*) represented with 16.63% and 14.54% in the Shire of Williams. At SLK 160 vegetation association 7 (*Medium woodland; York gum (Eucalyptus loxophleba) & Wandoo*) occurs with 13.8% remaining and 15.66% in the Shire of Williams (Figure in Appendix).

Site Investigation

A tree survey was undertaken over a six week period by Senior Contract Coordinator Bernie Van Niekerk to map specimens with trunk diameter >300mm between SLK 51 & 215. A site visit was carried out by Environment Officers Peter Denton and Peter Swanson (PS) on 26th March 2010 and an additional two inspections (11th June & 21st September) by PS to examine the general features of the area. The broad vegetation types in the vicinity of the project area and potential habitat trees were identified. Other issues that were considered included topography, the impacts on creek lines and property access.

Site photos were taken and are included in Appendix J.

Site Investigation	Description/Comment
Total area (ha) of <u>native vegetation</u> to be cleared	3.6ha
Total area (ha) of other vegetation, including regrowth, landscape areas, to be cleared	1.0ha consisting of feral and ornamental trees and non local native species
Weeds present	Local weeds, namely wild oats, turnip and broom grass. There are some potential outbreaks of Patterson's Curse and Cottonbush declared weeds within the project boundary (Appendix C).
Drainage areas or wetlands present	Four RAMSAR wetlands are listed in the DSEWPC report of Matters of National Significance (Appendix I), however all are a considerable distance from the project area and will not be impacted. There are no wetlands in the immediate vicinity of the project area (Appendix G).
Adjacent land uses	Agricultural and Farming

6 CLEARING OF NATIVE VEGETATION

Native vegetation describes all indigenous aquatic and terrestrial vegetation (living or dead). The term does not include vegetation that was intentionally sown, planted or propagated unless it was required under a statutory condition.

Apart from activities that are exempt under the clearing regulations, such as clearing vegetation that is less than 10 years old for maintenance, typically all Main Roads clearing will be undertaken using its State wide Project Purpose Permit.

6.1 Assessment against Clearing Principles

In assessing whether the project is likely to have a significant impact on the environment, the project has been assessed against the DEC's 10 principles of clearing, refer to Appendix K.

From the assessment it is considered that the clearing **may be at variance** with DEC's clearing principles (b) and (e).

7 ASSESSMENT OF ASPECTS AND IMPACTS

Table 1: Aspects and Impacts – Albany Highway – lateral clearance improvement – SLK 115-172

Aspect	Evaluation of Potential Impacts
Air quality	Air quality is not likely to be affected by the proposed works. Local air quality assessment is not required for the project.
Dust	Likely to be a minor issue during earthworks.
Fauna	Giving consideration to the minimal extent and the generally degraded and exposed nature of the vegetation proposed to be cleared; no significant impacts would be expected on native fauna as a result of the proposed works. No Matters of National Environmental Significance as protected under EPBC Act (1999) will be impacted.

Table 1: Aspects and Impacts – Albany Highway – lateral clearance improvement – SLK 115-172

Aspect	Evaluation of Potential Impacts
Vegetation – clearing	<ul style="list-style-type: none"> Estimated 3.6ha of native vegetation is proposed to be cleared. The native vegetation to be cleared is growing along the edge of the highway and has been generally impacted by disturbances such as clearing for pasture land, wind and fires. The condition of native vegetation to be cleared is mostly Degraded with isolated patches proximate to water courses maintaining Good to Very Good condition (Keighery 1994). <p>The majority of the vegetation within the project area is comprised of Beard Type 4 (<i>Medium Woodland: Marri, Wandoo</i>), which is represented by 25.15%. The majority of this is in a Degraded condition comprised of a narrow strip of roadside remnant native plants remaining after early land clearing and road construction. There is virtually no understorey for the majority of the project length and a proliferation of weed (pasture) grass species and other exotic plants.</p> <p>Near water courses in the northern section there are small areas of Beard type 1003 (<i>Medium Forest: Jarrah, Marri & Wandoo</i>) and 1005 (<i>Low woodland; Allocasuarina huegeliana</i>) represented with 42.38% and 51.79% respectively remaining in the Boddington LGA. In the southern section there are occurrences of Beard type 352 (<i>Medium woodland; York gum</i>) and 7 (<i>Medium woodland; York gum (Eucalyptus loxophleba) & Wandoo</i>) represented with 14.54% and 15.66% respectively.</p> <ul style="list-style-type: none"> None of the native vegetation to be cleared occurs within an ESA. The native vegetation to be cleared will be done so using the purpose permit. The Assessment against the Clearing Principles indicates that it MAY BE at variance to clearing principles (b) and (e).
Vegetation – TECs/DRF	<p>Using the Main Roads GIS and DEC supplied shape file, a Conservation Code 3 threatened flora site (FID9595) has been identified at SLK 118.7, just south of the Hotham River. Occurrences of <i>Halgania corymbosa</i> P3, <i>Stylidium rhipidium</i> P3 and <i>Acacia cuneifolia</i> P4 have been recorded in proximity of the project area. A survey for these species will need to be undertaken prior to clearing to ensure that there will be no impact to populations, if they currently exist.</p> <p>Consultation with DEC indicated that there are no State registered TECs in the vicinity of the proposal. No TEC or DRF as protected under the EPBC Act (1999) is expected to be impacted.</p>
Vegetation – weeds	<p>A number of roadside weeds and pasture grasses occur along this section of roadway. Potential outbreaks of Declared Plants (Paterson's Curse and Cottonbush) have been identified in the project area by the Department of Agriculture and Food (Appendix C) and will be given appropriate treatment prior to delivery as recorded in the EMP.</p>
Vegetation – dieback	<p>No surveys have been undertaken by DEC along this section of road way, which is classified as un-protectable. No material is required to be imported onto the site as part of the project and minimal ground is expected to occur. Adherence to Main Roads' Best Practice Guideline – 'Phytophthora Dieback' will concurrently reduce the possibility of pathogen and weed seed dispersal.</p>
Reserves / Conservation areas	<p>There are no reserves or conservation areas have been identified along the project area.</p>
Heritage (non-indigenous)	<p>There are several heritage listed sites along Albany Highway, particularly in the Shire of Williams that will need to be given consideration (Appendix H). However, given that there is no excavation or compaction proposed, it is unlikely that there will be any impact from the works.</p>
Aboriginal heritage	<p>There are two Aboriginal sites adjacent to Albany Highway within the project area. Site 18555 at the intersection of Albany Highway and Marradong Road is an artefact/scatter site (474720mE 6357332mN) and is some distance from Albany Highway. Site 18556 at Crossman River crossing is a Modified Tree (465088mE 6366703mN) (Appendix H). Also the Hotham River (Site 27935) has a registered site of mythological significance (460526mE 6371350mN).</p>
Surface water/drainage	<p>The proposed works are within the Warren River Water Reserve which is a non-assigned Protection Area. The scope of the works is considered minor and will not impact on the surface water and drainage.</p>
Wetlands	<p>There are no known wetlands in the vicinity of the project.</p>

Table 1: Aspects and Impacts – **Albany Highway – lateral clearance improvement – SLK 115-172**

Aspect	Evaluation of Potential Impacts
Groundwater	No dewatering nor drainage modifications are required, hence no change to groundwater level or quality.
Noise and vibration	There are no major sensitive local receivers nearby.
Visual amenity	Given that some large tree specimens are proposed to be removed, there may be some feedback from the public for a short period after the clearing.
Public safety and risk	Provided traffic management and signage to Main Roads standards is employed, the proposed works do not present any significant hazards to public safety. The proposed works will serve to enhance public safety by improving local road conditions.
Hazardous substances	Given the nature and scale of the project there will be no relevant impact from this aspect.
Contamination	Given the nature and scale of the project there will be no relevant impact from this aspect.
Salinity	Given the nature and scale of the project there will be no relevant impact from this aspect.
Acid Sulfate Soils	No further investigations are necessary as the proposal is in a low risk area and there is no dewatering or excavation below the water table planned.
Statutory Land Use Planning	The works are totally within the road reserve and no land will need to be acquired.

8 DECISION TO REFER

This PEIA investigation and analysis of the database search of the Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) mapping tool (Appendix I) indicate that there may be variance to one or more of the Clearing Principles, particularly in regard impact on black cockatoo habitat and food sources. Field investigations however, as reported in the Environmental Survey conducted by Enviroworks 2010 (Appendix N) indicate that no Matters of National Environmental Significance will be significantly impacted. *“... all of the potential habitat trees are outside of the proposed clearing footprint due to the fact that often the existing cleared area is either similar or larger than the proposed clearing width (i.e. 6.5 m on straight sections or 9 m outside bends)”* and *“There is little or no foraging habitat for threatened species within the proposed clearing footprint”*. P12 Environmental Survey, Enviroworks 2010

Therefore referral to DSEWPC for impact to cockatoo habitat or food sources is not warranted.

Given the scale of the project and the low significance of its impacts to the surrounding environment as concluded by Enviroworks, it would be considered that the environmental management measures proposed will adequately minimise any potential environmental impacts. Therefore the project does not require referral to the WA Environmental Protection Authority.

9 STAKEHOLDER CONSULTATION

Name	Agency	Date	Comments
Kelly Rogers	Customer Service Officer – Shire of Boddington	13/04/10	Request Heritage Inventory
Manuela Lenehan	Administration Officer Shire of Williams	13/04/10	Request Heritage Inventory
Hayley Barge	Customer Service Officer Shire of Wandering		Request Heritage Inventory
Jenni Williams	A/Senior Conservation Officer (Assessment) Heritage Council of WA	18/10/10	Heritage information

Sue Downes	Threatened Ecological Communities DEC	28/04/10	Threatened Ecological Communities
Amy Mutton	Project Officer - Fauna Database Species and Communities Branch DEC	03/05/10	Threatened Fauna
Kimberley Oswald	A/ Threatened Flora Database Technical Officer Species and Communities Branch	05/05/10	Threatened Flora
Jarred Desmond	Biosecurity Officer Lake Grace	27/04/10	Declared Plants
Carol Anderson	S W Region Dept of Water	19/05/10	Watercourses & wetlands
Patrick Ridley	Natural Resource Management Officer Kwinana Peel Region, Department of Water	18/06/10	Proclaimed Surface Water Area or Priority public drinking water source areas
Denis Callaghan	Senior Heritage Officer Department of Indigenous Affairs	21/10/10	Aboriginal Heritage information

10 ENVIRONMENTAL MANAGEMENT PLAN

This section of the report (the EMP) has been developed for the project area following the completion of the above sections. The main aim of this EMP is to provide a management plan to assist in minimising the environmental impacts of the activities associated with the proposed works and identify who is responsible for the implementation of the management strategies.

This EMP will only address the actions already listed as well as any site-specific issues that were identified during the PEIA. The project specific management measures identified within this EMP are in addition to the standard specifications used for Category 2 projects. The environmental management measures/conditions in Main Road's Specifications 203, 204, 301 and 302 are still to be followed where applicable.

The areas that require special management will be addressed in terms of:

- the timing of the various management actions;
- the topic (e.g. vegetation);
- the objectives for each area;
- the actions that are necessary to minimise the impact;
- the responsible party for implementing the action; and
- whether the action arose from external advice or is a Main Roads requirement.

10.1 Communication Plan

Environmental issues specific to the project will be communicated as follows:

Method	Frequency	Participants	Reference	Record
Project Site				
<i>Induction</i>	<i>Prior to Work</i>	<i>All personnel and subcontractors</i>	<i>EMP and Contractor Environmental Policy</i>	<i>Induction Meeting</i>
<i>Toolbox Meetings</i>	<i>Weekly</i>	<i>Project Personnel</i>	<i>Contractor Safety Plan</i>	<i>Minutes of Meeting</i>
<i>Contract Meetings</i>	<i>fortnightly</i>	<i>Main Roads' Project Manager and Contractor Project Manager</i>	<i>EMP</i>	<i>Minutes of Meeting</i>

10.1.1 External Communication and Complaints

A complaints register shall be maintained by the contractor. All complaints received shall be forwarded to the Main Roads' Project Manager for action. Serious complaints shall be investigated within 24 hours of the complaint being received.

ENVIRONMENTAL MANAGEMENT PLAN						
Timing	Topic	Objective	Action	Responsible Party	Advice	
All phases of the Project	Environmental Management	Inclusion of environmental management measures	Environmental management measures detailed in this EMP will be included in the technical specifications, contractual documents and site induction materials prepared for the project for all site personnel and service providers.	Project Manager	Main Roads	
		Operational Management	Nominate a person responsible for monitoring and reviewing all operations in order to minimise any nuisance to the public.	Contractor	Main Roads	
	Vegetation Clearing - Record-keeping	All projects should maintain the required records relating to clearing native vegetation under the purpose permit.	a copy of the PEIA & EMP	Project Manager	DEC	
			a map showing the location where the clearing occurred, recorded as a shape file or coordinates of individual specimens			
			the size of the actual area cleared (in hectares)			
			the dates on which the clearing was done			
Pre-Construction	Vegetation	Ensure that the overall objectives of the alignment and construction works are compatible with maintaining and, where possible, enhancing the biological integrity of the surrounding environment and minimising vegetation loss and degradation; and Ensure the retention of as many habitat trees, shrubs and vegetated corridors for fauna as possible, particularly where associated with riparian zones.	Selection of designs/locations that minimise adverse impacts on the biological environment.	Project Manager	Main Roads	
			Selection of individual tree specimens that might be retained and protected with barriers or similar alternative treatments.			
			Construction works to be undertaken in summer to reduce the potential for soil erosion and drainage line siltation due to vegetation removal and heavy rains.			
			Control/spray known weed species within the project area prior to construction disturbance to limit the amount of propagative material that may be spread during disturbance (see weed locations in Appendix 5 of Environmental Survey Report in Appendix N). Refer also to Roadside Conservation Committee, WA, 2005: <i>Handbook of Environmental Practice for Road Construction and Maintenance Works</i> .	Project Manager / Contractor		
			The clearing line (or individual specimens) will be clearly marked and checked prior to clearing.			
			Any stockpiled vegetation from clearing works shall not be burnt. This vegetation shall be chipped and used for future rehabilitation or scattered directly into surrounding bush such that it cannot be blown or conveyed by stormwater into waterways.			
			Avoid damage to adjacent vegetation			Trees to be removed are to be felled in a manner that they fall within the approved clearing line.
		Vehicles and equipment will not be parked or driven over tree roots or undisturbed vegetation.				

	Public Relations		Inform Main Roads, local shire and local land-holders of the nature and timing of works and provide contact details for complaints.	Contractor	Main Roads
	Aboriginal Heritage	Preserve known sites	Confirm the location of Aboriginal Site 18556 (Modified Tree) at Crossman River crossing (465088mE 6366703mN).		
Construction	Noise, Vibration and Dust and Public Access	Ensure that the construction of the proposal does not become a nuisance to the public.	Access to private property and appropriate traffic management measures should be planned and implemented prior to the construction works.	Contractor / Project Manager	Main Roads
			Works associated with the construction should not prevent public access along adjacent land. Public access should be maintained along the reserve at all times.	Contractor	Main Roads
			Any damage due to vibration, dust or noise is the responsibility of the contractor to rectify.		
			Where it is found that trucks leaving the site are carrying excessive material onto sealed surfaces, these areas will be swept to reduce dust generation and maintain traffic safety.		
			Watering, the use of hydromulch or other forms of mulching to protect loose surfaces shall be used as mitigation measures as necessary.		
	Weeds & Pathogens (Dieback)	Minimise the risk of introducing weeds or pathogens to the site	Standard weed and hygiene measures should be applied for all earthworks in the area, including ensuring that plant and equipment brought on to (and leaving) the site are clean of potentially contaminated soil.	Contractor	Main Roads
			All imported material must be certified as being weed and pathogen free.		
			Topsoil will be stored and respread within the same section to minimise the potential introduction/spread of weeds or pathogens		
	Pollution and Litter	Ensure that the construction of the proposal is managed to a standard that minimises any adverse impacts on the environment.	The designated servicing area will be bunded to contain any spills or leaks and shall not be located in an area adjacent to any drainage areas or watercourses or will drain into a temporary sump.	Contractor	Main Roads
			Emergency cleanup procedures shall be implemented in the case of any spillage. These will include control of spilled material and removal of contaminated soil to an approved site. The contractor shall ensure appropriate equipment is available at all times and shall notify the Superintendent's Representative of a spill.		
			All waste oil will be collected for recycling and any empty fuel/oil containers, used filters and waste hydraulic parts to be collected and stored in an allocated area then removed to an approved site.		

			Dumping or temporary storage of bitumen, asphalt, concrete or aggregate should only occur at designated depots or controlled hardstands. All personnel are restricted from urinating or excreting within 100m of a watercourse. The project areas, including hardstand areas, will be kept in a tidy manner at all times.		
	Fuel & Chemical Storage	Avoid chemical storage and spill impacts	No storage of fuels or hazardous chemicals on site. Maintain materials for the clean-up of spills.	Contractor	Main Roads
	Fire	Ensure that the fire risk associated with the construction of the proposal is minimised.	No fires shall be lit within the project area. Machinery will be fitted with approved spark arresting mufflers. A water tanker or fire fighting equipment will be on site at all times.	Contractor	Main Roads
	Aboriginal Heritage	Avoid impact to known sites	Works shall not be undertaken within 100m of the three known Aboriginal heritage sites (Appendix H).	Contractor	Main Roads DIA
		Appropriately manage any Aboriginal heritage material identified during works.	Works should immediately cease within 20m of uncovered material of interest.	Contractor	Main Roads DIA
	Water quality	Avoid impacts to water courses:	Any clearing that may need to be undertaken within 50m of a water course shall be carried out using manual (rather than mechanical) methods so as not to cause disturbance to beds and banks.		
		Erosion control	Stabilisation of banks impacted via plantings, compaction or if necessary rock pitching There should be no traversing of waterways with heavy machinery, which can cause damage to waterways banks and beds and could cause flooding		
		Pollution control	Chipping of cleared vegetation should not be scattered such that chips can be blown or conveyed by stormwater into waterways.		
	Site Management	Ensure that the site is managed to ensure that construction of the proposal will have minimal impact upon the surrounding environment.	Site office and materials storage areas will be located on previously disturbed/ designated area.	Contractor	Main Roads
Post-Construction	Reinstatement of project site	Leave the project area free from debris.	All waste materials from the development are to be completely removed from the site upon completion of the development. Final clean-up shall be to the satisfaction of the Project Manager and the Site Superintendent.	Contractor	Main Roads

11 MONITORING, CONTINGENCY MEASURES & AUDITING

Given the scale and nature of the project, limited extent of clearing and that there is no revegetation to be undertaken; there is no requirement for post-construction monitoring, contingency measures or auditing.

