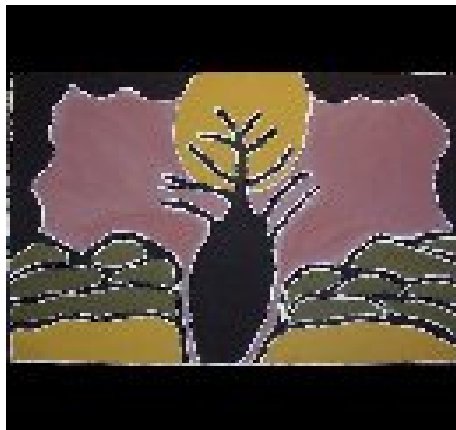


**PRELIMINARY ENVIRONMENTAL IMPACT
ASSESSMENT
Gibb River Road
Road Train Improvements**



Prepared by:

Main Roads Western Australia
Kimberley Region
Wodehouse Street
Derby 6728
Date: April 2007

Table of Contents

1. INTRODUCTION.....	3
2. BACKGROUND.....	3
3. DESCRIPTION OF THE PROJECT	4
3.1 METHODOLOGY	9
3.1.1 Preliminary Desktop Study	9
3.1.2 Site Investigation.....	10
4. EXISTING ENVIRONMENT	10
5. CLEARING OF NATIVE VEGETATION.....	16
6. ASSESSMENT OF ASPECTS AND IMPACTS	18
7. DECISION TO REFER.....	19
8. ENVIRONMENTAL MANAGEMENT PLAN.....	20
9. REFERENCES.....	26
APPENDIX A LOW IMPACT SCREENING CHECKLIST	27
APPENDIX B WETLANDS AND WATERCOURSES WITHIN THE PROJECT AREA	29
APPENDIX C DEPARTMENT OF ENVIRONMENT AND CONSERVATION THREATENED FLORA AND FAUNA DATABASE SEARCHES.....	31
APPENDIX D AUSTRALIAN HERITAGE PLACES INVENTORY, HERITAGE COUNCIL OF WESTERN AUSTRALIA AND THE MUNICIPAL HERITAGE INVENTORY DATABASE SEARCHES	36
APPENDIX E DEPARTMENT OF INDIGENOUS AFFAIRS DATABASE SEARCH	39
APPENDIX F DEPARTMENT OF WATER SENSITIVE WATER RESOURCES DATABASE SEARCH.....	43
APPENDIX G WAPC'S ACID SULFATE SOILS MAPPING	46
APPENDIX H DEPARTMENT OF AGRICULTURE AND FOOD ADVICE ON DECLARED WEEDS.....	49
APPENDIX I DEPARTMENT OF ENVIRONMENT AND WATER RESOURCES.....	51

GIBB RIVER ROAD ROAD TRAIN IMPROVEMENTS

PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT

1. INTRODUCTION

Main Roads Kimberley region proposes to upgrade three (3) sections of the Gibb River Road. The proposed works will involve:

- Widening of the existing Gibb River Road, west of the Bindoola Creek crossing (SLK 561.51 – 562.13);
- Pentecost Jump-up road realignment, west of Pentecost River (SLK 571.93 – 573.32); and,
- Road realignment and upgrade at SLK 606.23 – 606.90.

The proposed works are located within the Shire of Wyndham-East Kimberley.

2. BACKGROUND

The Gibb River Road runs approximately 650km between Derby and intersects with the Great Northern Highway between Wyndham and Kununurra. The original Gibb River Road, predominantly built of gravel, provided road user access to remote Kimberley stations and served as an access point for vehicles travelling to Kalumburu on the Kalumburu Road.

Of late, the Gibb River Road has developed into one of the Kimberley's premier wilderness tourist attractions. During the dry season the average daily traffic (ADT) increases to approximately 140 vehicles per day, with approximately 95% being light vehicles, some with caravans and trailers.

The gravel road has a derestricted speed zone and flooding can cause washouts and other road hazards on parts of the road. Upgrading of the road will enhance road user accessibility and provide significant improvement to traffic safety.

As per Main Roads' Environmental Assessment and Approval process, the Low Impact Environmental Screening Checklist has been completed for the proposal, refer Appendix A. As the project will involve ground disturbance and clearing of native vegetation the project will require further environmental investigations such as the preparation of a project specific Preliminary Environmental Impact Assessment. This report fulfils this requirement.

3. DESCRIPTION OF THE PROJECT

Bindoola Creek crossing road widening:

The scope of works include widening of the existing road west of the Bindoola Creek crossing for a length of approximately 620m to a width of 10-12m including 3–5m of cut. Construction work will involve construction of new sealed pavement and drainage improvements, with a total clearing area of approximately 1.05ha of vegetation. Works will be limited to the road reserve.

Pentecost Jump-up road realignment:

The scope of works for this section involves a road realignment of approximately 1.4km, cleared to a maximum width of 30m. Major cut to fill earthworks shall be used to smooth the road profile. This will involve substantial widening of the embankment and sealing of the section. The total area of vegetation to be cleared amounts to approximately 4.2ha and the current alignment will be rehabilitated once the works are complete.

Road realignment and upgrade works, SLK 606.23 – 606.90:

The works for this section involve realignment of the current road formation, gravel sheeting, drainage improvements and clearing of approximately 20m width on one side of the existing centreline. The most clearing at this site will be 1.34ha, but likely to be much less. Since it is unknown at this point in time where the exact location of the new centreline will be for the proposed works at this location, the PEIA will provide an assessment of 20m either side of the existing alignment between SLK 606.23 – 606.90.

Borrow and gravel is to be sourced from existing pits and insitu cut from the batter works, hence no additional clearing area for materials is required. No new access tracks are required for the proposed works and all construction will be contained within the road reserve.

Figure 1 on the following page provides a broad locality map of the proposed works. Figures 2-4 show the location and boundaries of the three proposed works. The areas required to be cleared are as follows:

Figure 2

- Bindoola Creek crossing road widening, 620m x (12m + 5m) 1.05ha

Figure 3

- Pentecost Jump-up road realignment, 1.4km x 30m 4.2ha

Figure 4

- Road realignment and upgrade works, 670m x 20m 1.34ha

At the most, a total of approximately 6.6ha will be permanently cleared for construction works, which are expected to commence May 2007.