Appendix A

Low Impact Environmental Screening Checklist

Form No. 6707/001/01

Checklist - Low Impact Screening Checklist

The Low Impact Screening Checklist is part of the environmental assessment and approval process, refer to in Figure 2 in the Main Roads environmental guideline Environment Assessment and Approvals. It should be noted that the checklist does not address Aboriginal heritage issues. Please refer to Main Roads guideline *Aboriginal Heritage* for the heritage assessment process.

All projects are to be screened to identify those that are Low Impact.

Projects that have "No" to **all** items are classed as Low Impact and should be implemented using standard contract clauses in the Tender Document Process.

Projects that have "Yes" to **any** item will require further environmental assessment and will be implemented using an Environmental Management Plan.

Tick "Yes" or "No" for every item.

Project NameAlbany Highway, SLK 115-172

ITEM NO.	ITEM	Y	N
1	New road or road reserve to be created or expansion of existing road reserve.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Works require clearing of native vegetation outside the maintenance zone.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Works require clearing of native vegetation that is older than 10 years old within the maintenance zone.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Works to occur outside normal working hours.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Passes over, adjoins or drains directly into a wetland or sensitive watercourse.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Local natural drainage regime / hydrology will be changed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Dewatering, or a new water bore required.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Known potential source of hazardous materials within or adjoining project area. e.g. Acid Sulphate Soils, existing petrol station, industrial site or waste disposal site (landfill)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Buildings will require demolition.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Completed By: Signature Henryk Marek Date 23 Aug 2010
 Name Henryk Marek Title SPM

To be reviewed by Signature Peter Swanson Date 30/08/10
 a Main Roads Environment Officer Name Peter Swanson Title EO

Comments: _____

Checking boxes on Items 2 & 3 require that a PEIA be undertaken.

Appendix B

ENVIRONMENTAL CONSTRAINTS

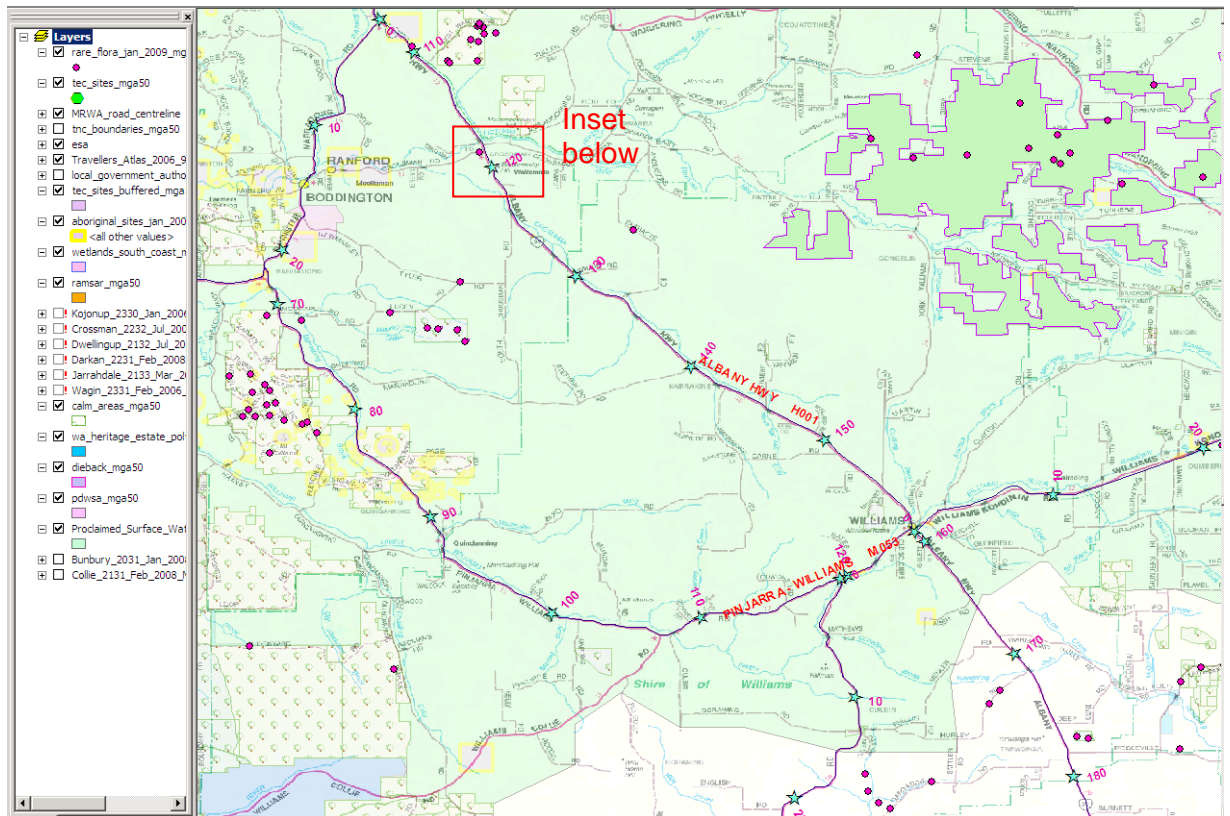


Figure 2: Main Roads GIS search using external agencies' shape files as listed in the legend

- DRF at SLK 118.7 FID 9595 (see Figure 3 below)
- PDWSA south to SLK 165.7

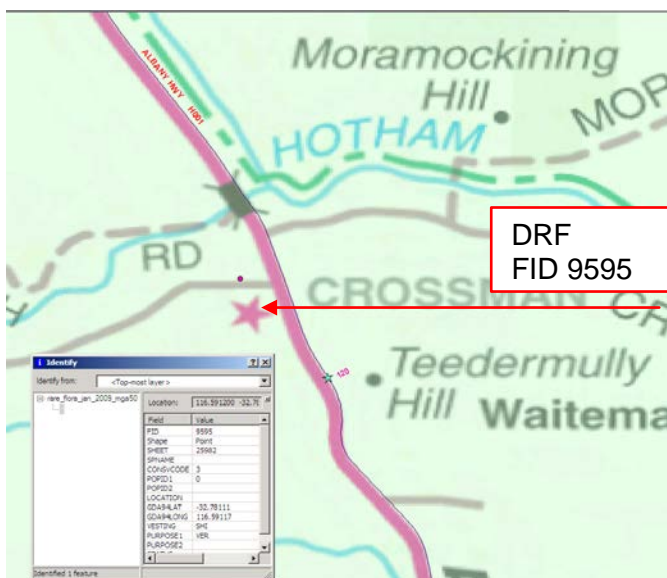


Figure 3: Inset from Main Roads GIS search showing DRF location in Figure 2.

Appendix C

FLORA

DEC Native Vegetation Map Viewer Department of Agriculture and Food: Vegetation Types and Extents Correspondence with DEC Threatened Species Branch Declared Plant / Weed information from DAF

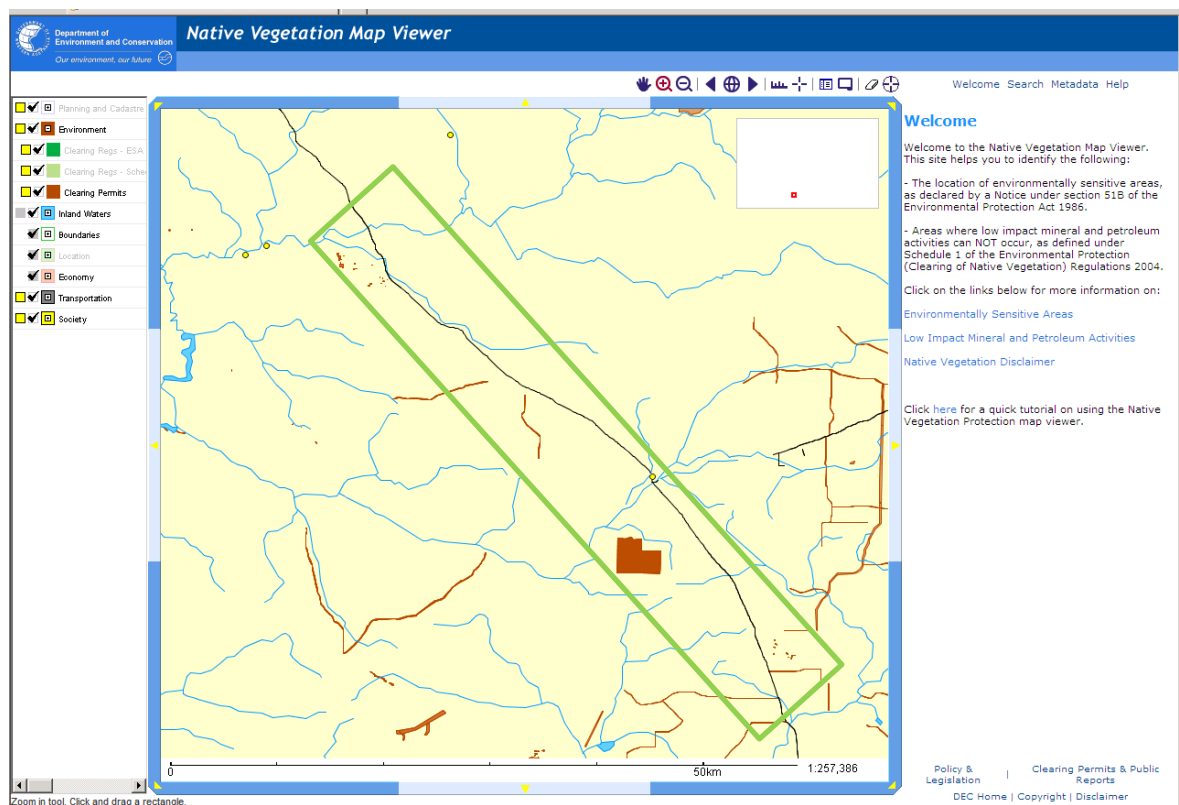


Figure 4: DEC Native Vegetation Map Viewer

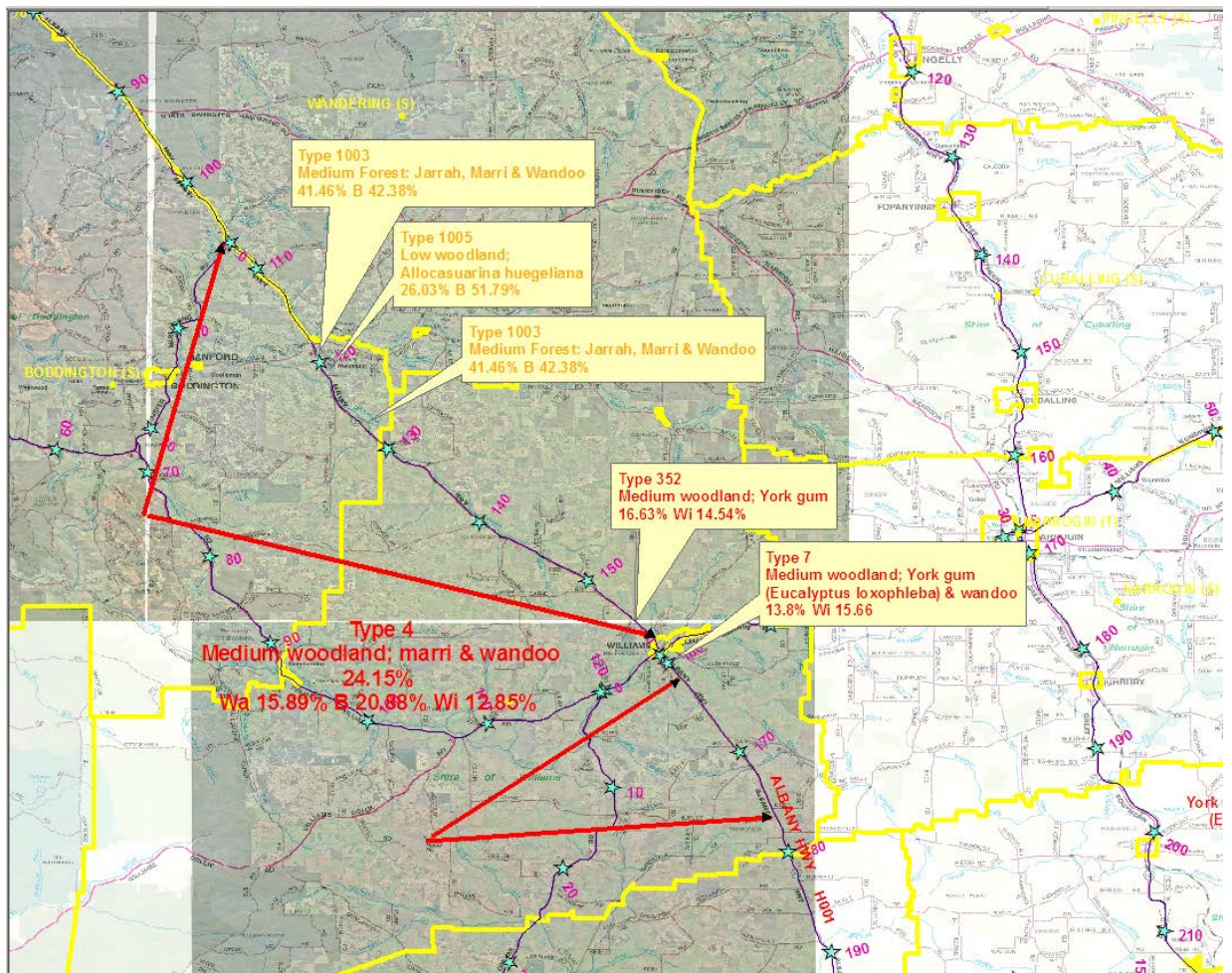


Figure 5: Vegetation Types and Extents remaining

Vegetation Association	Description	NVIS Lv3 - Broad Floristic Formation	Pre-European Extent	Current Extent	% Remaining in the State	% Remaining IBRA region Jarrah Forest	% remaining IBRA sub-region Jarrah Forest North	% remaining in relevant LGA
4	Medium woodland; marri & wandoo	Eucalyptus woodland	1,054,279.86	254,656.90	24.15	24.24	30.29	B 20.88 Wi 12.85 Wa 15.89
7	Medium woodland; York gum (Eucalyptus loxophleba) & wandoo	Eucalyptus woodland	179724.65	23500.02	13.8	19.39	19.39	Wi 15.66
352	Medium woodland; York gum	Eucalyptus woodland	724,272.93	120,435.58	16.63	16.82	16.82	Wi 14.54
1003	Medium forest; jarrah, marri & wandoo	Eucalyptus open forest	20,108.58	8,336.61	41.46	41.46	40.78	B 42.38
1005	Low woodland; Allocasuarina huegeliana	Allocasuarina woodland	786.96	204.81	26.03	54.73	54.73	B 51.79

Table 1: Vegetation Types and Extents remaining by State, IBRA Region and Sub-Region and LGA

Wa	Wandering
B	Boddington
Wi	Williams

Wed 28/04/2010
Hi Peter,

I refer to your request on the 21st April 2010 for information on threatened and priority ecological communities occurring within the search area co-ordinates provided in the email below.

A search was undertaken on the Department's Threatened Ecological Communities database. Please note that **there are no known occurrences of threatened ecological communities recorded within the boundary of any of the three sections represented by the coordinates supplied in your email, below.**

Please note not all priority ecological communities are currently recorded on our database. You may like to view the current list in related documents at <http://www.dec.wa.gov.au/content/view/849/2017/>.

Attached are the conditions under which this information has been supplied. The information supplied should be regarded as an indication only of the threatened and priority ecological communities that may be present.

It would be appreciated if any occurrences of threatened and priority ecological communities encountered by you in the area could be reported to this Department to ensure their ongoing management.

You have not been charged for the supply of this information.

Your request for information reference number for this search is: 23-0410. Please quote this unique reference number when acknowledging the Department of Environment and Conservation as a source of the data in any published material.

For your information, the Department of Environment and Conservation has recently added information to the web detailing survey guidelines, the differences between surveying and monitoring, and setting up monitoring for threatened and priority species and ecological communities (a series of Standard Operating Procedures and Monitoring Protocols are available). You can view this information at <http://www.dec.wa.gov.au/content/category/31/930/2237/>

Kind regards

Sue Downes
Threatened Ecological Communities
Department of Environment and Conservation
Ph. 9334 0116
Office Hours: Tues, Wed & Thurs 0800 - 1600hrs

From: SWANSON Peter (PEO)
Sent: Wednesday, 21 April 2010 3:17 PM
To: 'Mia.Podesta@dec.wa.gov.au'
Subject: Request for Threatened Ecological Community information

Good morning Mia

Main Roads Wheat Belt South Region is proposing to undertake lateral clearance improvements along Albany Highway between SLK 51 and 215.

As part of the environmental assessment of the project I request information from DEC in regard Threatened Ecological Communities (TECs) and conservation reserves that may occur in the vicinity.

Because of the extensive length of the works, I have divided the project area into three sections; based partially on the extent of environmental aspects in each section and the stages of the predicted works. Note that the last and first two coordinates of the sections below are the same.

Please respond with separate information for each section.

The coordinates of each section to be investigated are:

Section A:

LAT	LONG
32 15 21.0	116 10 54.7
32 16 46.5	116 09 3.0
32 48 45.2	116 35 26.6
32 46 53.5	116 37 38.0

Section B: (note 'dog-leg' shape)

LAT	LONG
32 48 45.2	116 35 26.6
32 46 53.5	116 37 38.0
33 01 20.8	116 55 09.3
33 02 26.5	116 52 11.9
33 18 52.1	117 00 44.4
33 19 11.9	117 04 01.6

Section C:

LAT	LONG
33 18 52.1	117 00 44.4

33 19 11.9 117 04 01.6
 33 31 14.6 117 05 53.3
 33 31 8.1 117 02 23.0

Please let me know if you require additional information.

Thanks very much.

Peter Swanson
 Environment Officer
 Wheat Belt South / South West Region

Mon 13/09/2010

Hi Peter,

I have attached the results for this search which I originally emailed through to you on the 5th of May 2010.

Kind regards

Kimberley Oswald

A/ Threatened Flora Database Technical Officer
 Species and Communities Branch
 Department of Environment and Conservation
 Kensington
 9334 0123

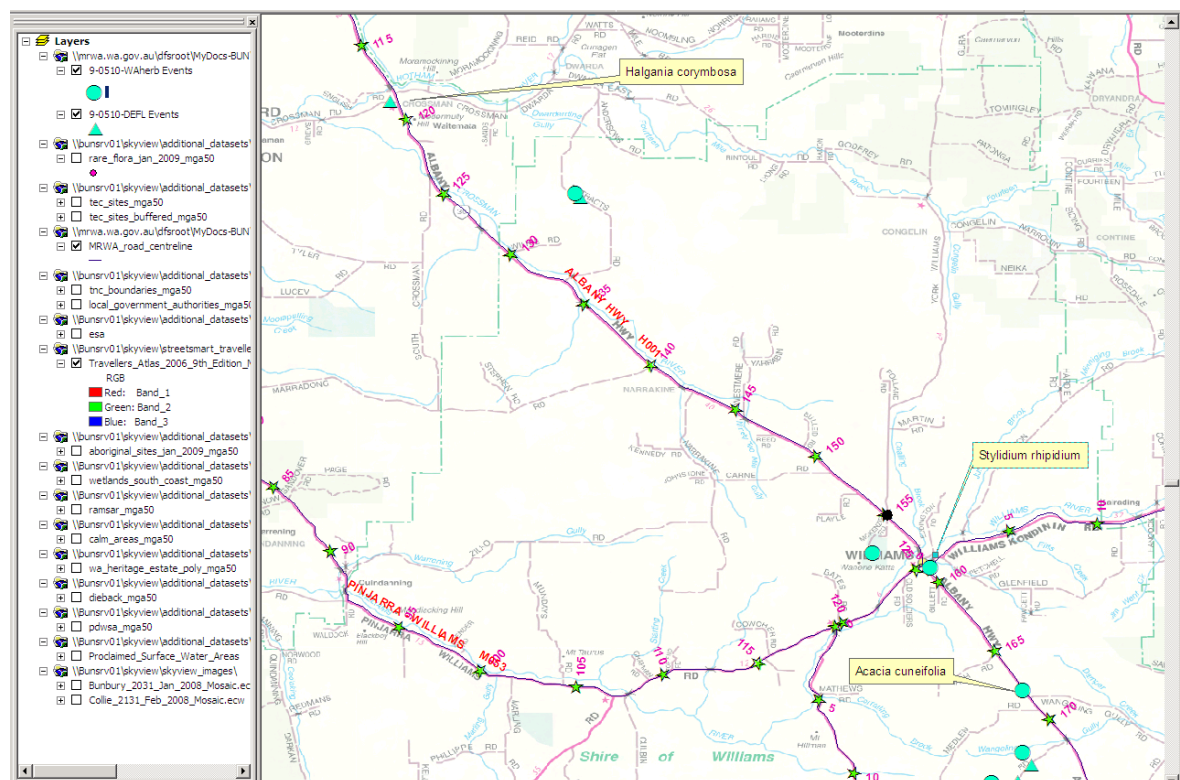


Figure 6: DEC (DEFL Events) and WA Herbarium (WAherb Events) shape files of Threatened Flora (as supplied by Species and Communities Branch).

- *Halgania corymbosa* P3 Erect shrub, 0.35–1 m high. Fl. blue, purple, Aug–Nov. Gravelly soils, soils over granite.
- *Styliidium rhipidium* P3 Slender annual, herb, ca 0.05 m high. Fl. white, Oct–Nov. Sandy soils. Wet creek flats, swamps, granite outcrops.
- *Acacia cuneifolia* P4 Erect or straggly shrub, 1–3 m high. Fl. yellow, Jul–Oct. Sand, clay or loam over granite. Granite outcrops & hills, rocky watercourses

SPECIES / TAXON	CONS CODE	DEC REGION	DISTRIBUTION	FLOWER PERIOD
Banksia cynaroides Harrismith, Dryandra, Birdwhistle	4	WB	Brookton, Williams, Dumbleyung,	
Caladenia caesarea subsp. transiens [Bowelling]	1	WB,(SR)	Williams, [Newdegate], [Augusta],	Sep
Calandrinia sp. Piawaning (A.C.Beauglehole 12257)	1	WB	Piawaning, Arthur River	Oct
Chorizema ulotropis Ravensthorpe, Young River, Dwellingup, Wandering, North Bannister	4	SC,SW	Jerramungup, Ongerup,	
Conostylis drummondii	R	WB	Arthur River- Wagin, Kojonup, Bokal	Oct-Nov
Gastrolobium ovalifolium	4	WB	Boddington, Narrogin, Kojonup, Williams	Aug-Oct
Gastrolobium tomentosum Boyup Brook)	4	WB	Darkan-Williams, Dinninup (near	Sep-Oct
Grevillea manglesii subsp. dissectifolia Valley, Dwellingup, Wandering	3	SW	North Bannister, Gleneagle, Helena	Nov
Grevillea manglesii subsp. ornithopoda Jarrahdale, Mundaring, North	2	SW	Murray River, Pinjarra, York,	Sep-Oct
Grevillea saccata Bannister	4	MW,SW	Hill River-Gingin, Badgingarra, North	Jun-Sep
Halgania corymbosa Wandering, Boddington	3	SW,WB	Gosnells to Gidgegannup, Crossman,	
Hypoxis sp. Beaufort (V. Crowley DKN629)	1	WB	Arthur River	Sep
Lasiopetalum cardiophyllum Collie	4	SW,SR	Mt Saddleback, Bannister, Wandering,	Nov
Leucopogon florulentus Wagin, Bannister, Jerramungup, Lake Magenta Nature Reserve	3	SC,WB,SW	Ongerup, Esperance, Cordering,	Apr-Jul

Leucopogon ozothamnoides	1	WB	Kojonup, Arthur River	May,Sep
Pultenaea indira subsp. pudoides Harrismith	2	WB	Arthur River, Yilliminning, Corrigin,	
Stylidium longitubum Midland, Busselton, Arthur River, Jandakot, Mundijong, Karnup	3	SW,WB,SR	Upper Swan, Bullsbrook, Bunbury,	Nov
Stylidium marradongense	3	SW	Marradong, Mt Saddleback, Bannister	Oct
Stylidium rhipidium WB,SC Muir, Hyden, Cranbrook, Glenelg Hills	3	SR,WA,	Rocky Gully, Williams, Collie, Lake	Oct-Nov
Stylidium rubicalyx	1	WB	Williams, Arthur River	
Synaphea brachyceras	3	WB	Arthur River, Highbury	Aug-Oct
Templetonia drummondii Forest	4	WB,SW	Boddington, Williams, Midland, Glen	-
Thomasia sp. Arthur River (HF & M Broadbent 1409)	1	WB	Arthur River	Sep
Thysanotus cymosus Grace, Ongerup, Kulin, Pingelly, Kojonup, Popanyinning, Arthur River	3	WB	Muntadgin, Karlgarin, Hyden, Lake	Sep-Oct
Verticordia huegelii var. tridens W,SWWilliams, Wansborough, Barberton, Cunderdin, Calingiri, Cranbrook, Toodyay	3	SC,WB,M	N of Porongurups, Wongan Hills,	Oct

Tue 27/04/2010

Hi Peter this is all I have hope it helps, I dont know if Alex has any other info
cheers

Jarred Desmond
Biosecurity Officer

Lake Grace

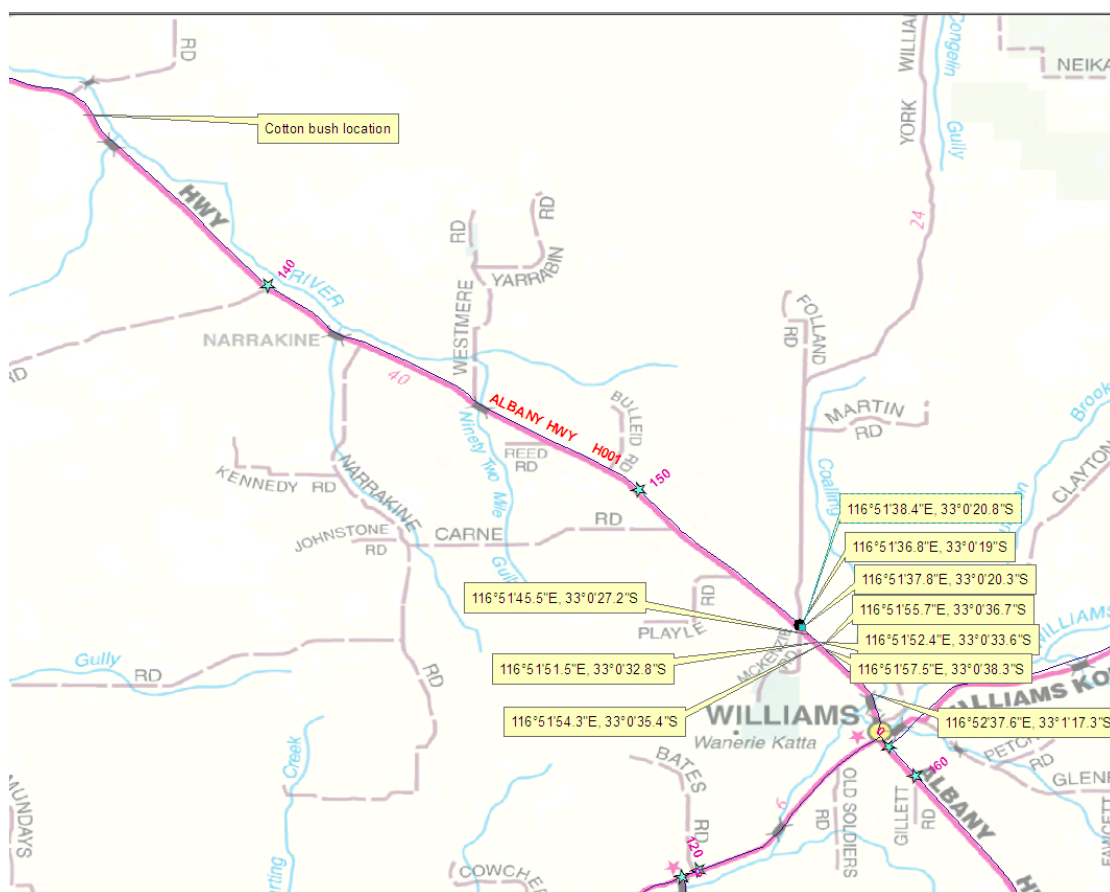
jarred.desmond@agric.wa.gov.au

Ph: 98651205

Mob: 0439880551

CRIS NUMBER	Road Number	ROAD	INFESTATION	LOCALITY	DATE OF INSPECT	DATE OF SPRAYED	DATE OF AUDIT	COMMENTS
	H01	Alban Hwy	Patersons Curse	Williams				\$33 00 19.0 E116 51 36.8
	H01	Alban Hwy	Patersons Curse	Williams				\$33 00 20.3 E116 51 37.8
	H01	Alban Hwy	Patersons Curse	Williams				\$33 00 20.8 E116 51 38.4
	H01	Alban Hwy	Patersons Curse	Williams				\$33 00 27.2 E116 51 45.5
	H01	Alban Hwy	Patersons Curse	Williams				\$33 00 32.8 E116 51 51.5
	H01	Alban Hwy	Patersons Curse	Williams				\$33 00 33.6 E116 51 52.4
	H01	Alban Hwy	Patersons Curse	Williams				\$33 00 35.4 E116 51 54.3
	H01	Alban Hwy	Patersons Curse	Williams				\$33 00 36.7 E116 51 55.7
	H01	Alban Hwy	Patersons Curse	Williams				\$33 00 38.3 E116 51 57.5
	H01	Alban Hwy	Patersons Curse	Williams				\$33 01 17.3 E116 52 37.6
								All infestations in this area are on the left side of the road as per SLK system
	H01	Albany Hwy	Cotton Bush	Williams				SLK 134 one plant grubbed

Table 2: Declared Plant / Weed information list from DAF



Appendix D

FAUNA

DEC Threatened and Priority Fauna data base search results Fauna Survey locations and Extracts from '*Faunal Habitat along 4 Segments of the Albany Highway*', Connell 2009

Mon 3/05/2010

Hi Peter

Please find attached the results for the Threatened and Priority Fauna Database search for the vicinity of the three areas along Albany Highway; approximately Jarrahdale to Crossman, Crossman to Arthur River and Arthur River to Beaufort River.

Please refer to the attached letter for the conditions relating to the supplied data.

Let me know if you have any questions regarding the information supplied.

Regards,
Amy

The Threatened Species pages have been updated on the DEC website.

The **Threatened Flora, Fauna and Ecological Communities Data Searches information sheet** can be downloaded from
http://www.dec.wa.gov.au/index.php?option=com_content&Itemid=2006&id=5379&lang=en&task=view

The Threatened Fauna List, New Fauna Notice 2010 and the Threatened and Priority Fauna Rankings can be downloaded from
http://www.dec.wa.gov.au/index.php?option=com_content&task=view&id=852&Itemid=2010

The **Fauna Report Form** can be downloaded from
<http://www.dec.wa.gov.au/content/view/5388/2237/>

Amy Mutton
Project Officer - Fauna Database
Species and Communities Branch
Department of Environment and Conservation
Phone (08) 9219 8636
Fax(08) 9334 0278

COMMON_NAME	SCIENTIFIC_NAME	DECLIST	RANKING	STATUS_EXPANDED	YEAR	CERTAINTY	NUM SEEN	LOC NAME	METHOD
Southern Death Adder	Acanthophis antarcticus	PRIORITY FAUNA	P3	Priority Three: Taxa with several, poorly known populations, some on conservation lands		Very certain	1	NARRAKINE	Caught or trapped
Forest Red-tailed Black-Cockatoo	Calyptrorhynchus banksii naso	DECLARED THREATENED FAUNA	VU	Schedule 1 - Fauna that is rare or is likely to become extinct	2004	Very certain	12	Arthur River	Day sighting
Forest Red-tailed Black-Cockatoo	Calyptrorhynchus banksii naso	DECLARED THREATENED FAUNA	VU	Schedule 1 - Fauna that is rare or is likely to become extinct	2000	Very certain	2	Arthur River	Day sighting
Chuditch	Dasyurus geoffroii	DECLARED THREATENED FAUNA	VU	Schedule 1 - Fauna that is rare or is likely to become extinct	1989	Very certain	1	Kenmare	Night sighting
Western Brush Wallaby	Macropus irma	PRIORITY FAUNA	P4	Priority Four: Taxa in need of monitoring	2004	Very certain	1	Arthur River	Day sighting
Carpet Python	Morelia spilota imbricata	PRIORITY FAUNA	P4	Priority Four: Taxa in need of monitoring	2005	Very certain	1	Wedgescarrup	Day sighting
Carpet Python	Morelia spilota imbricata	OTHER SPECIALLY PROTECTED FAUNA	P4	Schedule 4 - Other specially protected fauna	2005	Very certain	1	Wedgescarrup	Day sighting
Red-tailed Phascogale, Kenngoor	Phascogale calura	DECLARED THREATENED FAUNA	EN	Schedule 1 - Fauna that is rare or is likely to become extinct	2004	Very certain	17	HIGHBURY	Caught or trapped
Red-tailed Phascogale, Kenngoor	Phascogale calura	DECLARED THREATENED FAUNA	EN	Schedule 1 - Fauna that is rare or is likely to become extinct	1999	Very certain	6	Wangeling Nature Reserve	Caught or trapped
Western Rosella (inland ssp)	Platycercus icterotis xanthogenys	DECLARED THREATENED FAUNA	VU	Schedule 1 - Fauna that is rare or is likely to become extinct	1987	Moderately certain	2	Williams Nature Reserve	Day sighting
Western Rosella (inland ssp)	Platycercus icterotis xanthogenys	DECLARED THREATENED FAUNA	VU	Schedule 1 - Fauna that is rare or is likely to become extinct	1986	Moderately certain	2	Williams Nature Reserve	Day sighting
White-browed Babbler (western wheatbelt)	Pomatostomus superciliosus ashbyi	PRIORITY FAUNA	P4	Priority Four: Taxa in need of monitoring	1985	Very certain	0	Arthur River	Day sighting

Table 3: Results for the Threatened and Priority Fauna Database search as provided by Species and Communities Branch



Figure 8: Two of the four segments investigated by Dr. Stephen Connell, Consultant Ecologist EnviroWorks Consulting 'Faunal Habitat along 4 Segments of the Albany Highway', for Main Roads WA, 22 September 2009

Section 1 (Nash Road) 163slk-164slk [1km] Survey includes both sides of highway; up to 20 metres wide where vegetation exists; North Point 490982 E 6342247 N South Point 491834 E 6340994 N Section 2 (Hurley Road) 171.55slk -172slk [Approx 500metres] Survey includes both sides of highway up to 20 metres wide where vegetation exists. North Point 496012 E 6334717 N South Point 496491 E 6333878 N