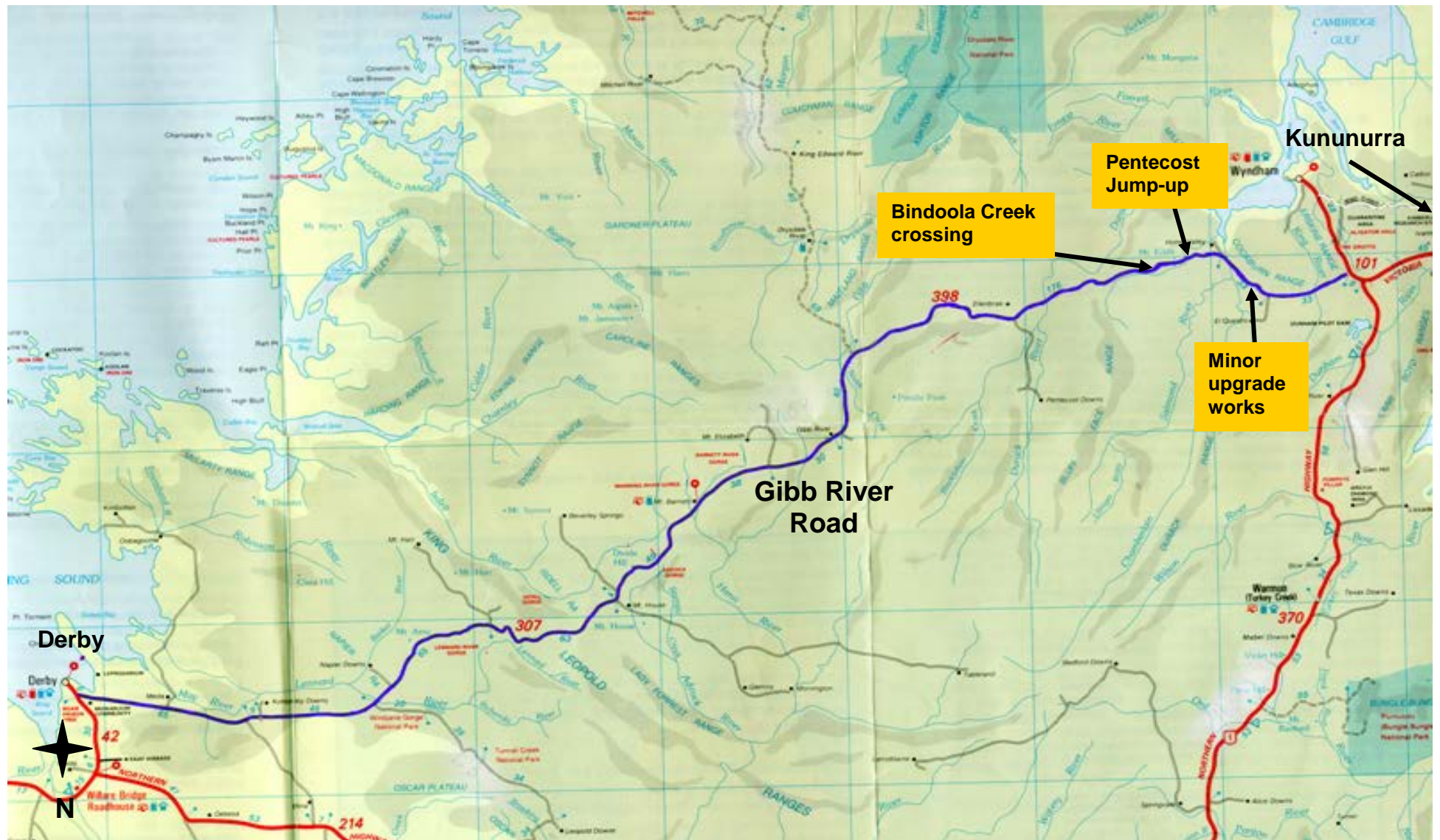


Figure 1...Broad Locality Map



Figure 2...Bindoola Creek crossing road widening (SLK 561.51 – 562.13)



Figure 3...Pentecost Jump-up road realignment (SLK 571.93 – 573.32)



Figure 4...Road realignment and upgrade works (SLK 606.23 – 606.90)

3.1 Methodology

3.1.1 Preliminary Desktop Study

An assessment of the project area and its potential constraints was undertaken by reviewing a number of government agency managed databases.

Wetlands

The locations of wetlands and ESAs within the project area were determined using the Department of Environment and Conservation (DEC) Environmentally Sensitive Area (ESA) mapping tool (http://portal.environment.wa.gov.au/portal/page?_pageid=53,2569721&_dad=portal&_schema=PORTAL), refer Appendix B, and by seeking advice from the regional DoW officer, refer Appendix F.

Threatened Flora, Fauna and Communities, Conservation Reserves and ESAs

DEC database was searched for known populations of threatened flora, fauna and Threatened Ecological Communities (TECs) and conservation reserves, refer Appendix C.

Air Quality

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

Heritage

Non-indigenous heritage was examined utilising the Australian Heritage Places Inventory (<http://www.heritage.gov.au>), Heritage Council of Western Australia (<http://register.heritage.wa.gov.au/>) and the Broome Shire Municipal Heritage Inventory refer Appendix D.

Aboriginal Heritage

A Search of the Department of Indigenous Affairs' (DIA's) (<http://www.dia.wa.gov.au/Heritage/SitesSurveysSearch.aspx>) database was undertaken to determine whether the project area contains any sites of Aboriginal heritage, refer Appendix E.

Sensitive Water Resources

The Water Information Officer of the Department of Water's (DoW's) regional office was consulted on sensitive water resources (including Public Drinking Water Source Areas) to determine whether the project area supported, or was adjacent to, any significant lakes, rivers or wetlands or proclaimed areas, refer Appendix F.

Contaminated Sites

There are no known previous land use activities on or adjacent to the project area that have the potential to create contamination, eg petrol station.

Acid Sulfate Soils

The Western Australian Planning Commission's acid sulfate soils maps were reviewed and the self assessment done (<http://www.wapc.wa.gov.au/Publications/213.aspx>) to determine what level of risk the project area is exposed to, refer Appendix G.

Weeds

Consultation was undertaken with the Department of Agriculture and Food to determine whether there are any known populations of declared plants or significant weeds in or adjacent to the project area, refer Appendix H.

Dieback

Dieback is not an issue in the area where proposed works are expected to be undertaken.

Commonwealth Referral

The decision to refer the project to the Commonwealths Department of Environment and Heritage (DEH) was based upon whether the project was going to impact upon matters of national significance, eg World Heritage properties, protected wetlands and migratory species, Commonwealth marine areas, threatened species or communities or nuclear actions (refer to the Commonwealth webpage www.deh.gov.au/epbc/assessmentsapprovals/index.html for further information and the search tool page at <http://www.deh.gov.au/erin/ert/epbc/imap/map.html>), refer Appendix I.

3.1.2 Site Investigation

A site visit was carried out by Project Manager Neville Walters and Environment Officer Marni Baetge on 3/4/07 to examine the general features of the area. The broad vegetation types in the vicinity of the project area were identified. Other issues that were considered included topography, the impacts on creek lines, property access and the potential for noise and vibration impacts (dilapidation).

4. EXISTING ENVIRONMENT

The proposed works along the Gibb River Road are located in the Central Kimberley Region within the Fitzgerald Botanical District. The Fitzgerald Botanical District is broadly characterised by the occurrence of 'curly spinifex' (*Plectrachne pungens*) communities which cover 70% of the area (Beard, 1979).

Vegetation data that has been developed between DEC and the Development Assessment Forum (DAF) indicated that vegetation within the three project areas is as follows:

Bindoola Creek crossing road widening & Pentecost Jump-up road realignment:

- Grasslands, curly spinifex, low tree savannah woodland; gnaingar (*Eucalyptus phoenicea*) and *Eucalyptus ferruginea* over *Triodia pungens*. This vegetation association is well represented throughout the region with 100% remaining.

Road realignment and upgrade works (SLK 606.23 – 606.90):

- Grasslands, tall bunch grass savannah woodland, coolabah over ribbon grass (*Crysopogon spp.*). This vegetation association is well represented throughout the region with 99.9% remaining in the country;
- Grasslands, high grass savannah woodland; bloodwood & woollybutt over upland tall grass & curly spinifex. This vegetation association is well represented throughout the region with 100% remaining;

- Hummock grasslands, low steppe woodland; silver-leaved box (*Eucalyptus prunosa*) & melaleuca over Triodia. This vegetation association is well represented throughout the region with 100% remaining; and,
- Grasslands, high grass savannah woodland; bloodwood over upland tall grass & curly spinifex. This vegetation association is well represented throughout the region with 100% remaining.

No declared weeds or serious environmental weeds were detected in either of the project areas.

The EPBC Act Protected Matters Report listed a number of threatened, migratory and marine species potentially occurring in the general areas of each of the project sites. However, subsequent consultation with DEC has indicated that the Purple-crowned Fairy-wren potentially inhabits all three project areas and the Red Goshawk could possibly exist at Bindoola Creek crossing.

- *Malurus coronatus coronatus* (Purple-crowned Fairy-wren (western)), is a Priority 4 species where the taxa is becoming rare in the Kimberley and is in need of monitoring. Habitat for the wren is restricted to riverine environments where dense stands of northern canegrass (*Mnesithea rottboellioides*) and *Pandanus* species frequently grow alongside waterways.
- *Erythrorhynchus radiatus*, (Red Goshawk) is a Schedule 1 fauna species that is rare or is likely to become extinct. The preferred habitat for this species is tall open eucalypt forest and riparian areas (including paperbark forest and gallery forests). The conspicuous basket-shaped stick nest is typically placed in large trees near watercourses.

A habitat assessment was carried out in early April 2007 specifically targeting the likely habitats of the Purple-crowned Fairy-wren and the Red Goshawk. The aim of the habitat assessment was to determine if it was likely that any of the threatened species would be utilising the areas that will be impacted on as a consequence of the proposed works.

Proposed works will not impact areas of dense riparian vegetation, permanent creek-lines or stands of tall eucalypt and paperbark forest. No specific habitats identified during the assessment appear to be spatially restricted to the area of impact or to be supporting important populations of significant species of fauna communities. Proposed works will have at worst a short term effect on any fauna species utilising this habitat. The presence of similar habitats and large areas of relatively undisturbed native vegetation mean that fauna will be able to readily move into adjacent areas.

Two varieties of land snail identified by the DEC, *Amplirhagada questroana* and *Prymnbriareus nimberlinus* are also known to occur on El Questro Station. Proposed works will not affect El Questro Station and therefore impact to the two varieties of land snail will not be an issue.



IMAGE 1...BINDOOLA CREEK CROSSING, Looking East



IMAGE 2...BINDOOLA CREEK CROSSING, Typical Vegetation



IMAGE 3...BINDOOLA CREEK CROSSING, Looking West



IMAGE 4...BINDOOLA CREEK CROSSING, Typical Vegetation



IMAGE 5...PENTECOST JUMP-UP, Looking East



IMAGE 6...PENTECOST JUMP-UP, Typical Vegetation



IMAGE 7...SLK 606.23 – 606.90



IMAGE 8...SLK 606.23 – 606.90, Typical Vegetation

5. CLEARING OF NATIVE VEGETATION

Under the amended *Environmental Protection Act 1986 (EP Act)* clearing of native vegetation must be under the authority of a clearing permit. 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, see table below.

Clearing Principles - <i>Environmental Protection Act</i> Section 5	Yes/No
<p><i>Does the area to be cleared comprise a high level of biological diversity?</i> The proposal is not at variance with this principle as the area proposed to be cleared is highly homogenous and therefore diversity will not be compromised.</p>	No
<p><i>Does the area to be cleared comprise the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia?</i> The current extent of the native vegetation within each study area is considered to remain almost identical in extent to that existing in the pre-European condition. Since the amount of clearing required is minimal and because the road transverses large areas of relatively undisturbed native vegetation, fauna will be able to readily move into adjacent areas. Therefore, the proposal is not at variance with this principle.</p>	No
<p><i>Does the area to be cleared include, or is necessary for the continued existence of, rare flora?</i> No known Declared Rare or Priority Flora exist within the project area. Therefore, the proposal is not at variance with this principle.</p>	No
<p><i>Does the area to be cleared comprise the whole or a part of, or is necessary for the maintenance of, a threatened ecological community?</i> The proposal is not at variance to this principle as no Threatened Ecological Communities (TEC's) have been identified within the project area.</p>	No
<p><i>Is the area to be cleared significant as a remnant of native vegetation in an area that has been extensively cleared?</i> The proposal is not at variance with this principle as native vegetation recorded from the survey areas are not considered to be under-represented, with 100% or 99.9% of each vegetation type remaining.</p>	No
<p><i>Does the area to be cleared exist within, or in association with, an environment associated with a watercourse or wetland?</i> No wetlands or watercourses are expected to be impacted by the proposed works. Therefore, there will be no variance with this principle.</p>	No
<p><i>Is the clearing of the vegetation likely to cause appreciable land degradation?</i> The proposal is not likely to be at variance to this principle as impacts will be minimised to that which is essential.</p>	No
<p><i>Is the clearing of the vegetation likely to have an impact on the environmental values of any adjacent or nearby conservation area?</i> The proposal is not at variance with this principle as remnant native vegetation in each of the project areas is not associated with any adjacent or nearby conservation areas.</p>	No
<p><i>Is the clearing of the vegetation likely to cause deterioration in the quality of surface or underground water?</i> Clearing of remnant native vegetation is not likely to cause deterioration in the quality of surface or underground waters. Therefore, the proposal is not at variance with this principle.</p>	No
<p><i>Is the clearing of the vegetation likely to cause, or exacerbate, the incidence or intensity of flooding?</i> The proposal is not at variance with this principle as clearing of native vegetation for this project is not considered to be likely to cause or exacerbate the incidence or intensity of flooding. Proposed upgrading should aim to minimise changes to natural flows and reduce the impact of flooding and channel erosion.</p>	No

Upgrade works along the Gibb River Road are expected to involve clearing of approximately 6.6 hectares of vegetation. Basecourse material for construction of the proposed works will be sourced from existing pits and insitu cut from the batter works. Therefore, no additional clearing will be required for borrow or gravel pits or associated access tracks. All vegetation to be impacted is well represented in the region and no Declared Rare Flora or Priority Flora has been recorded at either three areas where proposed works are expected to take place.

Clearing Principle 'f'; "*Does the area to be cleared exist within, or in association with, an environment associated with a watercourse or wetland?*" was discussed with the DoW (Kununurra office). Meghan Barnes from the DoW confirmed that the project works are not within a significant watercourse or wetland (Appendix F) and a Permit to Disturb Bed and Bank will not be required (*pers. comm.*, Meghan Barnes, DoW).

All clearing associated with construction works shall be kept to an absolute minimum. Mature and selected trees shall be conserved as far as practicable to provide for faunal habitat and environmental integrity. The Contractor shall take all precautions necessary to prevent damage to growing trees and shrubs outside the designated areas and to selected trees within areas designated for clearing.

Prior to clearing the Contractor shall mark out clearing limits and certify to MRWA that the clearing areas are clearly defined. Clearing for the truck breakdown area shall be carried out only in the areas shown on the drawings, or as otherwise directed by the Superintendent. All clearing shall comply with **Specification 301: Clearing**. The removal and re-spread of topsoil shall be undertaken in accordance with **Specification 302: Earthworks**.