There are few habitat values present along this road segment. No hollows were observed in the trees in the tall woodland and there are no trees large enough to possess hollows elsewhere. There are few large fallen tree limbs and there is little cover on the ground. Most of the understorey consists of ephemeral herbs and these are generally weeds. No nests were observed during field studies. It is concluded that the habitat values of this road segment are confined to seasonal food resources and as a corridor for animal movement. (Page 6)

Section 2: Section 2 (Hurley Road) 171.55slk -172slk [Approx 500metres] Survey includes both sides of highway up to 20 metres wide where vegetation exists. North Point 496012 E 6334717 N South Point 496491 E 6333878 N

No hollows were observed in the woodland and there are few trees large enough to possess hollows. No nests were observed within 30m of the highway during field studies though two small nests belonging to unknown birds were observed beyond this distance. Most of the understorey on the western verge is in good condition and varies considerably in terms of structure and composition. It is concluded that the habitat values of this road segment include nesting and shelter locations, seasonal food and water resource and as a corridor for animal movement. (Page 11)

Extracts from 'Faunal Habitat along 4 Segments of the Albany Highway', Connell 2009 (full report in Appendix N)

Appendix E LAND

Acid Sulphate Soils

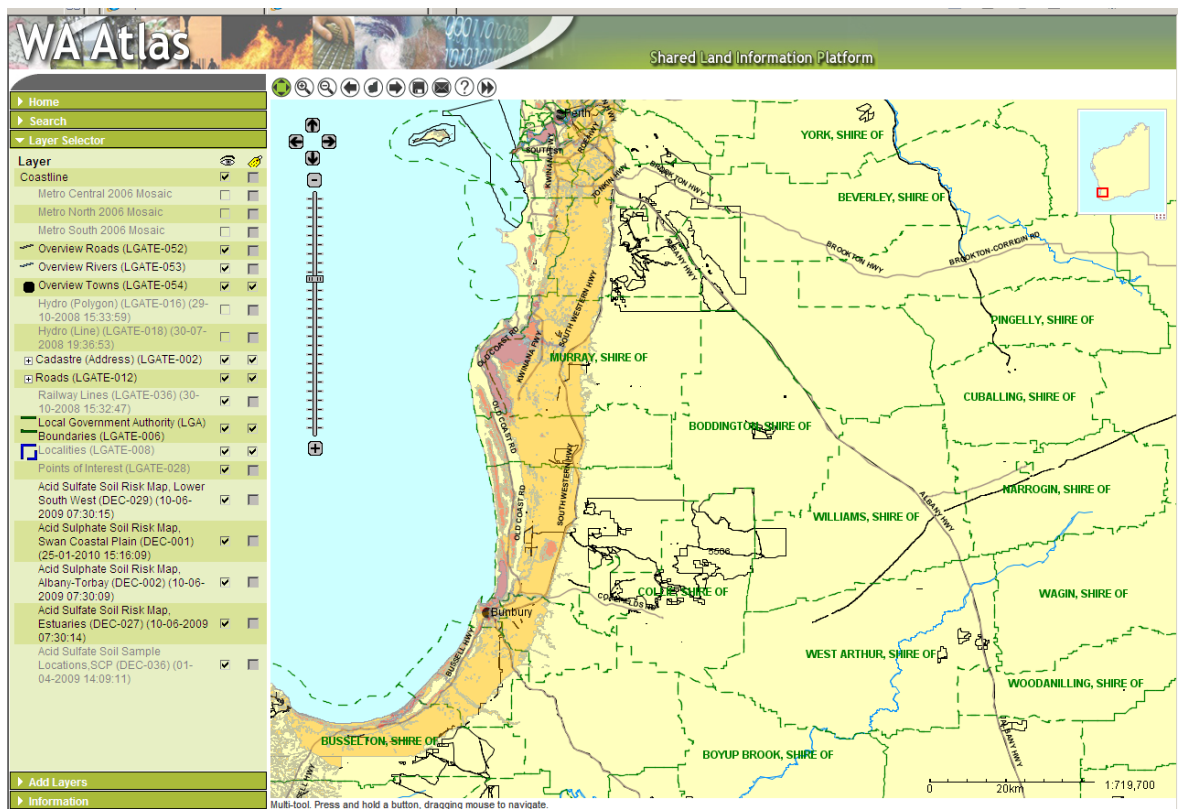


Figure 9: WA Atlas (Landgate) Acid Sulphate Soils search results

Appendix F DIEBACK

Main Roads GIS search

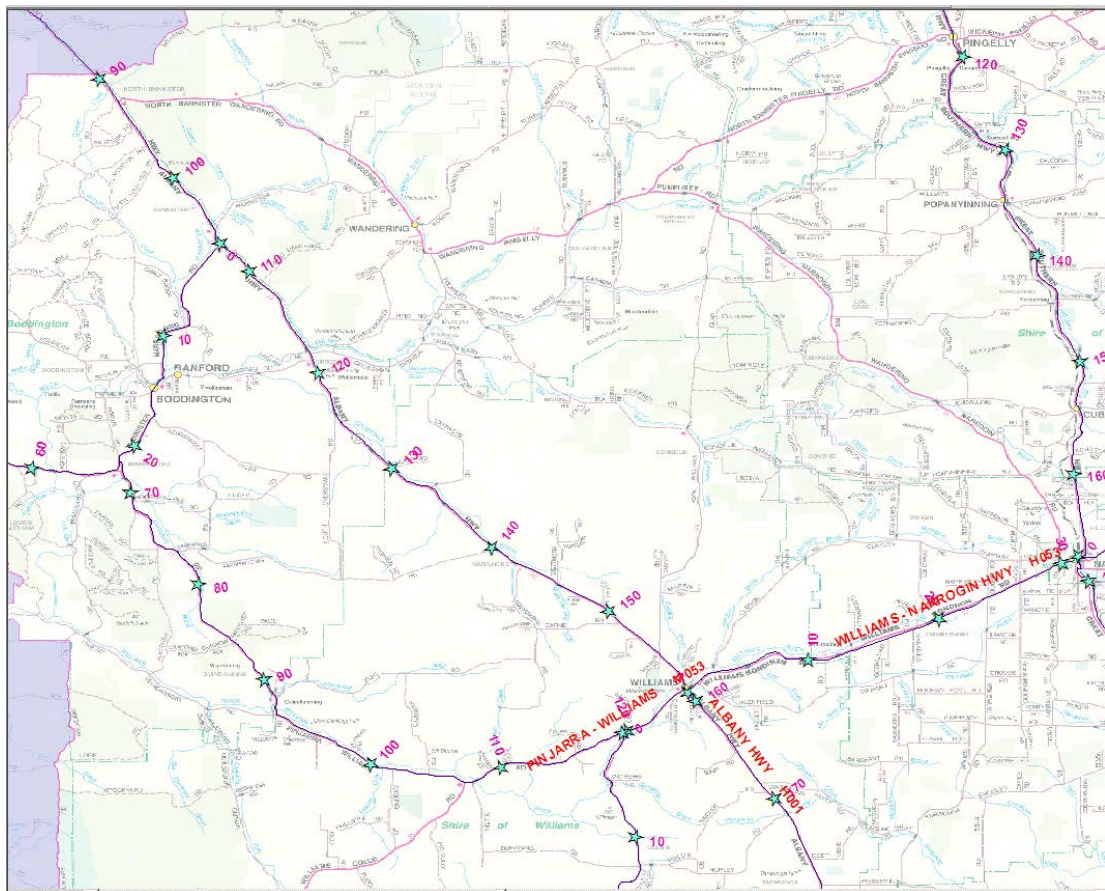


Figure 10: Main Roads GIS search of dieback mapping using DEC shape file. Note extent of dieback south to SLK 90.

Appendix G WATER

Department of Water's Geographic Data Atlas

Correspondence with Department of Water re: proclaimed surface water areas and Priority public drinking water source areas

Correspondence with Department of Water re: interference of watercourses

Landgate: Shared Land Information Platform (SLIP)

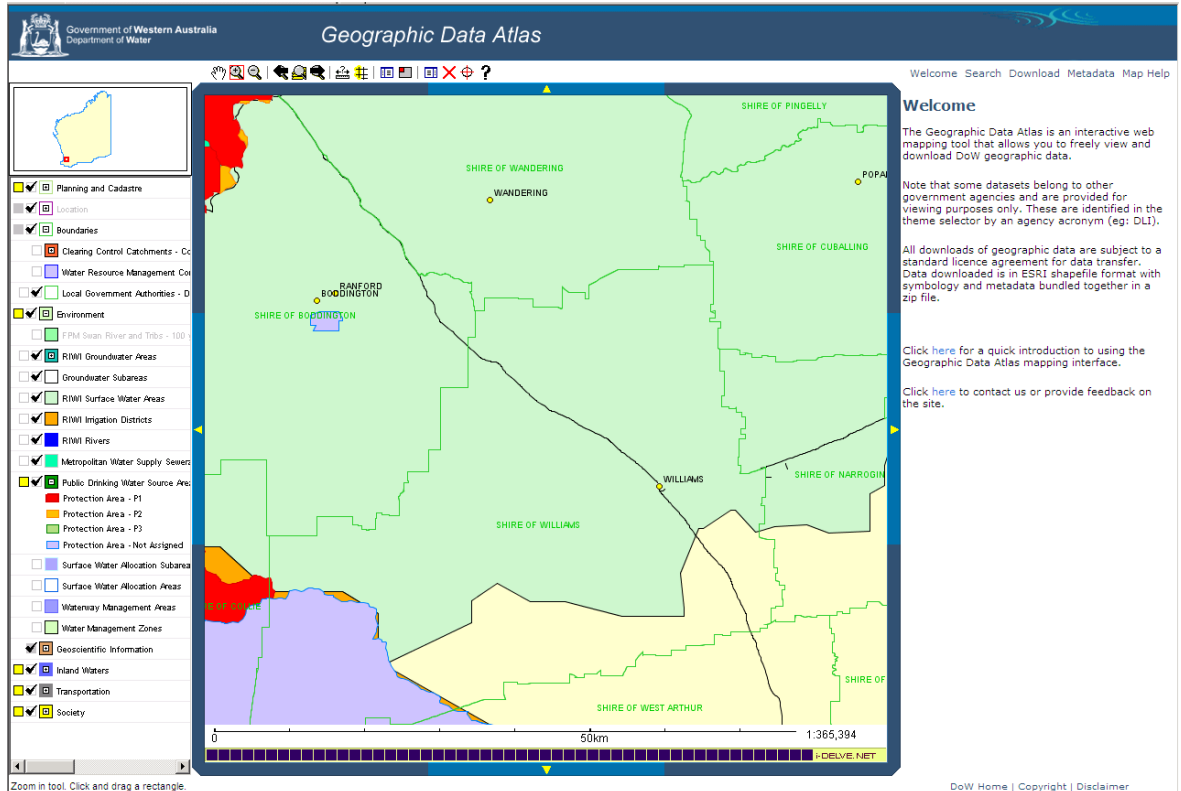


Figure 11: Department of Water's Geographic Data Atlas mapping tool

Wed 19/05/2010

Peter

I refer to the email below seeking comments on your Department's works and provide the following comments in relation to works falling within the South West Region.

Proposed works do not fall within a proclaimed surface water area or Priority public drinking water source areas.

It should be noted that the roads ie. Williams-Darkan, Coalfields, Arthur, Albany Highway, Gt Southern and Williams – Kondinin intercept/crossover many waterways and best management practices would be to ensure that disturbed areas are stabilised to ensure there is no erosion or sediment to waterways. Stabilisation could be via plantings, compaction or if necessary rock pitching.

It is understood from your referral information that there will be no camp sites, refuelling or parking of vehicles. All of which are potential risks to water quality if not managed appropriately. (Spills of fuel and oil in particular.)

There should be no traversing of waterways with heavy machinery, which can cause damage to waterways banks and beds and could cause flooding. Should chipping be proposed, they should not be scattered such that they can be blown or conveyed by stormwater into waterways.

Regards
Carol Anderson
S W Region
Dept of Water

Correspondence with Department of Water re: proclaimed surface water area and Priority public drinking water source areas

18/06/2010

Hey Peter,

Thank you for your phone enquiry on the 17 June requesting information about management of lateral vegetation clearing in proclaimed surface water areas. In general, proclaimed surface water areas relate to the abstraction of surface water under the Rights In Water and Irrigation Act 1914 (RIWI).

I have received advice that the interference of watercourses, as outlined in the excerpt of the RIWI below, is prohibited. Please contact me should the vegetation clearing interfere with watercourses according to this information.

Rights In Water and Irrigation Act 1914

Part III — Control of Water Resources

Division 1B — Certain surface waters

17. Interference prohibited

- (1) Where, whether before or after the coming into operation of this Act, land was or is granted, transferred in fee simple, or demised by the Crown, a person shall not, except as authorized by a permit or by any other Act, obstruct, destroy, or interfere with any watercourse, race, or drain flowing through or over the land, or any dam or reservoir, or the bed of any disused watercourse, race, or drain, that is on the land.
- (2) Subsection (1) applies notwithstanding that although the watercourse, race, or drain flowed through or over the land, or the dam or reservoir, or the bed of a disused watercourse, race, or drain, was on the land at the time of the grant, transfer, or demise of the land, an appropriate reservation or exception was not included in the Crown grant, transfer of Crown land in fee simple, or lease.
- (3) A person shall not, except as authorized by a permit or by any other Act, obstruct, destroy or interfere with the waters, bed or banks of any watercourse flowing through or over, or wetland situate wholly or partly on, land that has not been granted or demised by the Crown.
- (3a) Without limiting subsection (1) or (3) —
 - (a) the construction or alteration of a dam is to be taken to be prohibited by that subsection; and
 - (b) the reference in that subsection to a permit is a reference to the grant of a permit by the Commission under regulations referred to in section 17B.
- (4) Any person who obstructs, destroys, or interferes with anything contrary to subsection (1) or (3) is guilty of an offence against this section; and any person who, being the occupier of any land granted or demised as mentioned in subsection (1), continues or fails to remove any such obstruction or interference is guilty of an offence against this section on every day during which such obstruction or interference is continued or not removed after notice in writing to discontinue or to remove the same has been given by or on behalf of the Commission to such occupier.
- (4a) Despite subsections (1) and (3), this section does not apply to the construction or alteration of a dam in an area, or of a size or type, excluded from the operation of this section by local by-laws if the dam is constructed or altered in accordance with such by-laws.

Regards,

Patrick Ridley

Natural Resource Management Officer
Kwinana Peel Region, Department of Water
PO Box 332 Mandurah WA 6210
Ph: 9550 4237 Fax: 9581 4560