6. ASSESSMENT OF ASPECTS AND IMPACTS

Table 1: Aspects and Impacts – Gibb River Road, Road Train Improvements

Aspect	Evaluation of Potential Impacts
Air quality	Not relevant to the proposed works. Local air quality assessment is not required for the project since: <ul style="list-style-type: none"> the predicted traffic flow is less than 15,000 vehicles per day; residential and other sensitive receptors are not within 200 meters of the road centre
Dust	Likely to be a minor issue during earthworks. Standard dust control measures shall be undertaken to minimise dust production during construction.
Fauna	<p>The EPBC Act Protected Matters Report listed a number of threatened, migratory and marine species potentially occurring in the general areas of each of the project sites (Appendix I):</p> <p>Bindoola Creek crossing – 4 threatened, 9 migratory & 13 marine Pentecost Jump-up – 4 threatened, 9 migratory & 13 marine SLK 606.23–606.9 – 5 threatened, 11 migratory & 14 marine</p> <p>However, subsequent consultation with DEC confirmed that the Purple-crowned Fairy-wren potentially inhabits all three project areas and the Red Goshawk could possibly exist at Bindoola Creek crossing. Assessment of the three project areas identified that the vegetation to be cleared for the proposed works is not likely to support important populations of significant species of fauna communities. The presence of similar habitat in adjacent areas will enable fauna to relocate if necessary.</p>
Vegetation – clearing	At the most, a total of 6.6 hectares of vegetation is expected to be cleared using the purpose permit. The vegetation type expected to be impacted by the proposed works is well represented throughout the region.
Vegetation – TECs/DRF	No known occurrences of Threatened Ecological Communities, Declared Rare or Priority Flora were recorded in the project area.
Vegetation – weeds	No declared weeds or serious environmental weeds were identified in the project areas. Consultation with the Department of Agriculture and Food confirmed that the environmental weeds that were detected at the proposed construction sites are common throughout the Fitzgerald Botanical District and risk of spreading is minimal.
Vegetation – dieback	Not an issue given that the project area lies within the Kimberley Region.
Reserves / Conservation areas	No reserves or conservation areas are expected to be impacted by the proposed works.
Heritage (non-indigenous)	A search of the Australian Heritage Places Inventory and Heritage Council of Western Australia databases has indicated that there are no heritage significant listed sites present in the proposed works areas.
Aboriginal heritage	A search of the DIA database identified no sites of Aboriginal heritage significance in either of the project areas. However, since some of the project area may not have been surveyed, the Kununurra Kimberley Land Council has been consulted. If any issues relating to Aboriginal heritage arise, these issues will be managed separately before any construction work proceeds.
Surface water/drainage	Consultation with DoW has confirmed that the proposed works will not disturb or interrupt any natural drainage and surface run-off patterns (Appendix F).
Wetlands	No wetlands will be impacted by the proposed works.

Table 1: Aspects and Impacts – Gibb River Road, Road Train Improvements

Aspect	Evaluation of Potential Impacts
Groundwater	A search of the DoW Geographic Data Atlas indicated that the three study areas are not within any Gazetted Public Drinking Water Source Areas. However, they do lie within the Canning-Kimberley Groundwater Area which covers the entire Kimberley sub-region. No dewatering or drainage modifications are required, hence no change to groundwater level or quality.
Noise and vibration	No major sensitive local receivers. Construction works would not be expected to significantly contribute to noise levels at the nearest sensitive receivers, provided works are limited to normal working hours. The requirements of the Shire of Broome must be met in respect of noise management and construction working hours.
Visual amenity	The proposed works will result in minor and short-term visual impacts during construction. Suitable site completion treatments, including landscape planting and rehabilitation, could result in an improvement in local visual amenity.
Public safety and risk	Provided traffic management and signage to Main Roads standards is employed, none of the proposed works present any significant hazards to public safety. The proposed works will serve to enhance public safety by improving road conditions during flooding events.
Hazardous substances	Not relevant to the proposed works.
Contamination	There are no known previous land use activities on or adjacent to the project area that have the potential to create contamination, eg petrol station.
Salinity	There were no visual signs of salinity observed in the project area.
Acid Sulfate Soils	The WAPC's self-assessment (Planning Bulletin 64) indicates that no further soil investigation is required for the project.
Statutory Land Use Planning	As the proposed works is entirely within the existing road reserve, no further amendments would be required to the Local Government Planning Scheme or Region Scheme.

7. DECISION TO REFER

Given the scale of the project, the low significance of its impacts to the surrounding environment and the environmental management measures proposed, the project does not require referral to the WA Environmental Protection Authority or the Commonwealth Department of the Environment and Heritage.

8. 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 aims 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 Environmental Review. The environmental management measures/conditions in Main Road's Specifications 203, 204, 301, 302 and 304 will be followed where applicable.

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

- area of management (eg vegetation);
- the timing of the various management requirements;
- the management objectives for each area;
- the management strategies that are necessary to minimise the impact;
- the person/s responsible for implementing the management action; and
- on whose advise or Main Roads requirement.

ENVIRONMENTAL MANAGEMENT PLAN					
Area of management	Timing	Management objective	Management Strategy	Responsibility	Whose advice
Induction	Pre-Construction	Inform all personnel of the management actions/strategies required of them	Develop and implement a communication plan including response to complaints, liaising/reporting to government agencies, engagement with the community and others when work is performed, with specific reference to nuisance issues such as noise, dust and lighting spill	Project Manager	Main Roads
Vegetation Clearing - Record-keeping	All phases of Construction	All projects should maintain the required records relating to clearing native vegetation under the purpose permit	Clearing: <ul style="list-style-type: none"> • a copy of the PEIA & EMP (Minor projects) for small projects; • a map showing the location where the clearing occurred, recorded in an ESRI Shapefile; • the size of the area cleared (in hectares); • the dates on which the clearing was done. 	Environment Officer	DEC
Vegetation - Clearing	Pre-Construction	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	Selection of designs/locations that minimise adverse impacts on the biological environment Construction works to be undertaken in the dry season to reduce the potential for soil erosion and drainage line siltation due to vegetation removal and heavy rains Any stockpiled vegetation from clearing works shall not be burnt. This vegetation shall be used during any rehabilitation works and either chipped or replaced according to the EMP All clearing shall be done in accordance with Main Roads Specification: <ul style="list-style-type: none"> • 301: Clearing 	Project Manager	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Area of management	Timing	Management objective	Management Strategy	Responsibility	Whose advice
Weeds	Construction	Prevent and reduce the introduction and spread of weeds	<p>Control any weed species, if present, within the project area prior to construction to limit the amount of propagative material that may be spread during disturbance</p> <p>Ensure all machinery/vehicles are clean prior to entering the works area. If a new weed infection is identified within the area, measures to reduce its spread should be established such as vehicle wash/brush-down points</p> <p>Main Roads Specifications applicable:</p> <ul style="list-style-type: none"> • 204: Environment • 301: Clearing 	Project Manager	Main Roads
Water Courses and Surface Drainage	Pre-Construction/ Construction	Maintain the hydrological regime that exists prior to the construction of the proposal and prevent erosion in areas subject to flooding	<p>Areas subject to erosion as a result of clearing shall be stabilised and designed to minimise rainfall/runoff impacts</p> <p>Works should minimise vegetation and soil disturbance to prevent soil movement. Finished works should be left in a stable condition to minimise the risk of scouring</p> <p>If washdown facilities or chemical storage takes place on site, best management practices will be utilised in accordance with DEC's <i>Water Quality Protection Notes, Mechanical Equipment Washdown</i> to minimise impact on water resources</p> <p>Stormwater drainage shall be treated and disposed of in accordance with DEC requirements</p>	Project Manager	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Area of management	Timing	Management objective	Management Strategy	Responsibility	Whose advice
			<p>Ensure Main Roads design is followed.</p> <p>Main Roads Specifications applicable:</p> <ul style="list-style-type: none"> • 402: Surface Drains • 405: Drainage Structures 		
Visual Amenity	Pre-Construction	Ensure that the road blends in with the surrounding environment	Ensure that the road blends in with the surrounding environment	Project Manager	Main Roads
Noise, Vibration and Dust	Construction	Ensure that the construction of the proposal does not become a nuisance to the public	<p>Access to private property and appropriate traffic management measures should be planned and implemented prior to the construction of works</p> <p>Works associated with the construction of the development should not prevent public access along the adjacent reserve. Public access should be maintained along the reserve at all times</p> <p>Any complaints regarding dust will be attended to as soon as possible</p> <p>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</p> <p>Watering shall be used as a mitigation measure to protect loose surfaces</p>	Project Manager	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Area of management	Timing	Management objective	Management Strategy	Responsibility	Whose advice
Pollution and Litter	Construction	Ensure that the construction of the proposal is managed to a standard that minimises any adverse impacts on the environment	<p>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</p> <p>The Contractor shall ensure appropriate equipment is available at all times to control any spills and shall notify the Project Manager as soon as possible following a spill</p> <p>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</p> <p>Dumping or temporary storage of bitumen, asphalt, concrete or aggregate should only occur at designated depots or controlled hardstands</p> <p>The project areas, including hardstand areas, will be kept in a tidy manner at all times. All litter on the project will be placed into lidded bins and disposed of at an approved landfill</p>	Project Manager	Main Roads
Fire	Construction	Ensure that the fire risk associated with the construction of the proposal is minimised	<p>A water tanker will be on site at all times</p> <p>No fires shall be lit within the project area</p>	Project Manager	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Area of management	Timing	Management objective	Management Strategy	Responsibility	Whose advice
Aboriginal Heritage	Construction	Ensure that there is no unauthorised disturbance to Aboriginal heritage sites during construction	<p>If any materials of significance to Aboriginal people are discovered, works will immediately cease within 100m of the material and the site will be examined by a qualified archaeologist</p> <p>The DIA will be notified in the event of any significant Aboriginal Heritage discovery</p> <p>If skeletal material is uncovered during works the WA Police Service will also be advised immediately</p>	Project Manager	DIA
Rehabilitation	Post-Construction	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	Project Manager	Main Roads