Correspondence with Department of Water re: interference of watercourses

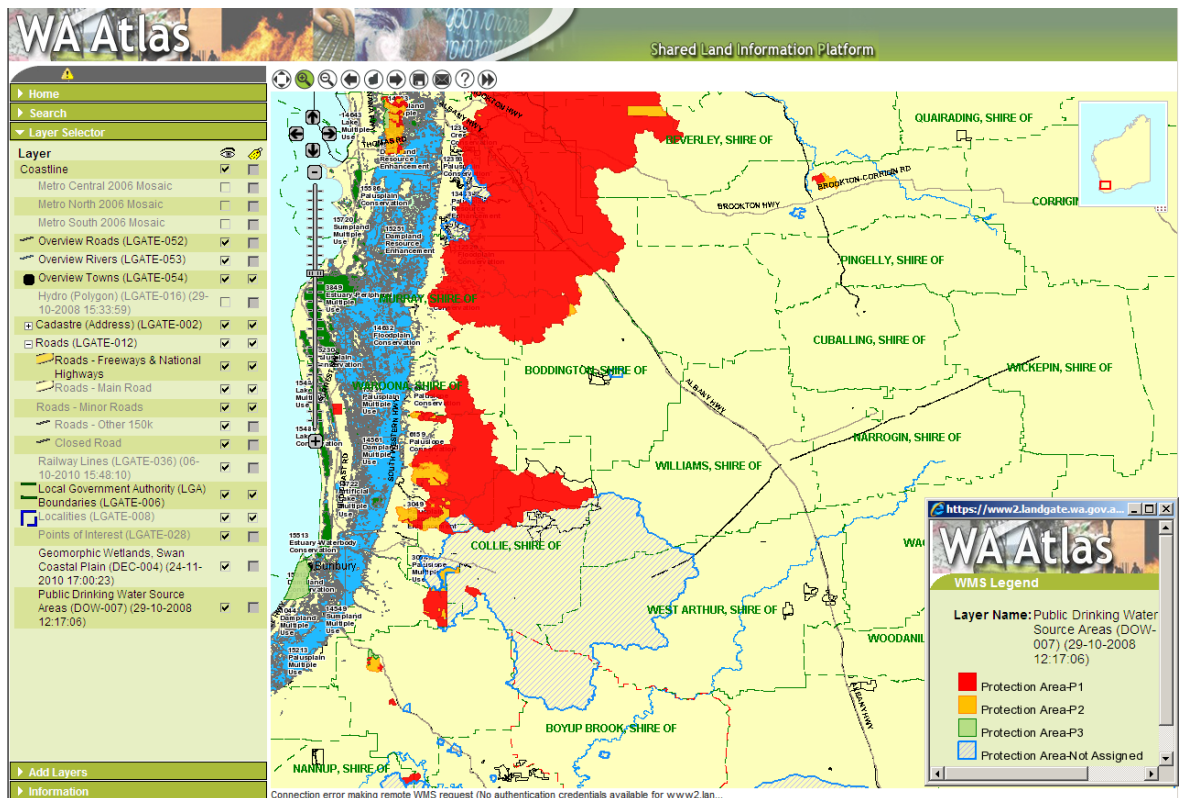


Figure 12: Landgate: Shared Land Information Platform (SLIP) search results

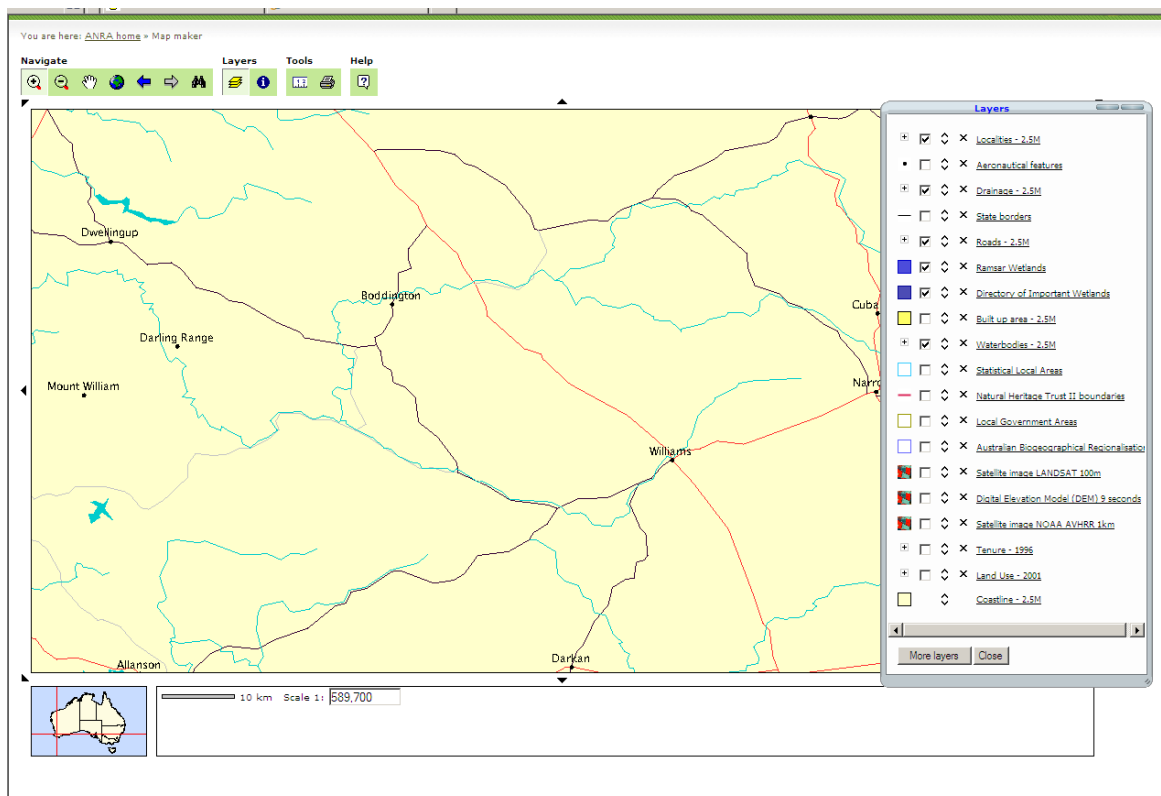


Figure 13: Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) (DEWHA) mapping tool

Appendix H HERITAGE

Department of Indigenous Affairs Heritage Inquiry System
Australian Heritage Places Inventory
Heritage Council of Western Australia

Shire of Boddington Heritage Inventory
Shire of Williams Heritage Inventory
Shire of Wandering response for heritage information

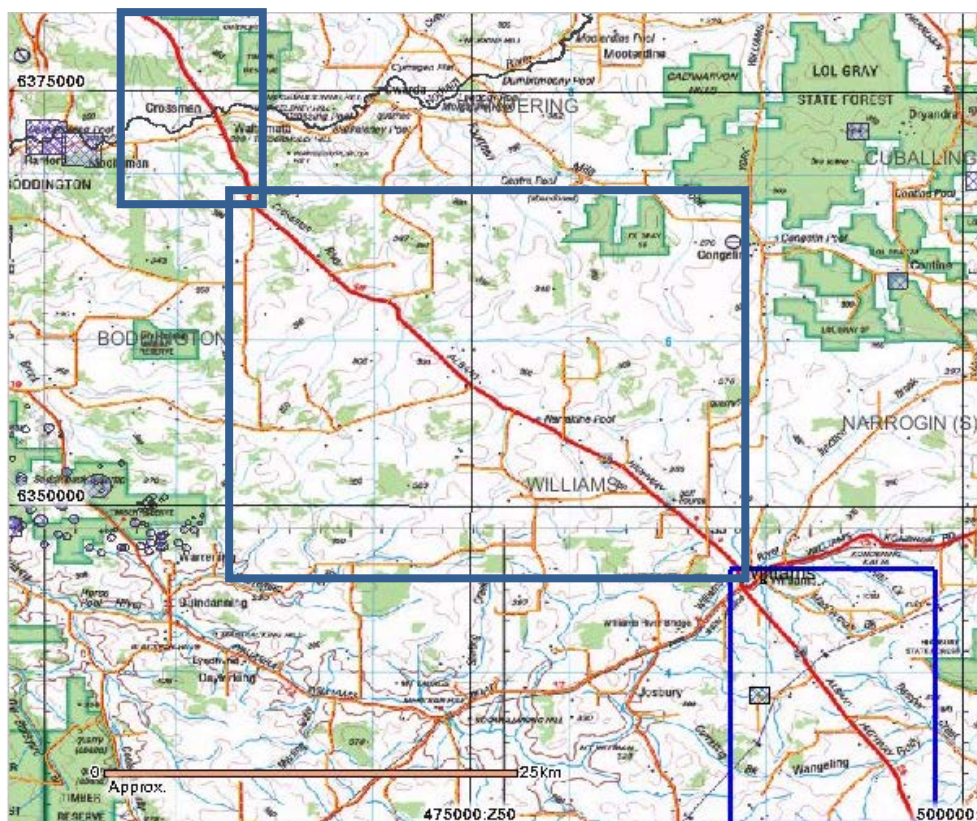


Figure 14: Department of Indigenous Affairs database search results



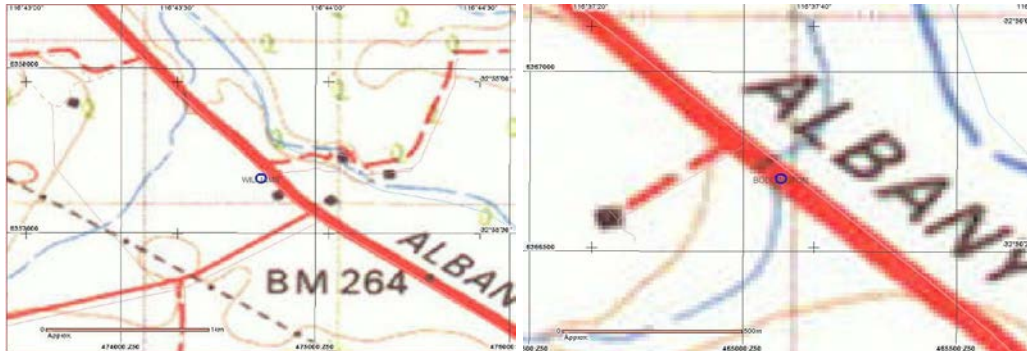
Government of Western Australia
Department of Indigenous Affairs

Aboriginal Heritage Inquiry System
Register of Aboriginal Sites

Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
27935	P	O	N	Hotham River	Mythological		*Registered Informant names available from DIA.	460526mE 6371350mN Zone 50 [Reliable]	

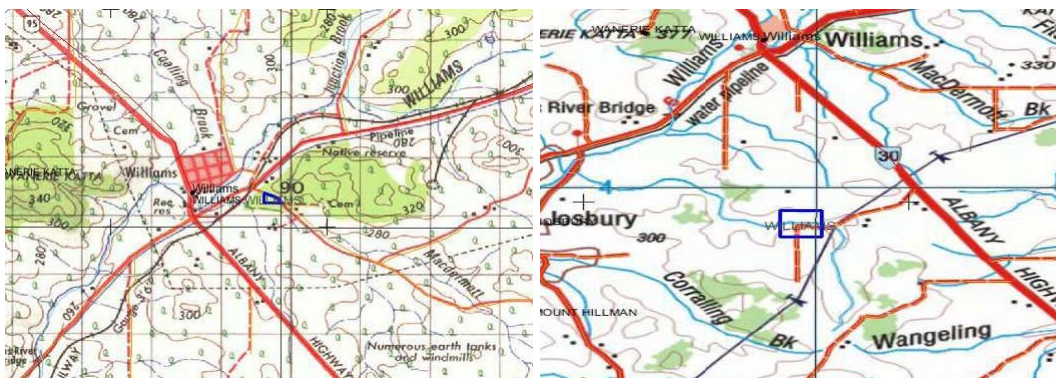
18555	L	O	N	Albany Hwy - Marradong Road One	Artefacts / Scatter	474720mE 6357332mN Zone 50 [Reliable]
18556	L	O	N	Crossman Two	Modified Tree	465088mE 6366703mN Zone 50 [Reliable]
4424	I	O	N	Williams Reserve 18042.	Camp, [Other: RESERVE]	489891mE 6345503mN Zone 50 [Reliable]
5825	S	O	N	Coralling Springs	Man-Made Structure	489640mE 6338648mN Zone 50 [Unreliable]

Table 3: Aboriginal Heritage Inquiry System Report



Site 18555

Site 18556



Site 4424

Site 5825

Figure 15: Insets of sites located in search Figure 14 and listed in Table 3

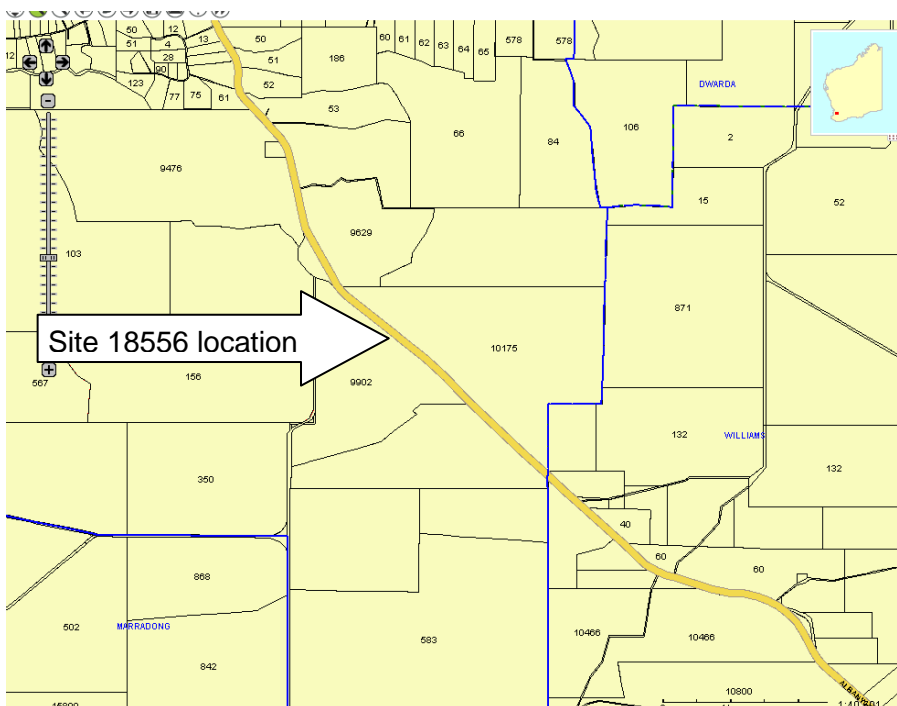
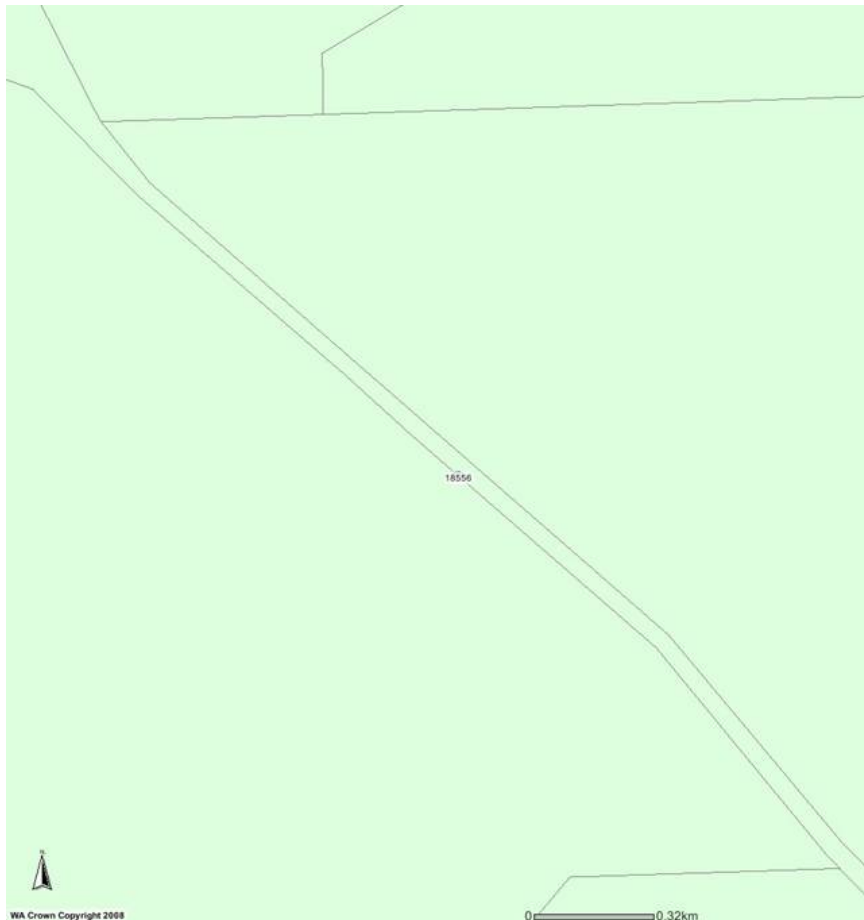


Figure 16: Location site 18556.

Peter



DIA 18556 (Crossman Two) is a scarred tree site located at the edge of the road reserve. There is not much in the way of cadastral detail around the site, but I have tried to include a couple of lot boundaries.

Denis Callaghan
Senior Heritage Officer



Government of Western Australia
Department of Indigenous Affairs

1st Floor, 197 St Georges Terrace Perth WA 6000
Ph: (08) 9235 8135 Fax: (08) 92358088

Denis.Callaghan@dia.wa.gov.au www.dia.wa.gov.au

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From: Christine Lewis
Sent: Thursday, 21 October 2010 2:16 PM
To: Denis Callaghan
Subject: FW: Main Roads project - Albany Hwy

Hi Denis
Can you also please deal with this one?
Christine

From: Receptionist
Sent: Thursday, 21 October 2010 11:05 AM
To: Christine Lewis
Subject: FW: Main Roads project - Albany Hwy

From: SWANSON Peter (PEO/A) [mailto:peter.swanson@mainroads.wa.gov.au]
Sent: Thursday, 21 October 2010 11:00 AM

To: Receptionist
Subject: RE: Main Roads project - Albany Hwy

Please respond to this request that has been sent three times now.

From: SWANSON Peter (PEO/A)
Sent: Wednesday, 13 October 2010 9:19 AM
To: 'info2@dia.wa.gov.au'
Subject: RE: Main Roads project - Albany Hwy

Please respond to this request that was sent some time ago now.

From: SWANSON Peter (PEO/A)
Sent: Wednesday, 15 September 2010 1:28 PM
To: 'info2@dia.wa.gov.au'
Subject: Main Roads project - Albany Hwy

Good afternoon

Main Roads Wheat Belt South Region is proposing to undertake lateral clearance improvements along Albany Highway between SLK 115 and 172.

As part of the environmental assessment of the project I have examined the DIA Aboriginal Heritage Enquiry System and identified two registered sites 18555 (artefact/scatter site at the intersection of Albany Highway and Marradong Road) & 18556 (Modified Tree) adjacent to Albany Highway within the project area. Also the Hotham River to the north (Site 27935) has mythological significance.

I am confident that the clearing works proposed will not impact on sites 27935 & 18555; but I would like to request additional information regarding site 18556.

Please let me know if you require additional information.

Regards

Peter Swanson
Environment Officer
Wheat Belt South / South West Region
Main Roads Western Australia
www.mainroads.wa.gov.au


phone: 08 9725 5692| fax: 08 9725 5666
M: 0437 318 721

Correspondence with DIA regarding Site 18556


AUSTRALIAN HERITAGE PLACES INVENTORY		
[New Search]		
1.	Drvandora Woodland Wandering Narrogin Rd, Narrogin, WA	LGA: Wandering Shire Source: Register of the National Estate
2.	Indigenous Place North Bannister, WA	LGA: Wandering Shire Source: Register of the National Estate

Table 4: Australian Heritage Places Inventory (no sites in Boddington or Williams)

Boddington



Heritage Council of WA Home
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Location Report
Save Data



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Search here...
Search WA Government

Home » Places Database » Search Results

Places Database

Displaying results: [1-1] of 1

hide selected hide unselected

<input type="checkbox"/>	Road Bridge over Crossman River (3398)	Albany Hwy over Collicie River, Crossman
--------------------------	--	--

hide selected hide unselected


A A A

Help

Wandering



Heritage Council of WA Home
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Results List
Location Report
Save Data



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Search here...
Search WA Government

Home » Places Database » Search Results

Places Database

Displaying results: [1-3] of 3

hide selected hide unselected


<input type="checkbox"/>	Gleneagle School Site (7050)	Albany Hwy, Wandering
<input type="checkbox"/>	Water Well (7039)	40 mile peg Albany Hwy, Wandering
<input type="checkbox"/>	Water Well (7052)	53 Mile peg Albany Hwy, Wandering

hide selected hide unselected


A A A

Help

Williams



Heritage Council of WA Home
Quick Search
Advanced Search
Results List
Location Report
Save Data



Site Map | Contact Us | Accessibility

Search here...
Search WA Government

Home » Places Database » Search Results

Places Database

Displaying results: [1-40] of 40

hide selected hide unselected

<input type="checkbox"/>	Agricultural Hall, Williams (2727)	48 Albany Hwy, Williams
<input type="checkbox"/>	Bell's Hill (16094)	Albany Hwy, Williams
<input type="checkbox"/>	Blacksmith Shop/Butcher's Shop (16049)	Albany Hwy, Williams
<input type="checkbox"/>	Blue Metal Quarry & Quarry Crushing Site (16293)	Albany Hwy, South Williams
<input type="checkbox"/>	Commercial Precinct Site (16044)	Cnr Albany Hwy & New St, Williams
<input type="checkbox"/>	Cosy Corner Tea Rooms (16047)	Albany Hwy, Williams
<input type="checkbox"/>	First Garage, Williams (16050)	24 Albany Hwy, Williams
<input type="checkbox"/>	First Golf Course, Bell's Hill (16093)	Albany Hwy, Williams
<input type="checkbox"/>	First Sports Ground (15968)	Albany Hwy, Williams
<input type="checkbox"/>	First Tennis Courts - Site (15957)	13311 Albany Hwy Cnr Quindanning Rd, Williams
<input type="checkbox"/>	G & V Harding (fmr) - Site (15970)	46 Albany Hwy, Williams
<input type="checkbox"/>	Harding's Garage, Williams (15971)	Cnr Albany Hwy & Brooking St, Williams
<input type="checkbox"/>	Hoggans Homestead Site (16346)	Albany Hwy, North Williams
<input type="checkbox"/>	King's Hall - site (16048)	Albany Hwy, Williams
<input type="checkbox"/>	Lemon Scented Gum Tree (16096)	Albany Hwy, Williams
<input type="checkbox"/>	Lilybank Homestead (14946)	At 142 km mk Albany Hwy, Williams
<input type="checkbox"/>	Mariidin Homestead & Gillett's House Site (16298)	Albany Hwy, South Williams
<input type="checkbox"/>	Marni (4397)	Albany Hwy, Williams

<input type="checkbox"/>	McIntyre's Corner Site (15955)	13316 Albany Hwy Cnr Quindanning Rd, Williams
<input type="checkbox"/>	Millbrook Complex (2728)	1 Albany Hwy, Williams
<input type="checkbox"/>	Narrakine Pool, Narrakine Gully (16347)	Albany Hwy, North Williams
<input type="checkbox"/>	National Bank & Quarters (16046)	Cnr Albany Hwy & New St, Williams
<input type="checkbox"/>	North Williams School Site (16344)	Albany Hwy, North Williams
<input type="checkbox"/>	Old Police Well (15952)	22 Albany Hwy, Williams
<input type="checkbox"/>	Old Racecourse (16335)	Albany Hwy, North Williams
<input type="checkbox"/>	Old Well / Commemoration Plaque of Comprehensive Water Scheme (15959)	13306 Albany Hwy, Williams
<input type="checkbox"/>	Original Williams Cemetery (16095)	Albany Hwy, Williams
<input type="checkbox"/>	Piesse's Store - site (16045)	Albany Hwy, Williams
<input type="checkbox"/>	Playle's Blacksmith's Shop - Site (15969)	Albany Hwy, Williams
<input type="checkbox"/>	Police Quarters (2730)	20 Albany Hwy, Williams
<input type="checkbox"/>	Post Office Site (15972)	11011 Albany Hwy, Williams
<input type="checkbox"/>	Ruins & Gregory's Well (16295)	Albany Hwy, South Williams
<input type="checkbox"/>	Scouts Hall Site (15958)	13311 Albany Hwy, Williams
<input type="checkbox"/>	Sinclair's Buildings - site (16051)	42 Albany Hwy, Williams
<input type="checkbox"/>	Tarwonga Inn (3499)	Albany Hwy, Williams
<input type="checkbox"/>	Well (15956)	13316 Albany Hwy Cnr Quindanning Rd, Williams
<input type="checkbox"/>	Williams Golf Course (16343)	Albany Hwy, North Williams
<input type="checkbox"/>	Williams Hotel (2731)	Albany Hwy, Williams
<input type="checkbox"/>	Williams Post Office (2732)	Cnr Brooking St & Albany Hwy, Williams
<input type="checkbox"/>	Williams' Mill (4629)	Albany Hwy, Williams

Table 5: Heritage Council of Western Australia

LGAs Municipal Heritage Inventories

REFERENCE	PLACE	ADDRESS	C/T	LOT	AESTH	HIST	SCI	SOC	RAR	REP	M't
NUMBER	NAME		VOL/FOL	LOC'N	VAL	VAL	VAL	VAL	VAL	VAL	Category
B01	Diyan's Grave		8641/12	Res. 21924 Loc. 1381	2	6	2	6	6	7	5
B02	Marradong Hall	Pinjarra-Williams Rd	710/95	Res. 2943	site only						5
B03	Boddington Hotel	Bannister Rd		W. Loc. 101	4	6	1	6	4	5	2
B04	Marradong Road Board Office (fmr)	Johnston St	401/13	Res. 14666 Lot 13	5	7	1	5	6	6	1
B05	St Alban's Church and Marradong Cemetery	Pinjarra-Williams Rd		Res. 322 Res. 27061	6	7	3	6	7	6	1
B06	Red Hill Homestead	Williams Rd		W. Loc. 47	3	6	1	5	5	4	2
B07	Springfield	Pinjarra-Williams Rd		W. Loc. 54	2	3	1	3	4	4	3
B08	Long Gully Bridge	Long Gully Rd Murray River			6	6	3	5	6	6	1-2
B09	Mokine Homestead and property	Pinjarra-Williams Rd		Lot 82	3	7	3	5	5	5	1-2
B10	Railway Line Precinct	Boddington to Dwellingup			2	6	4	3	4	5	2
B11	Police Station (fmr)	Boddington Caravan Park		Res. 14963 Lot 85	4	5	1	2	2	4	3
B12	Farmer's Crossing (railway siding stopping place)	Farmers Ave 94 mile, 60 chain stop from Pinjarra		Railway Reserve	4	6	1	3	5	5	2
B13	Farmer's River Crossing (footbridge)	Palmer Rd			2	5	1	4	2	3	5

REFERENCE	PLACE	ADDRESS	C/T	LOT	AESTH	HIST	SCI	SOC	RAR	REP	M'gt
NUMBER	NAME		VOL/FOL	LOCN	VAL	VAL	VAL	VAL	VAL	VAL	Category
B14	Shepherd's Hut	Boddington			site only						5
B15	Hillside Homestead			W. Loc. 91	site only						5
B16	Hotham River Homestead	Boddington		W. Loc. 92	6	6	2	2	6	6	1-2
B17	George's House	Boddington			3	4	1	2	3	3	3
B18	Hope Cottage	Farmer's Ave			3	4	1	2	3	3	3
B19	Wayside Cottage	Boddington			site only						5
B20	Trentholme (fmr Teacher's House)				3	5	1	2	4	4	3
B21	Hotham River School	Palmer's Rd		W. Loc. 10827 Res. 12404	site only						5
B22	Marradong School	Pinjarra-Williams Rd		W. Loc. 11399 Res. 14322	site only						5
B23	Boddington District High School (fmr)	Bannister Rd (cnr Wurmang Ave)		Res. 17428 Locs 61, 94, 155 & 161	6	6	1	6	5	6	1-2
B24	Boddington Hall	Johnstone St		Res. 22392 Lot 15	5	5	1	7	5	6	2
B25	Boddington District Hospital	53-65 Hotham Ave		Res. 22386 W. Loc. 1385	5	7	4	3	5	6	2
B26	RSL Hall	58 Hotham Ave		Lot 141	3	4	1	4	3	3	4
B27	George Charlton's House	19 Bannister Rd		Lot 19	5	4	1	2	4	4	3
B28	Shop Precinct	Bannister Rd			5	5	1	4	3	4	3
B29	St James CofE Church Hall	Hill St			3	4	1	4	3	3	4

REFERENCE	PLACE	ADDRESS	C/T	LOT	AESTH	HIST	SCI	SOC	RAR	REP	M'gt
NUMBER	NAME		VOL/FOL	LOCN	VAL	VAL	VAL	VAL	VAL	VAL	Category
B30	Infant Health Clinic	Bannister Rd			site						4/2
B31	Hall's Cottage	27 Johnstone St		Lot 3	4	6	1	4	3	3	3
B32	Laura Hotel	Pinjarra-Williams Rd		W. Loc. 17	site only						5
B33	Tullis Mill	2.4km west of Tullis Siding			site only						5
B34	Tullis Bridge	Hotham River - Siding Rd (nsh) Morts Rd (sh)			5	6	4	2	4	5	2
B35	Mooliaman's Tank	Crossman Rd			4	4	2	1	3	4	4
B36	Mooliaman's Reserve	Crossman Rd			site only						5
B37	Industrial Extracts Office	3 Tamin Pl		W. Loc. 13816	4	6	3	2	6	5	2
B38	A. H. Gordon & Sons Timber Mill	off Hotham Ave			2	4	3	1	4	4	4
B39	Gordon's Peg Factory	Hotham Ave			2	5	2	1	4	3	4
B40	Stagbouer's Mill	off Hill St			site only						5
B41	Jack Hare's Grave	1km south of Boddington		Res. 14978 W. Loc. 10936	2	6	2	6	7	7	5
B42	Pine Plantation	Tulmo Rd			site only						5
B43	First Meeting of Road Board	Pinjarra-Williams Rd			site only			6			5
B44	Jarrah Tree	Mort's Rd		W. Loc. 5134	5						5

Table 6: Shire of Boddington Heritage Inventory

SITE INDEX

Site No	Description	Location
1	Williams River Bridge site	Albany Hwy - Williams Townsite
2	Old Police Quarters	Albany Hwy - Williams Townsite
3	Old Police Well (Convict Tank)	Albany Hwy - Williams Townsite
4	Post Office site	Albany Hwy - Williams Townsite
5	Old Police Station and site	Albany Hwy - Williams Townsite
6	Old Hospital site	Narrogin Road - Williams Townsite
7	Old Church of England site	Narrogin Road - Williams Townsite
8	Original School site and Quarters	Narrogin Road - Williams Townsite
9	Second School site	Narrogin Road - Williams Townsite
10	Second School Quarters site	Narrogin Road - Williams Townsite
11	"McIntyre's Corner" site	Albany Hwy/Quindanning Road - Williams Townsite
12	Well	Albany Hwy/Quindanning Road - Williams Townsite
13	First Tennis Courts site	Greater Sports Ground Albany Hwy - Williams Townsite
14	Scout Hall site	Greater Sports Ground Albany Hwy - Williams Townsite
15	Old Well / Commemoration Plaque GSCWS	Greater Sports Ground Albany Hwy - Williams Townsite
16	Millers' House well site	Albany Hwy - Williams Townsite
17	Millers' House site	Albany Hwy - Williams Townsite
18	Millbrook Old Homestead	Albany Hwy - Williams Townsite
19	Millbrook Homestead	Albany Hwy - Williams Townsite
20	Millbrook Shed	Albany Hwy - Williams Townsite
21	Millbrook Stables	Albany Hwy - Williams Townsite
22	Millbrook Blacksmith Shop	Albany Hwy - Williams Townsite
23	Millbrook Shearing Shed	Albany Hwy - Williams Townsite
24	Millbrook Mill	Albany Hwy - Williams Townsite
25	First Sports Ground	Albany Hwy - Williams Townsite
26	Blacksmith's (Playle's) site	Albany Hwy - Williams Townsite
27	Agricultural Hall	Albany Hwy - Williams Townsite
28	Cornwall's Premises site	Albany Hwy - Williams Townsite
29	Harding's Garage (Williams Rural Supplies)	Albany Hwy - Williams Townsite
30	Post Office	Albany Hwy - Williams Townsite
31	Commercial Precinct site	Albany Hwy - Williams Townsite
32	Piesse's Store site	Albany Hwy - Williams Townsite
33	National Bank	Albany Hwy - Williams Townsite
34	Cosy Corner Tea Rooms	Albany Hwy - Williams Townsite
35	King's Hall site	Albany Hwy - Williams Townsite
36	Blacksmith Shop/Butcher's Shop site	Albany Hwy - Williams Townsite
37	Williams Hotel	Albany Hwy - Williams Townsite
38	First Williams Garage (Shell Service Station)	Albany Hwy - Williams Townsite
39	Sinclair's buildings site	Brooking St - Williams Townsite
40	Shire Offices	Brooking St/Growse St - Williams Townsite
41	Cullen's (Commercial) Hotel site	Growse St - Williams Townsite
42	Masonic Hall (St John Ambulance Centre)	Growse St - Williams Townsite
43	Old Sheep Yards site	Growse St/Richardson St - Williams Townsite
44	"Clayton" Residence (S.C. Kealley)	Growse St - Williams Townsite
45	Palmer's House & Shed	Rosselloty St - Williams Townsite
46	School House site	Richardson St/Rosselloty St - Williams Townsite
47	Williams School	Richardson St - Williams Townsite
48	Recreation Ground site	Richardson St - Williams Townsite
49	Residence (formerly HV Carne)	Piesse St - Williams Townsite
50	Former Hospital / Rectory	Fry St - Williams Townsite
51	Hospital site	Fry St - Williams Townsite
52	Residence (formerly J Giles)	Richardson St - Williams Townsite
53	site of Bush Brotherhood / Hospital	Richardson St/Adam St - Williams Townsite
54	Holy Trinity Church	Rosselloty St - Williams Townsite
55	Old Well	Brooking St - Williams Townsite
56	Butcher's Shop	Brooking St - Williams Townsite
57	Bakery	Brooking St - Williams Townsite
58	Williams General Store	Brooking St - Williams Townsite
59	Williams Newsagency	Brooking St/Grouse St - Williams Townsite
60	Williams Club (old National Bank)	Brooking St/Growse St - Williams Townsite
61	Residence	New Street - Williams Townsite
62	Residence	Growse Street - Williams Townsite
63	Residence	Growse Street - Williams Townsite
64	Rabbit Chillers	Growse Street - Williams Townsite
65	Causeway	Williams River - Williams Townsite
66	Railway Houses site	Richmond Street - Williams Townsite
67	Railway Station site	Richmond Street - Williams Townsite
68	Railway Store site	Richmond Street - Williams Townsite
69	Playle's Residence	Richmond Street - Williams Townsite
70	Timber Mill Houses site	Narrogin Road - Williams Townsite
71	Original Golf Course	Albany Hwy - Williams Townsite
72	Bell's Hill	Albany Hwy - Williams Townsite
73	Old Williams Cemetery	Albany Hwy - Williams Townsite
74	Lemon Scented Gums	Albany Hwy - Williams Townsite
75	New Williams Cemetery	Glenfield Road - Williams Townsite
76	Railway Dam	Glenfield Road - Williams Townsite
77	Rifle Range site	Glenfield Road - Williams Townsite
78	Old Abattoir site	Glenfield Road - Williams Townsite
79	Munthoola Homestead	'Munthoola' - Williams
80	Munthoola Stone Wall / Orchard	'Munthoola' - Williams
81	Munthoola Shed	'Munthoola' - Williams
82	Munthoola Shearing Shed	'Munthoola' - Williams
83	Warren's Residence	Williams/Quindanning Road
84	Warren's Shearing Shed	Williams/Quindanning Road
85	"Warren's Bridge"	Williams/Quindanning Road
86	"Axle grease" Homestead ruins	Williams/Quindanning Road