9. REFERENCES

Beard, J.S. (1979). Vegetation Survey of Western Australia: Kimberley. University of Western Australia Press, Perth.

Appendix A

Low Impact Screening Checklist

Checklist - Low Impact Environmental Screening

The Low Impact Environmental Screening Checklist is part of the environmental assessment and approval process, explained in Figure 2 and in the procedures. 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, ie that will have a low impact on the environment and that can be adequately managed through standard contract clauses.

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. Circle the relevant part of the item.

Project Name

ITEM NO.	ITEM	Y	N
1	New road or road reserve to be created or expansion of existing road reserve.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Works require ground disturbance or clearing of native vegetation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	New, or expansion of existing, pits or quarries. (non-commercial sources)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Adjoining sensitive land use. eg residential or hospital or education centre	<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	Within/immediately adjacent to surface/underground Public Drinking Water Source Area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Dewatering, or a new water bore.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Known potential source of hazardous materials within or adjoining the road reserve. e.g. Acid Sulphate Soils, existing petrol station, industrial site or waste disposal site (landfill)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Buildings will require demolition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Completed By:

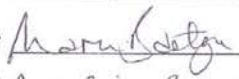
Signature 

Date 03-04-07

Name NEVILLE WALTERS

Title A/PM

To be reviewed by
a Main Roads
Environment Officer

Signature 

Date 3.4.07.