87	"Boodyhole" Homestead ruins	Williams/Quindanning Road
88	Strangers Pool School site / Birchell Spring	Williams/Quindanning Road
89	Dookering Hill	Williams/Quindanning Road
90	McDermott's Hill (Rock)	Williams/Quindanning Road
91	Charcoal Pit	Williams/Quindanning Road
92	Washpool	Williams/Quindanning Road
93	Bannister's Campsite	Williams/Quindanning Road
94	Hynes Homestead ruins	Williams/Quindanning Road
95	Old Dookening Homestead and Shearing Shed sites	Williams/Quindanning Road
96	Dookening Homestead	Williams/Quindanning Road
97	Dookening Shearing Shed	Williams/Quindanning Road
98	Dalyerling Homestead	Williams/Quindanning Road
99	Boranning Bridge	Williams/Quindanning Road - Boranning
100	Foundations ruins	Williams/Quindanning Road - Boranning
101	Williamsburg Townsite	Williams/Quindanning Road - Boranning
102	Oulnine Homestead site	Williams/Quindanning Road - Boranning
103	Shepherd's Hut	Williams/Quindanning Road - Boranning
104	Stone Wall	Williams/Quindanning Road - Boranning
105	Old Sound Road Crossing	Williams/Quindanning Road - Boranning
106	Jennamarten Rock	Williams/Quindanning Road - Boranning
107	Warren's Homestead site	Williams/Quindanning Road - Boranning
108	Old Boranning Homestead	Williams/Quindanning Road - Boranning
109	Old Boranning Shearing Shed	Williams/Quindanning Road - Boranning
110	New Boranning Homestead	Williams/Quindanning Road - Boranning
111	Stone Ford	Williams/Quindanning Road - Boranning
112	House (Recording Studio)	Williams/Quindanning Road - Boranning
113	Meridian Hill	Williams/Quindanning Road - Boranning
114	Marling (Boranning) Telephone Exchange	Williams/Quindanning Road - Boranning
115	Greystone Homestead	Williams/Quindanning Road - Boranning
116	Orange Tree - Greystones	Williams/Quindanning Road - Boranning
117	Pear Tree - Greystones	Williams/Quindanning Road - Boranning
118	Mt Taurus	Williams/Quindanning Road - Boranning
119	Starting Creek	Williams/Quindanning Road - Boranning
120	River Ford (Cowcher's Crossing)	Williams/Quindanning Road - Boranning
121	"Pleasant View"	Williams/Quindanning Road - Marling
122	Marling School	Williams/Quindanning Road - Marling
123	Gravesites	Williams/Quindanning Road - Marling
124	Tennis Courts	Williams/Quindanning Road - Marling
125	Brick Work site	Williams/Quindanning Road - Marling
126	Marling site	Williams/Quindanning Road - Marling
127	New Marling Homestead	Williams/Quindanning Road - Marling
128	New Marling Store	Williams/Quindanning Road - Marling
129	New Marling Stables	Williams/Quindanning Road - Marling
130	New Marling Shearing Shed	Williams/Quindanning Road - Marling
131	New Marling Hay Shed	Williams/Quindanning Road - Marling
132	Marling (Boranning) Cemetery	Williams/Quindanning Road - Marling
133	Lavender Home site	Williams/Quindanning Road - Marling
134	"Hillcrest"	Williams/Quindanning Road - Marling
135	William & Annie Lavender Home site	Williams/Quindanning Road
136	Pumptry's site	Williams/Quindanning Road
137	Stone Chimney	Williams/Quindanning Road
138	"Rockville" ruins (Tribe)	Williams/Quindanning Road
139	Church of England/School site	Williams/Quindanning Road - Daylerking
140	Lyndhurst Arms site	Williams/Quindanning Road - Daylerking
141	Daylerking Townsite	Williams/Quindanning Road - Daylerking
142	Daylerking Well	Williams/Quindanning Road - Daylerking
143	Baptist Pool	Williams/Quindanning Road - Daylerking
144	Mandiacking Pool	Williams/Quindanning Road - Daylerking
145	Ruins (Daylerking)	Williams/Quindanning Road - Daylerking
146	Haynes Homestead site	Williams/Quindanning Road - Quindanning
147	Old Waldock house	Williams/Quindanning Road - Quindanning
148	John Waldock's Home site	Williams/Quindanning Road - Quindanning
149	Aubrey Waldock Home site	Williams/Quindanning Road - Quindanning
150	Quindanning School site	Williams/Quindanning Road - Quindanning
151	Quindanning Mill site	Williams/Quindanning Road - Quindanning
152	Quindanning Hall	Williams/Quindanning Road - Quindanning
153	Quindanning Bridge	Williams/Quindanning Road - Quindanning
154	Sherry's Farm / Wayside Inn	Townsite - Quindanning
155	Quindanning Hotel	Townsite - Quindanning
156	St Boniface Church	Townsite - Quindanning
157	Sherry's Store site	Townsite - Quindanning
158	Quindanning School (2 & 3)	Townsite - Quindanning
159	First Quindanning Church site	Townsite - Quindanning
160	Rowell's Home tie	Marradong / Quindanning Road - Quindanning
161	Rowell's Shearing Shed	Marradong / Quindanning Road - Quindanning
162	Wilson's House	Marradong / Quindanning Road - Quindanning
163	Quindanning Cemetery	Marradong / Quindanning Road - Quindanning
164	Warrening Gully	Marradong / Quindanning Road - Quindanning
165	Quindanning Hall (Store)	Townsite - Quindanning
166	Quindanning Racecourse (1)	Williams/Harvey Road
167	Quindanning Racecourse (2)	Williams/Harvey Road
168	Morgan's Mill	Williams/Harvey Road
169	Williams Homestead site	Darkan / Quindanning Road - Quindanning
170	Curteis House	Norwood Road - Quindanning
171	Curteis Shearing Shed	Norwood Road - Quindanning
172	Mrs King's Cottage	Norwood Road - Quindanning
173	"Norwood"	Norwood Road - Quindanning
174	Old House, "Norwood"	Norwood Road - Quindanning
175	Coolakin School site No. 1	Darkan / Quindanning Road
176	Coolakin School site No. 2	Darkan / Quindanning Road
177	Stene's Farm (relocated school)	Collie / Williams Road

178	15 Mile Spring	Collie / Williams Road
179	Coolakin Spring	Collie / Williams Road
180	Rifle Downs	Darkan / Quindanning Road
181	Causeway (bridge)	Darkan/Williams Road, Josbury
182	Josbury Siding site	Darkan/Williams Road, Josbury
183	Josbury Well	Josbury Siding, Josbury
184	Stranger's Pool Bridge	Williams River, Josbury
185	Stranger's Pool Washpool	Williams River, Josbury
186	Josbury Homestead	Josbury Siding, Josbury
187	Mt Hillman	Darkan/Williams Road
188	Chaff Shed (Cowchers)	Darkan/Williams Road, Culbin
189	Culbin School site	Darkan/Williams Road, Culbin
190	Culbin Siding site	Darkan/Williams Road, Culbin
191	Chaff Shed site	Culbin Siding, Culbin
192	Well	Hurley Road, Culbin
192	Barooga Homestead	"Barooga", Culbin / Boranning Road
194	Maid's Quarters (Barooga)	"Barooga", Culbin / Boranning Road
195	Barramining Dairy	"Barramining", Culbin/Boranning Road
196	Wild Horse Creek	Darkan / Williams Road, Hillman
196	Meaking Lagoon	Darkan / Williams Road, Hillman
198	West Dardadine School	Dardadine West Road, Dardadine
199	Dardadine Tennis Courts	Dardadine West Road, Dardadine
200	Dardadine Well	Dardadine West Road, Dardadine
201	Dardadine Siding site	Narrogin / Collie Railway, Dardadine
202	"Dardadine" ruins	Dardadine Siding, Dardadine
203	Dardadine Telephone Exchange	Dardadine Siding, Dardadine
204	Survey Tree	Hurley Road, Culbin
205	Hillier's Homestead site	Hurley Road, Culbin
206	Hillard's Cottage	West Tarwonga
207	Homestead site	West Tarwonga
208	West Tarwonga Telephone Exchange	Lillydale, Williams/Sattler Rd, West Tarwonga
209	Sattler Homestead	Lillydale, Williams/Sattler Rd, West Tarwonga
210	Tank Stand	Lillydale, Williams/Sattler Rd, West Tarwonga
211	Lilly's Well	Lillydale, Williams/Sattler Rd, West Tarwonga
212	Tarwonga Telephone Exchange (No. 2)	Williams/Sattler Rd, West Tarwonga
213	Tarwonga Inn	Albany Highway, Tarwonga
214	Tarwonga Telephone (No. 1)	Albany Highway, Tarwonga
215	Tarwonga School No. 1	Albany Highway, Tarwonga
216	Tarwonga Cricket Ground (old)	Albany Highway, Tarwonga
217	Tarwonga Football Ground	Albany Highway, Tarwonga
218	Tarwonga Well	Albany Highway, Tarwonga
219	Tarwonga School No. 3	Albany Highway, Tarwonga
220	Tarwonga School No. 2	Albany Highway, Tarwonga
221	Tarwonga Hall, Tennis Courts sites (old)	Albany Highway, Tarwonga
222	Tarwonga Hall	Recreation Reserve, Albany Hwy, Tarwonga
223	Tarwonga Cricket Ground	Recreation Reserve, Albany Hwy, Tarwonga
224	Tarwonga Tennis Courts	Recreation Reserve, Albany Hwy, Tarwonga
225	"Montrose" site	
226	Quarry	Albany Hwy, South Williams
227	Crushing site	Albany Hwy, South Williams
228	Ruins	Albany Hwy, South Williams
229	Gregory's Well	Albany Hwy, South Williams
230	Gillett's Housesite	Albany Hwy, South Williams
231	Marjadin Homestead	Albany Hwy, South Williams
232	Juganinning Spring	Glenfield Road, Glenfield
233	Glenfield Store	Glenfield Road, Glenfield
234	Glenfield Homestead	Glenfield Road, Glenfield
235	Glenfield Well	Glenfield Road, Glenfield
236	Glenfield Sheds (Stables, Chaff Shed etc)	Glenfield Road, Glenfield
237	Glenfield School site	Glenfield Road, Glenfield
238	Doctor's Farm	Narrogin Road, Williams
239	Bannister Townsite	Narrogin Road, Carter's Crossing
240	Military Barracks	Bannister Townsite, Narrogin Rd, Carter's Crossing
241	The Parsonage	
242	Kondenning Katta Hill	
243	Grainger's Graves	Bannister Townsite, Narrogin Rd, Carter's Crossing
244	Grainger's House site	Bannister Townsite, Narrogin Rd, Carter's Crossing
245	Kondenning Pool	Bannister Townsite, Narrogin Rd, Carter's Crossing
246	McCauley's Housesite	Bannister Townsite, Narrogin Rd, Carter's Crossing
247	Vineyards	Clayton/Narrogin Rd, Williams
248	Junction Brook	
249	Auburn Valley Homestead (1) (old)	Auburn Valley, Clayton Rd, Williams
250	Auburn Valley Homestead (2)	Auburn Valley, Clayton Rd, Williams
251	Coalling Homestead	York/Williams Rd, Coalling
252	Coalling Shed	York/Williams Rd, Coalling
253	Coalling Homestead site	York/Williams Rd, Coalling
254	York Road Well	York/Williams Rd, Coalling
255	Folland's Dairy site	York/Williams Rd, North Williams
256	Folland's House site	York/Williams Rd, North Williams
257	77 Mile Post	York/Williams Rd, North Williams
258	Bell's Homestead	York/Williams Rd, North Williams
259	Bell's Blacksmith Shop	York/Williams Rd, North Williams
260	Bell's Shearing Shed / Hay Shed / Yards	York/Williams Rd, North Williams
261	Congeling Hall	York/Williams Rd, Congeling
262	Congeling Townsite	York/Williams Rd, Congeling
263	Congeling Cricket Ground site	York/Williams Rd, Congeling
264	Congeling Railway Dam	Narrogin/Dwarda Railway, Congeling
265	Congeling Railway Siding site	Narrogin/Dwarda Railway, Congeling
266	Congeling Mill	Narrogin/Dwarda Railway, Congeling
267	Old Race Course	Albany Highway, North Williams
268	Bush Brotherhood House	Lefroy Road, North Williams
269	Bush Brotherhood Outhouse	Lefroy Road, North Williams

270	Bush Brotherhood Yards	Lefroy Road, North Williams
271	Bingham's Out House	Albany Highway, North Williams
272	Bingham's House site	Albany Highway, North Williams
273	Bingham's Graves	Albany Highway, North Williams
274	Ruins	Playle Road, North Williams
275	Golf Club	Albany Highway, North Williams
276	North Williams School site	Albany Highway, North Williams
277	Hogan's Homestead	Albany Highway, North Williams
278	'Collindale' Homestead site	Albany Highway, North Williams
279	Narrakine Homestead site	Albany Highway, Narrakine
280	Narrakine Pool	Crossman River, Albany Highway, Narrakine
281	Lavender's Track	Narrakine Reserve, Albany Highway, Narrakine
282	Narrakine School site	Albany Highway, Narrakine
283	Wilkie Homestead	Narrakine Reserve, Albany Highway, Narrakine
284	Marsh Grave	Narrakine Reserve, Albany Highway, Narrakine
285	Old Baiting Place	Narrakine Reserve, Albany Highway, Narrakine

Table 7: Shire of Williams Heritage Inventory

Hi Peter,

I apologise for the late reply.

However I think you will find the information you need is held by either the Shire of Boddington or the Shire of Williams

I hope this helps you

Kind regards,

Hayley Barge

CUSTOMER SERVICE OFFICER

Shire of Wandering

22 Watts Street

WANDERING WA 6308

PH: (08) 9884 1056

Fax: (08) 9884 1510

email: reception@wandering.wa.gov.au


website: www.wandering.wa.gov.au

Shire of Wandering Heritage Correspondence

Appendix I


Matters of National Significance

Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) mapping tool



Australian Government
Department of the Environment, Water, Heritage and the Arts

[About us](#) | [Contact us](#) | [Publications](#) | [What's new](#)



Protected Matters Search Tool

You are here: [Environment Home](#) > [EPBC Act](#) > [Search](#)

15 September 2010 13:55

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Information on the coverage of this report and qualifications on data supporting this report are contained in the [caveat](#) at the end of the report.


You may wish to print this report for reference before moving to other pages or websites.

The Australian Natural Resources Atlas at <http://www.environment.gov.au/atlas> may provide further environmental information relevant to your selected area. Information about the EPBC Act including significance guidelines, forms and application process details can be found at <http://www.environment.gov.au/epbc/assessmentsapprovals/index.html>

Search Type: Area

Buffer: 0 km

Coordinates: -32.7516,116.5236, -32.7239,116.6199, -33.0084,116.9380, -33.2987,117.0649, -33.3017,116.9861, -33.0580,116.8417, -32.8873,116.6053



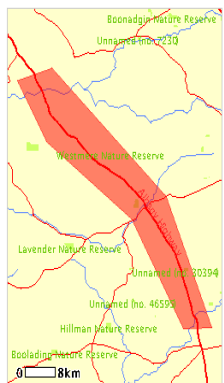
Report Contents: [Summary](#)

[Details](#)

- [Matters of NES](#)
- [Other matters protected by the EPBC Act](#)
- [Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are
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(Geoscience Australia)
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Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance - see <http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html>.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Significance: (Ramsar Sites)	4
Commonwealth Marine Areas:	None
Threatened Ecological Communities:	None
Threatened Species:	15
Migratory Species:	8

Details		
Matters of National Environmental Significance		
Wetlands of International Significance [Dataset Information]		
(Ramsar Sites)		
BECHER POINT WETLANDS	Within same catchment as Ramsar site	
FORRESTDALE & THOMSONS LAKES	Within same catchment as Ramsar site	
PEEL-YALGORUP SYSTEM	Within same catchment as Ramsar site	
TOOLIBIN LAKE	Within same catchment as Ramsar site	
Threatened Species [Dataset Information]	Status	Type of Presence
Birds		
Calystorhynchus bankii nase Forest Red-tailed Black-Cockatoo	Vulnerable	Species or species habitat may occur within area
Calystorhynchus baudini Baudin's Black-Cockatoo, Long-billed Black-Cockatoo	Vulnerable	Roosting known to occur within area
Calystorhynchus latirostris Carnaby's Black-Cockatoo, Short-billed Black-Cockatoo	Endangered	Breeding likely to occur within area
Leipoa ocellata Malleefowl	Vulnerable	Species or species habitat likely to occur within area
Mammals		
Bettongia penicillata colbyi Woylie	Endangered	Species or species habitat may occur within area
Dasypus geoffroyi Chuditch, Western Quoll	Vulnerable	Species or species habitat likely to occur within area
Phascogale calura Red-tailed Phascogale	Endangered	Species or species habitat may occur within area
Plants		
Adenanthos punctens subsp. effusus Sprawling Spiky Adenanthos	Endangered	Species or species habitat may occur within area
Banksia ciliantha Wagin Banksia	Endangered	Species or species habitat likely to occur within area
Caladenia dormeri Cossack Spider-orchid	Endangered	Species or species habitat likely to occur within area
Centrolepis caespitosa	Endangered	Species or species habitat likely to occur within area
Conostylis drummondii Drummond's Conostylis	Endangered	Species or species habitat likely to occur within area
Roycea pycnophyllodes Saltmat	Endangered	Species or species habitat likely to occur within area
Rulingia sp. Trigwell Bridge (R. Smith s.n. 20/6/1989) Trigwell's Rulingia	Endangered	Species or species habitat may occur within area
Verticordia fimbriata subsp. fimbriata Shy Featherflower	Endangered	Species or species habitat may occur within area
Migratory Species [Dataset Information]	Status	Type of Presence
Migratory Terrestrial Species		
Birds		
Haliaeetus leucogaster White-bellied Sea-Eagle	Migratory	Species or species habitat likely to occur within area
Leipoa ocellata Malleefowl	Migratory	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater	Migratory	Species or species habitat may occur within area
Migratory Wetland Species		
Birds		
Ardea alba Great Egret, White Egret	Migratory	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Migratory	Species or species habitat may occur within area
Migratory Marine Birds		
Aous pacificus Fork-tailed Swift	Migratory	Species or species habitat may occur within area
Ardea alba Great Egret, White Egret	Migratory	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Migratory	Species or species habitat may occur within area
Other Matters Protected by the EPBC Act		
Listed Marine Species [Dataset Information]	Status	Type of Presence
Birds		
Aous pacificus Fork-tailed Swift	Listed - overfly marine area	Species or species habitat may occur within area
Ardea alba Great Egret, White Egret	Listed - overfly marine area	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Listed - overfly marine area	Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle	Listed	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater	Listed - overfly marine area	Species or species habitat may occur within area
Commonwealth Lands [Dataset Information]		
Unknown		
Extra Information		
State and Territory Reserves [Dataset Information]		
Arthur River Nature Reserve, WA		
Un-named (No. 30394) Nature Reserve, WA		
Westmere Nature Reserve, WA		
Williams Nature Reserve, WA		
Regional Forest Agreements [Dataset Information]		
Note that all RFA areas including those still under consideration have been included.		
South West WA RFA, Western Australia		

Figure 16: Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) report of Matters of National Significance

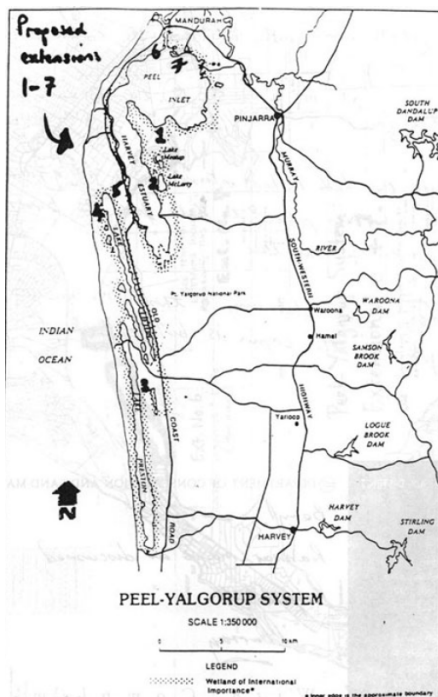


Figure 17: Locations of RAMSAR listed wetlands as listed in the DSEWPC report (above).