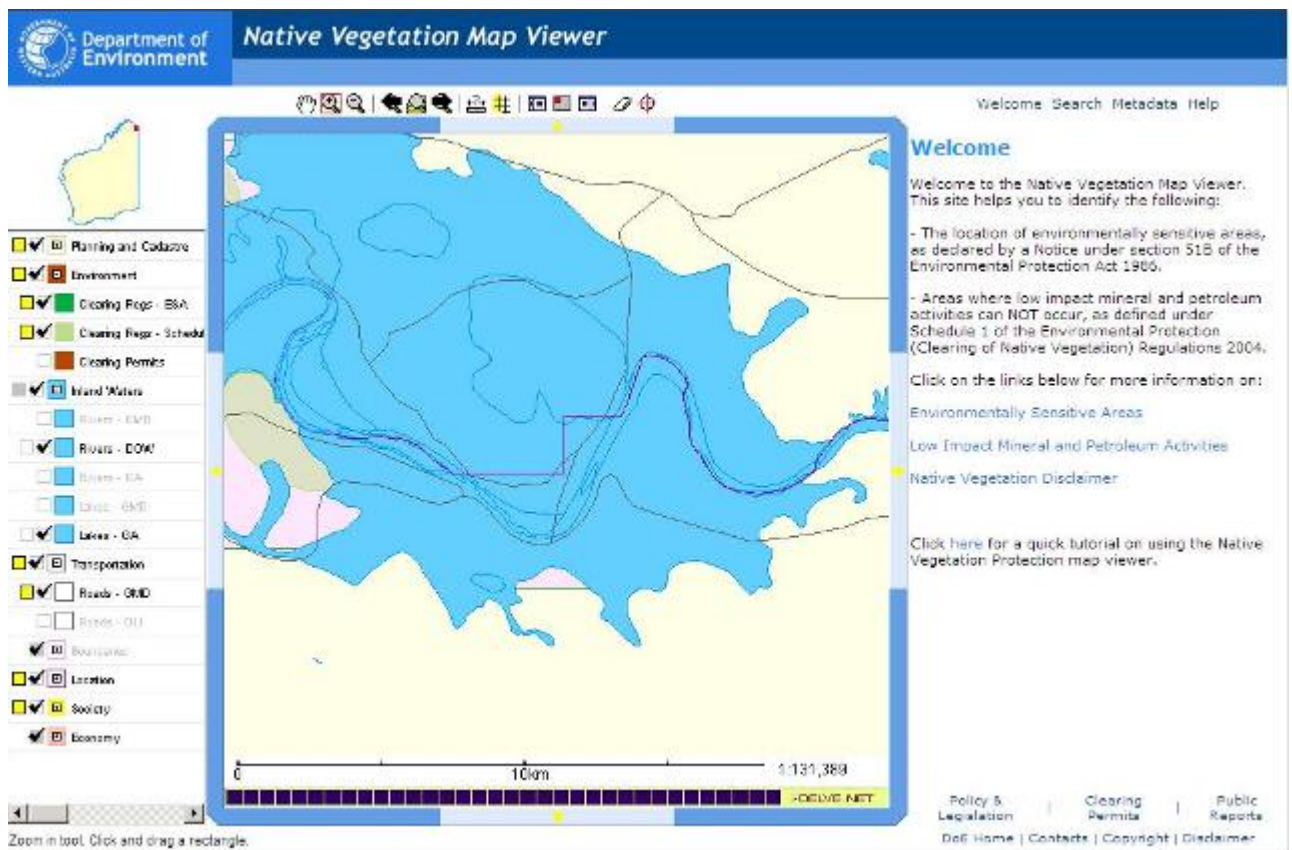
Name MARIA BAETGE

Title ENVIRONMENT OFFICER

Comments: _____

Appendix B

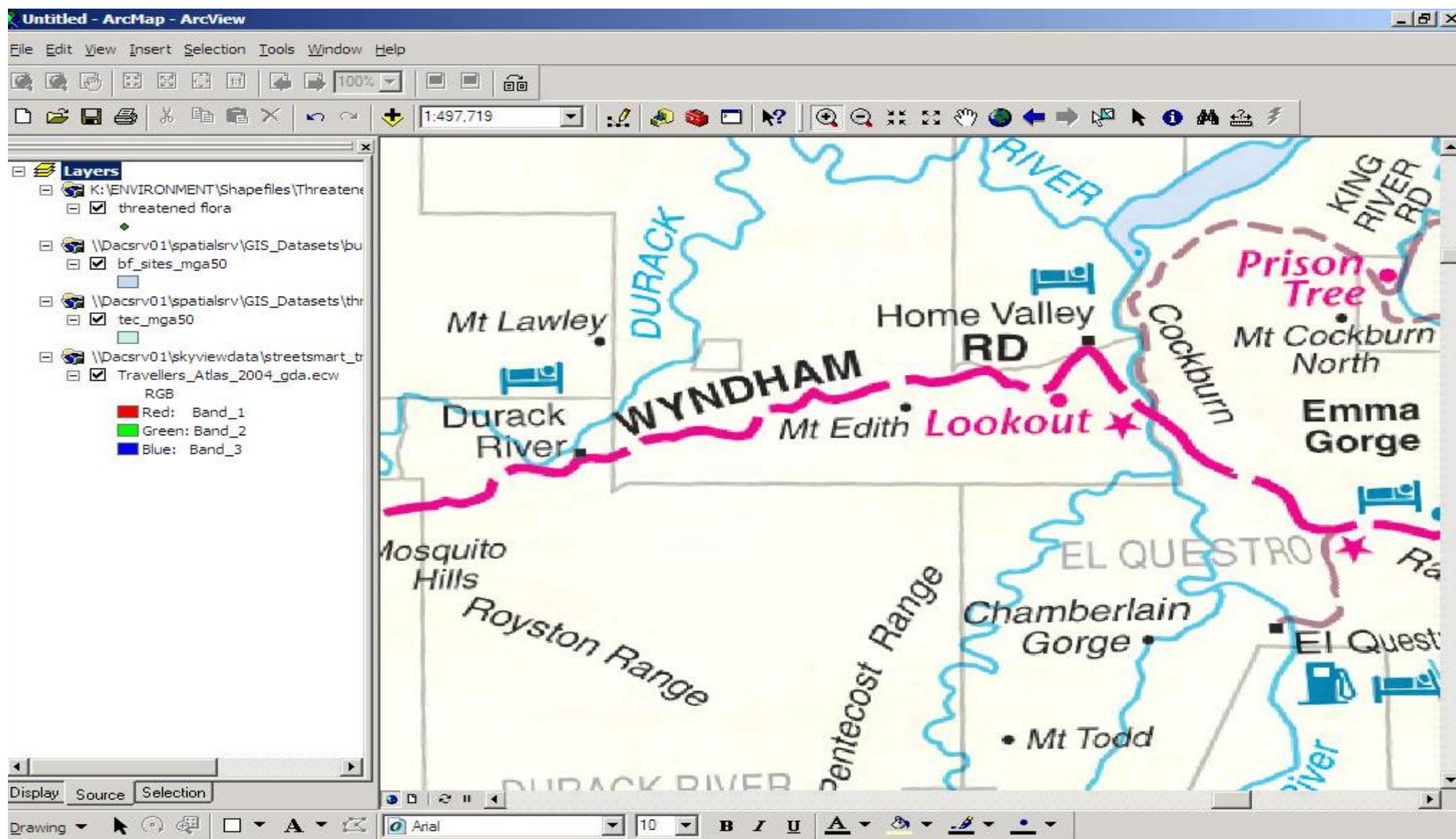
Wetlands and Watercourses within the Project Area



Results from DEC's Native Vegetation Map Viewer, March 2007

Appendix C

Department of Environment and Conservation Threatened Flora and Fauna Database Searches



Results from ArcView GIS – Threatened Ecological Communities, Declared Rare and Priority Flora

CORRESPONDENCE WITH DEC REGARDING THREATENED FLORA IN PROJECT AREA

Hi Marni

Please find attached the results for the threatened fauna database search for the 3 sections of Gibb River Rd (plus various search buffer widths).

Please contact me if you have any queries regarding the information supplied.

Thanks
Kellie

*Kellie Mantle
Species and Communities Branch
Department of Environment and Conservation
Phone (08) 93340579
Fax (08) 93340278*

From: BAETGE Marni (GEnv) [mailto:marni.baetge@mainroads.wa.gov.au]

Sent: Wednesday, 7 March 2007 1:59 PM

To: Mantle, Kellie

Subject: Threatened Fauna - Gibb River Road Upgrades

Kellie,

Main Roads Kimberley Region is proposing to upgrade three sections of the Gibb River Road. Upgrading of the road will enhance road user accessibility and provide significant improvement to traffic safety. The proposed works will involve:

- Widening of the existing Gibb River Road, west of the Bindoola Creek crossing (refer to Map 2);
- Pentecost Jump-up road realignment, west of Pentecost River (refer to Map 3); and,
- Road realignment and upgrade (refer to Map 4)

Please find attached one word document with 4 maps of the area. Map 1 is a broad location map of the three proposed works. Maps 2, 3 and 4 provide close up images of the three proposed works with north-east and south-west points.

Could you please determine if any threatened fauna exist within each of the three project areas and if so please name each species.

Thank you for your assistance.

Regards,

Marni Baetge
Environment Officer
MAIN ROADS Western Australia
Kimberley Region
Ph: (08) 9158 4318 Fax: (08) 9158 4334
marni.baetge@mainroads.wa.gov.au

Threatened and Priority Fauna Database

Page 1 of 1

Grid: 52 356909 mE 8258844 mN / 363389 mE 8254171 mN Bindoola Creek Crossing (~4km buffer)

* Date Certainty Seen Location Name Method

Schedule 1 - Fauna that is rare or is likely to become extinct

Erythrorhynchus radiatus Red Goshawk 1 records

A rare inhabitant of well-wooded country, this species nests in large trees and preys largely on birds but also on reptiles and mammals.

1

Priority Four: Taxa in need of monitoring

Malurus coronatus coronatus Purple-crowned Fairy-wren (western ssp) 1 records

This subspecies is found in riverine habitats but has become very rare in the Kimberley.

1983

1

Day sighting

* Information relating to any records provided for listed species:-

Date: date of recorded observation

Certainty (of correct species identification): 1=Very certain; 2=Moderately certain; and 3=Not sure.

Seen: Number of individuals observed.

Location Name: Name of reserve or nearest locality where observation was made

Method: Method or type of observation

Threatened and Priority Fauna Database

Page 1 of 1

Grid: 52 370518 mE 8255143 mN / 373573 mE 8258756 mN Pentecost Jump-up (plus~5km buffer)

* Date Certainty Seen Location Name Method

Priority Four: Taxa in need of monitoring

Malurus coronatus coronatus Purple-crowned Fairy-wren (western ssp) 1 records

This subspecies is found in riverine habitats but has become very rare in the Kimberley.

1983

1

Day sighting

* Information relating to any records provided for listed species:-

Date: date of recorded observation

Certainty (of correct species identification): 1=Very certain; 2=Moderately certain; and 3=Not sure.

Seen: Number of individuals observed.

Location Name: Name of reserve or nearest locality where observation was made

Method: Method or type of observation

Threatened and Priority Fauna Database

Page 1 of 1

Grid: 52 382627 mE 8243953 mN / 402760 mE 8233070 mN Minor works area (plus ~10km buffer)

* Date	Certainty	Seen	Location Name	Method
Priority One: Taxa with few, poorly known populations on threatened lands				
<i>Amplirhagada questroana</i>			<i>Amplirhagada questroana</i>	1 records
This species of land snail is known to occur on El Questro Station.				
1976	1	18	El Questro	
Priority Three: Taxa with several, poorly known populations, some on conservation lands				
<i>Prymbriareus nimerlinus</i>			<i>Prymbriareus nimerlinus</i>	1 records
This species of land snail is known to occur on El Questro Station.				
1984	1		El Questro	
Priority Four: Taxa in need of monitoring				
<i>Malurus coronatus coronatus</i>			Purple-crowned Fairy-wren (western ssp)	1 records
This subspecies is found in riverine habitats but has become very rare in the Kimberley.				
1901	1		El Questro	Day sighting

- * Information relating to any records provided for listed species:-
 Date: date of recorded observation
 Certainty (of correct species identification): 1=Very certain; 2=Moderately certain; and 3=Not sure.
 Seen: Number of individuals observed.
 Location Name: Name of reserve or nearest locality where observation was made
 Method: Method or type of observation

Appendix D

Australian Heritage Places Inventory, Heritage Council of Western Australia and the Municipal Heritage Inventory Database Searches

OTHER REGISTER INFORMATION:

WHAT IS THE STATE REGISTER? OTHER HERITAGE LISTS

The **State Register of Heritage Places** recognises a place's value and importance to Western Australia. The State Register includes buildings, structures, gardens, cemeteries, landscapes and archaeological sites and has more than 1,200 places on it. The State Register is managed by the Heritage Council and provides a place with statutory protection to ensure it is conserved into the future.