Appendix J

Site Photos



Photo 1: SLK 136.83 - Indicates the proposed clear zone width for straight sections of road



Photo 2: SLK - 128.95 – Large tree 4m from edge line



Photo 3: SLK 144.86 - Shows a 5m clear zone in the foreground and 3.5m in the background



Photo 4: SLK 149.07 – Large tree 5m from edge line



Photo 5: SLK 161.15 – Large tree 4.5m from edge line



Photo 6: SLK 161.79 - Large tree 4m (foreground) and 2.5m from edge line



Photo 7: SLK 161.99 – Large tree 3.5m (foreground) and 2m from edge line



Photo 8: SLK 165.15 – Large tree 3.5m from edge line



Photo 9: SLK 165.67 – Large tree 3.5m from edge line with hollow base (inset photo)



Photo 10: SLK 166.25 – Large tree 3.5m from edge line



Photo 11: 168.11 - Large tree 2m from edge line



Photo 12: SLK 170.08 – Large dead tree stump 2m from edge line

Appendix K

Vegetation Clearing Assessment Report

MRWA Vegetation Clearing Assessment Report

This report has been prepared to assist MRWA in addressing condition 7 "Assessment of Clearing Impacts" under Clearing Permit CPS 818/3.

For guidance on how to complete the form, refer to DEC completed reports (active permits) at http://203.20.251.100/cps_reports/.

AREA UNDER ASSESSMENT DETAILS

Proponent details

Proponent's name:

MRWA

Contacts:

Name: Peter Swanson
Phone: 9725 5661
Fax: 9725 5666
Email: peter.swanson@mainroads.wa.gov.au

Property details

Property:

Road reserve along Albany Highway SLK 115-172

Colloquial name:

Area under assessment

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:	Site Plan Attached
3.6ha	n/a	Manual & mechanically	Lateral clearance improvement	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Avoidance/Minimise clearing

How have the clearing impacts been minimised?

Survey has been undertaken to identify the location of trees with a trunk girth >300mm. at 1.3m above the ground
Clearing of vegetation is only to the extent of providing safe clear zones to acceptable standards.
Only selected vegetation is to be removed; under storey, and all other frangible vegetation is to be retained.

BACKGROUND

Existing environment and information

There is a range of vegetation types and conditions throughout the 57 kilometer length of the project area. In general though, the vegetation proposed to be cleared is of a Degraded condition comprised of a narrow strip of roadside remnant native plants remaining after early land clearing. There is virtually no understorey for the majority of the project length and a proliferation of weed (pasture) grass species and other exotic plants.

There is however some stands of vegetation in Good to Very Good condition in locations proximate to some of the water courses that cross the highway. The majority of the larger trees to be removed are within the current maintenance zone.

Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management.

Good: Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate it.

Very Good: Vegetation structure altered, obvious signs of disturbance. (Kieghery 1994)

Site Visit Undertaken	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fauna / Flora Survey Undertaken	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Site Report Attached	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Fauna / Flora Survey Report Attached	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Site Photos Attached	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Other Relevant References Attached	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Vegetation Complex	Clearing Description	Vegetation Condition	Comment
Mosaic: Tall forest; karri / Tall forest; jarrah & marri	Mechanical / hand	Native vegetation condition is generally good	
Tall forest; karri & marri (Corymbia calophylla)			
Medium forest; jarrah-marri			

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 vegetation proposed to be cleared is either along the fringe of a narrow strip of roadside native plants remaining after early land clearing or individual mature specimens that are within the required

clear zone. The clearing would not be considered to compromise a high level of biodiversity because the majority of it is in a degraded condition. Where there is forest adjacent to some sections of the project area, it is in good or better condition and there are significant areas of similar vegetation in the local area.

Most of the trees to be removed will be specific individual specimens which are not considered as significant habitat for fauna. The trees tend to be healthy specimens with no broken limbs or rotted cavities to provide nesting hollows. The small number of Marri trees to be removed will not significantly reduce food sources for Black Cockatoos.

There are no instances of threatened ecological communities in the project area.

Occurrences of *Halgania corymbosa* P3, *Stylidium rhipidium* P3 and *Acacia cuneifolia* P4 have been recorded in proximity of the project area. A survey for these species will need to be undertaken prior to clearing to ensure that there will be no impact to populations, if they currently exist. Therefore the clearing not likely to be at variance to this principle.

Methodology Site inspection and land (significant tree) survey
Main Roads GIS data base search (DEC shape file)
Department of Environment and Conservation Species and Communities Branch

(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 MAY BE at variance to this Principle**
Given that the majority of the land adjacent to the project is cleared for agricultural usage; it may be considered that any extent of clearing may reduce food sources, movement corridors and potential habitat sites of fauna indigenous to Western Australia. Black cockatoo food sources and habitat may be impacted.

Methodology Site inspection and land (significant tree) survey

(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**
No rare flora is registered as being present in the project area.

Methodology Department of Environment and Conservation (DEC) Native Vegetation Map Viewer.
<http://maps.dec.wa.gov.au/idelve/nv/index.jsp>
Department of Environment and Conservation Species and Communities Branch
Main Roads GIS data base search (DEC shape file)

(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**
No priority or threatened ecological communities are registered as being present in the project area.

Methodology Department of Environment and Conservation (DEC) Native Vegetation Map Viewer.
<http://maps.dec.wa.gov.au/idelve/nv/index.jsp>
Department of Environment and Conservation Species and Communities Branch: search reference number: 23-0410
Main Roads GIS data base search (DEC shape file)

(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 MAY BE at variance to this Principle**
The majority of the vegetation within the project area is comprised of Beard Type 4 (*Medium Woodland: Marri, Wandoo*), which is represented by 25.15% with 15.89% remaining in Wandering, 20.88% in Boddington and 12.85% in Williams. At the Hotham River and Crossman River crossings between SLK 118 and 128 there are isolated vegetation associations of Beard type 1003 (*Medium Forest: Jarrah, Marri & Wandoo*) & 1005 (*Low woodland; Allocasuarina huegeliana*) represented with 42.36% and 51.79% respectively remaining in the LGA.

Further south at SLK 155 there is an occurrence of vegetation association 352 (*Medium woodland; York gum*) represented with 16.63% and 14.54% in the Shire of Williams. At

SLK 160 vegetation association 7 (*Medium woodland; York gum (Eucalyptus loxophleba) & Wandoo*) occurs with 13.8% remaining and 15.66% in the Shire of Williams.
Given the under-representiveness of some of these vegetation associations, the clearing may be at variance to this principle.

Methodology	SLIP NRM database & Main Roads file " <i>Native Vegetation in Western Australia - Extent, Type and Status</i> " (<i>car_reserve_analysis_2006.xls</i>) EPA Guidance Statement No.19 'Guidance for the Assessment of Environmental Factors (Environmental Offsets), 2008.
(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 No watercourses or wetlands are registered as being present in the project area. There are however various minor water courses that cross the highway. The EMP that accompanies this assessment states that any vegetation removed within 50 m of these locations shall be undertaken using manual (rather than mechanical) methods so as to avoid impact to beds and banks.
Methodology	Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) (DEWHA) search of Protected Areas Department of Water Geographic Data Atlas mapping tool Main Roads GIS data base search (DEC shape file)
(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 limited extent of the proposed clearing is unlikely to cause appreciable land degradation.
Methodology	Site inspection
(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 conservation areas in the vicinity of the proposed clearing.
Methodology	Department of Environment and Conservation (DEC) Native Vegetation Map Viewer. http://maps.dec.wa.gov.au/idelve/nv/index.jsp Main Roads GIS data base search (DEC shape file)
(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 proposed work is of a limited nature and will not cause deterioration of surface or groundwater.
Methodology	Site inspection
(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 proposed work is of a limited nature and will not cause or exacerbate the incidence or intensity of flooding.
Methodology	Site inspection
Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.	
Comments	
Methodology	

SUBMISSIONS

If required have submissions been requested and addressed

Submission Requested from	Request Sent (Date)	Submission Received (Date)	Issues Raised / Comments Made
---------------------------	---------------------	----------------------------	-------------------------------

ASSESSOR'S RECOMMENDATIONS

List of Principles seriously at variance, at variance or maybe at variance Recommendation:

The proposed clearing MAY BE at variance with Clearing Principles (b) and (e).

Therefore in order to use Main Roads Clearing Permit CPS 818/4 to undertake the the clearing, submissions shall be invited from the relevant stakeholders.

OFFICER PREPARING REPORT

Peter Swanson

Position: Title
E0 WBS Regional Office
MRWA
Phone: 97255692

Date: December 2010

Appendix L

References

Connell, S. Dr.: Consultant Ecologist EnviroWorks Consulting - *Faunal Habitat along 4 Segments of the Albany Highway*. For Main Roads Department 22 September 2009

Department of Agriculture and Food: SLIP NRM database & Main Roads file "*Native Vegetation in Western Australia - Extent, Type and Status*" (car_reserve_analysis_2007.xls)

Department of Environment and Conservation: *A Guide to the Assessment of Applications to clear Native Vegetation* under Part V of the Environmental Protection Act 1986.

Environmental Protection Authority: Guidance Statement No.19 '*Guidance for the Assessment of Environmental Factors* (Environmental Offsets), 2008.

Environmental Protection Authority: Position Statement No.9 '*Environmental Offsets*', 2006.

Government of Western Australia 2000, Bush Forever Volume 2: *Directory of Bush Forever Sites*, Department of Environmental Protection, Perth.

Hussey, B.M.J., Keighery, J., Dodd, S.G. & Cousens, R.D.2007: *Western Weeds: A Guide to the Weeds of Western Australia*, Second Edition.

Keighery BJ 1994, Bushland Plant Survey. *A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc.), Nedlands.

Roadside Conservation Committee, WA, 2005: *Handbook of Environmental Practice for Road Construction and Maintenance Works*

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001): *Native Vegetation in Western Australia, Extent, Type and Status*. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Appendix M

Letter to Stakeholders & Stakeholder (DEC) Submission

Manager
Native Vegetation Conservation Branch
Department of Environment and Conservation
Locked Bag 104
Bentley Delivery Centre WA 6983

Dear Sir/Madam

ALBANY HIGHWAY – LATERAL CLEARANCE IMPROVEMENTS (SLK 115-172)

Main Roads Wheat Belt South (WBS) Region proposes to establish the AustRoads standard lateral clear zone along Albany Highway between SLK 115 and 172 in the Shires of Wandering, Boddington and Williams. The clearing for the project has been assessed against the *Environmental Protection Act's* Clearing Principles and it is considered that the clearing may be at variance with one or more of the clearing principles. Therefore in accordance with Condition 8(a) of Main Roads' Clearing Permit CPS 818/5 Main Roads invites submissions from relevant stakeholders.

The clear zone is the area from the edge of the traffic lane that is available for emergency use by errant vehicles. The width of the clear zone to AustRoads standards is dependent on the design speed of that section, the geometry of the road and the slope of the batter at that point. Vegetation alongside cuttings will need less treatment as compared to locations where the road has been in-filled and is maintained by battered slopes.

The majority of this section of Albany Highway has a speed limit of 110kph. It is proposed to establish a clear zone of average 6.5m on straight sections and inside of curves; and up to 9.0m on the outside of curves. The clearing will be undertaken by selectively removing vegetation that currently is or has the potential to grow a trunk diameter larger than 300mm. Not all of the length of the project area needs treatment as there is currently sections that have either adequate clear zone or have no vegetation at all. Also, different sections require differing widths of clearing to establish appropriate clear zones; in some instances only the fringing meter. The estimated area of native vegetation to be cleared for the widening is approximately 3.6ha. All of the clearing will occur in existing Main Roads' reserve.

The following was noted from site investigations:

- The vegetation to be cleared consists of marri, jarrah and wandoo woodland;
- The road reserve is approx 20m on the western side and 10m on the eastern side with generally only 4-5m of vegetated verge on each side of the road
- Other than shrub and sapling material, trees generally range from between 100-400 mm in diameter with the occasional tree up to 600 mm diameter
- There are a few hollows in the larger specimens that may provide habitat
- Using the Keighery Vegetation Condition Rating; the condition of the native vegetation to be cleared ranges from Rating 4 - 6: Good to Completely Degraded
- The majority of the project area adjoins farm and pastoral land

There is a range of vegetation types and conditions throughout the 57 kilometer length of the project area. According to the Department of Agriculture and Food NRM SLIP database the majority of the project length occurs within Vegetation Association 4 (*Medium woodland; marri & wandoo*) which retains 24.24% of its pre-European extent in the IBRA Region (*Jarrah Forest*) and 30.29% in the IBRA Sub-Region (*Jarrah Forest North*).

There are some small sections occurring in under represented Vegetation Association 7 (*Medium woodland; York gum (Eucalyptus loxophleba) & wandoo*) with 13.8% and 19.39% respectively and Vegetation Association 352 (*Medium woodland; York gum*) with 16.63% and 16.82%. The project also encounters small areas of Vegetation Association 1003 (*Medium forest; jarrah, marri & wandoo*) with 41.46% and Vegetation Association 1005 (*Low woodland; Allocasuarina huegeliana*) with 54.73%.

In general the vegetation proposed to be cleared is of a Degraded condition comprised of a narrow strip of roadside remnant native plants remaining after early land clearing. There is virtually no understorey for the majority of the project length and a proliferation of weed (pasture) grass species and other exotic plants. There is however some stands of vegetation in Good condition in locations proximate to some of the water courses that cross the highway. The majority of the larger trees to be removed are isolated specimens within the current maintenance zone.

Because of the above information, Main Roads considers that the project may be at variance to the following principles:

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

If your organisation wishes to comment on this proposed project, please provide your submission by COB 10 December 2010 to PO Box 194 Narrogin WA 6312 or email to peter.swanson@mainroads.wa.gov.au.

For further details, please contact Peter Swanson on 9725 5692.

Yours sincerely

John Baker
A/REGIONAL MANAGER
MAIN ROADS WHEAT BELT SOUTH REGION

CC:
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Northam WA 6401

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Shire of Wandering
22 Watts Street
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Mr John Baker
A/Regional Manager
Wheat Belt South Region
Main Roads Western Australia
PO Box 194
NARROGIN WA 6312

Dear Mr Baker

CPS 818/5 – SUBMISSION – ALBANY HIGHWAY – LATERAL CLEARANCE IMPROVEMENTS (SLK 115-172)

Thank you for your letter dated 16 November 2010, inviting the Department of Environment and Conservation's (DEC) Native Vegetation Conservation Branch to provide comment on Main Roads Western Australia's (MRWA) proposal to establish a 'clear zone' within Albany Highway, within the Shires of Williams, Boddington and Wandering. I understand that the area of impact involves the clearing of approximately 3.6 hectares of native vegetation.

Submissions are invited in accordance with condition 8 of clearing permit CPS 818/5 for any clearing that 'may be at variance', 'is at variance' or 'is seriously at variance' with the clearing principles contained within Schedule 5 of the EP Act.

The 3.6 hectares of native vegetation proposed to be cleared has been assessed against the clearing principles contained in Schedule 5 of the *Environmental Protection Act 1986* (EP Act), taking into account information you have provided and information the Department of Environment and Conservation (DEC) has obtained through consultation.

In relation to clearing principle (b), your letter indicates that the proposal 'may be at variance,' I agree with this level of variance. Given that the proposed clearing area contains some vegetation in good (Keighery scale) condition and is within an extensively cleared landscape, local fauna species may utilise the remaining vegetation as a linkage corridor and feeding or foraging habitat.

In relation to clearing principle (e), your letter indicates that the proposal 'may be at variance,' I agree with this level of variance. The proposed clearing is to occur over a 57km area, in which there are five mapped beard vegetation associations and two Matiske Complexes. Some areas of good (Keighery, scale) condition vegetation remain, therefore it is likely that sections of the vegetation to be cleared are consistent with the mapped vegetation types. The area of impact is mapped as being predominately composed of Beard vegetation associations 4 and 7. According to DEC datasets, there is 24.21% of pre-European levels of native vegetation for Beard vegetation association 7 within the bioregion and within the Shire of Williams, 26.72% remains. Beard vegetation association 4 is well represented within the bioregion, however retains 21.94% of its pre-European extent within the Shire of Williams. The proposed clearing area is also mapped as consisting of Matiske complexes Michibin (Mi) and Wiliams (Wi). These complexes are mapped in the northern section of Albany Hwy. Matiske Mi and Wi retain 26.37% and 19.67% respectively. Further to this, the proposed clearing occurs within an extensively cleared landscape.

Native Vegetation Conservation Branch
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Postal Address: Locked Bag 104, Bentley Delivery Centre, BENTLEY WA 6983
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I note that you have not identified any variance levels for the remaining clearing principles. After desktop analysis and additional advice I consider principle (h) 'may be at variance.' The vegetation proposed to be impacted is considered to be contributing to an ecological linkage containing good (Keighery scale) condition vegetation and is situated within an extensively cleared landscape. Due to these factors, the vegetation may assist with the transfer of genetic materials to nearby conservation areas.

In accordance with conditions 5(a)(ii) and 9(c) and Part V of clearing permit CPS 818/5, MRWA is required to submit for approval an offset proposal as the clearing 'may be at variance' to principles (b), (e) and (h).

If you have any queries regarding the matters raised above, please contact Jeremy Quartermaine at DEC's Native Vegetation Conservation Branch on (08) 9219 8744.

Yours sincerely



Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

13 December 2010

Cc: Mr Murray Limb, Manager, Main Roads WA, PO Box 6202, East Perth 6892

Appendix N

Environmental Survey Reports



Albany Hwy Habitat
Survey FINAL.pdf

Figure 1: Faunal Habitat Report 2009



Albany Hwy
Biological Report FIN/

Figure 2: Albany Highway Biological Survey Report 2010