The entire **Places Database** includes places listed in the State Register as well as those included in a Local Government's Municipal Inventory, the Commonwealth's Register of the National Estate and the National Trust's List of Classified Places. There are more than 17,500 places on the Places Database.

To do a search simply enter the details of the place; select whether you want to search the State Register or the Entire Database; and click the 'Search' button below.

It is important to note that the entry of a place in the State Register of Heritage Places does not make the place available for public access.

If you need further advice on whether a property is heritage listed, please call the Heritage Council on 9221 4177.

SEARCH

HELP

Search In: ☐ State Register of Heritage Places ☒ Entire Database

Place No:

Name Contains:

Street:

Suburb/Town:

Local Govt:

Search logic:

SEARCH

HELP

HERITAGE COUNCIL OF WESTERN AUSTRALIA

[HERITAGE COUNCIL](#)[PLACES DATABASE](#)[HERITAGE TRAILS](#)[HELP](#) | [MEDIA](#) | [NEWS HIGHLIGHTS](#) | [LINKS](#) | [FAQS](#)
| [CONTACT US](#) | [SEARCH](#)[ABOUT](#) | [REGISTRATION](#) | [DEVELOPMENT](#) | [INSURANCE](#) | [ASSISTANCE](#) | [PUBLICATIONS](#) | [CASE STUDIES](#) | [EDUCATION](#) | [COMMUNITY](#) | [HERITAGE TOURISM](#)

PLACES DATABASE ACTIONS:

[QUICK SEARCH](#)
[ADVANCED SEARCH](#)
▶ [RESULTS LIST](#)
[LOCATION REPORT](#)
[SAVE DATA](#)

There are no Places matching your search criteria.

If you'd like to perform a new search, please select a new Places database search, from the menu on the left-hand side.

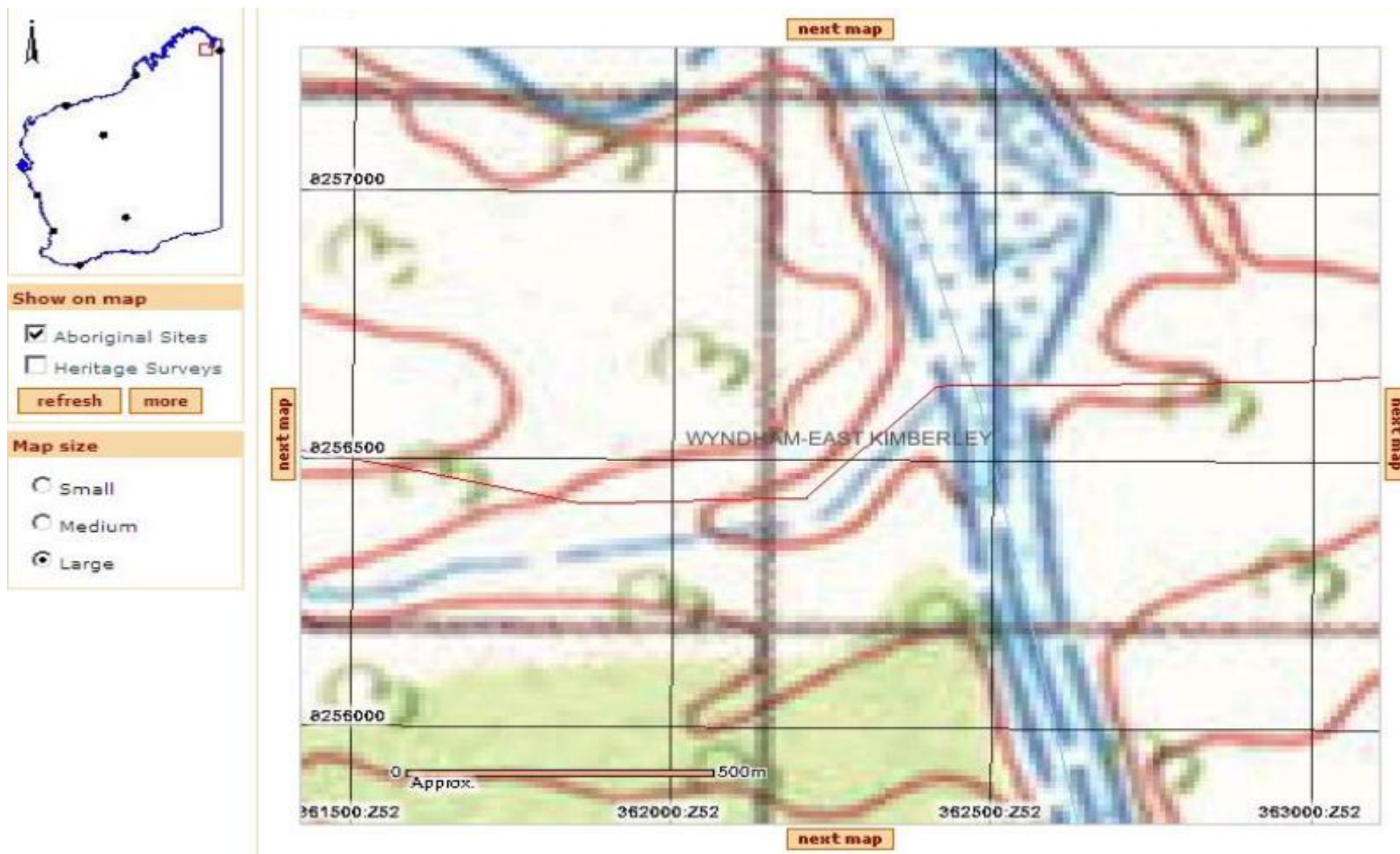
[▲ top of page](#) [\[disclaimer \]](#) © copyright 2007 heritage council of western australia

OTHER REGISTER INFORMATION:

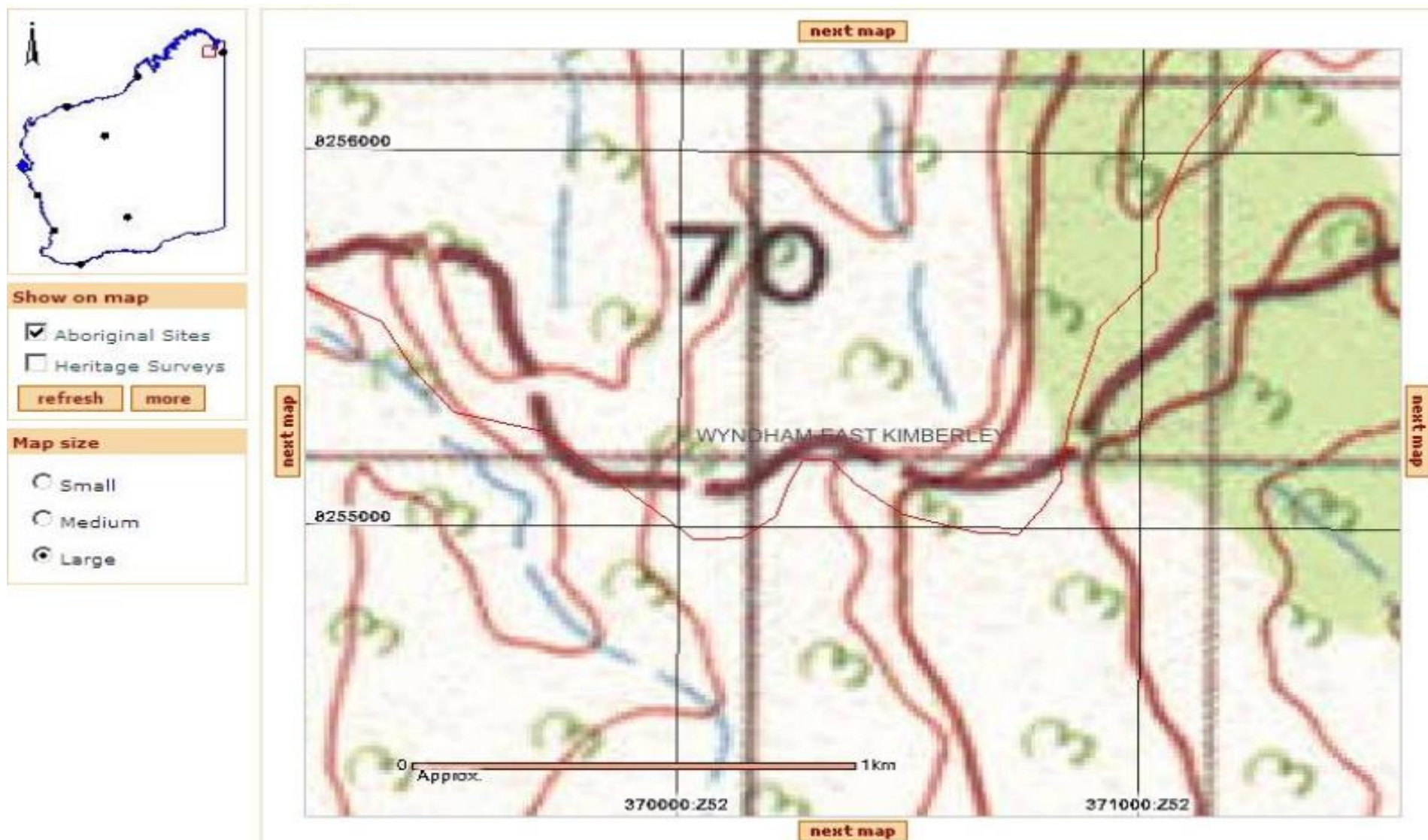
[WHAT IS THE STATE REGISTER?](#)
[OTHER HERITAGE LISTS](#)

Appendix E

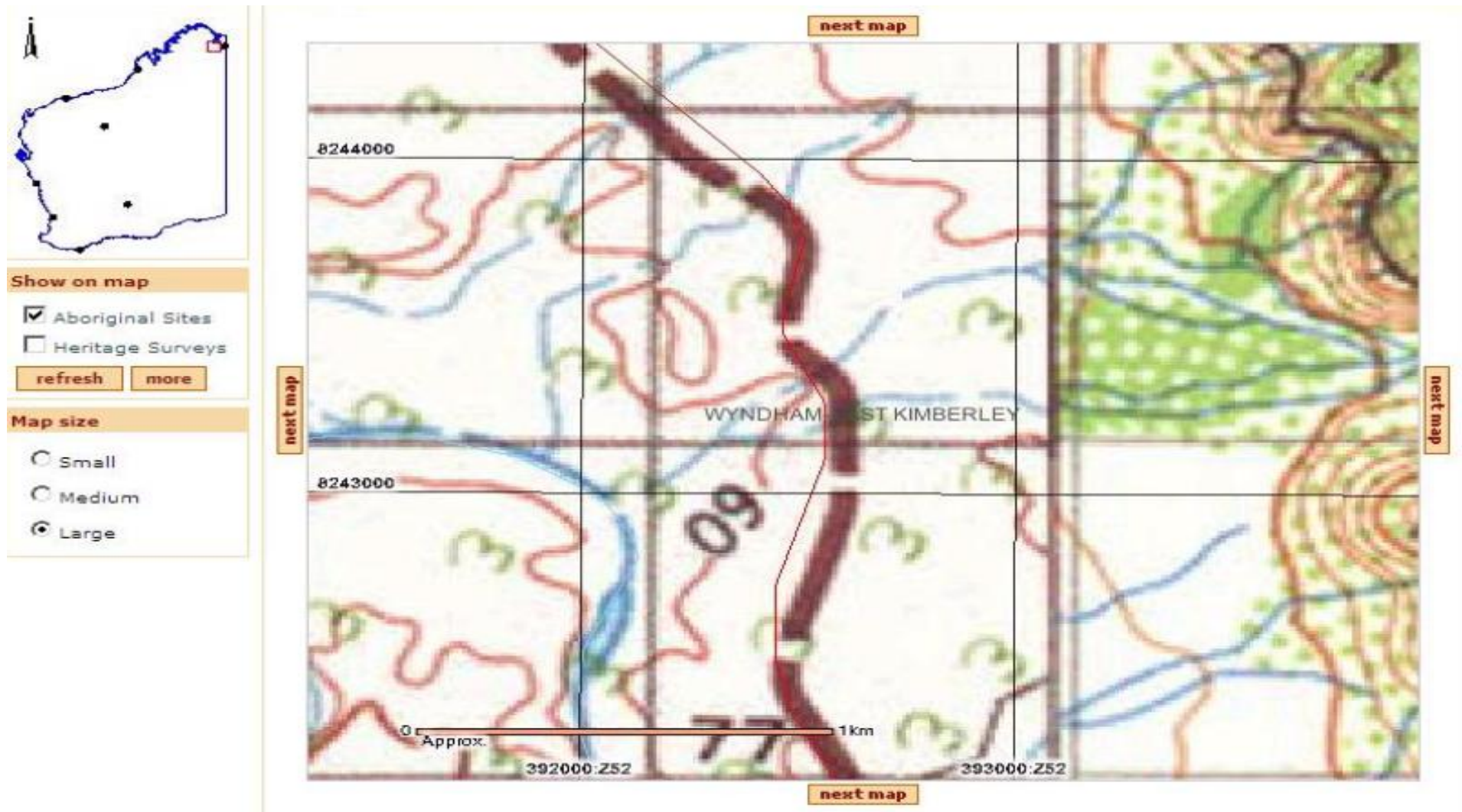
Department of Indigenous Affairs Database Search



Bindoola Creek crossing road widening (SLK 561.51 – 562.13)



Pentecost Jump-up road realignment (SLK 571.93 – 573.32)



Road realignment and upgrade works (SLK 606.23 – 606.90)

Appendix F

Department of Water Sensitive Water Resources Database Search

Enquiries: Marni Baetge on 9158 4318
Our Ref: 07/1087
Your Ref:

7 March 2007

Meghan Barnes
Natural Resource Management Officer
Department of Water
PO Box 625
Kununurra WA 6743

Dear Meghan,

SENSITIVE WATER RESOURCES – GIBB RIVER ROAD

Main Roads Kimberley Region is proposing to upgrade three sections of the Gibb River Road. Upgrading of the road will enhance road user accessibility and provide significant improvement to traffic safety. The proposed works will involve:

- Widening of the existing Gibb River Road, west of the Bindoola Creek crossing (refer to Map 2);
- Pentecost Jump-up road realignment, west of Pentecost River (refer to Map 3); and,
- Road realignment and upgrade (refer to Map 4)

Please find attached 4 maps of the area. Map 1 is a broad location map of the three proposed works. Maps 2, 3 and 4 provide close up images of the three proposed works with north-east and south-west points.

Could you please identify if any of the following sensitive water resources exist in the three project areas:

Public Drinking Water Source Areas;
Significant lakes, rivers or wetlands; and/or
Proclaimed areas

If you require further information do not hesitate to contact me on 9158 4318 or email me at marni.baetge@mainroads.wa.gov.au

Thank you for your assistance.

Yours sincerely,



Marni Baetge
ENVIRONMENT OFFICER

Enc.



Department of Water
Government of Western Australia

D07#45580 22

Your ref: 07/1087
Our ref: KN1173
Enquiries: Meghan Barnes
Phone: 9166 4112

Marni Baetge
Environment Officer
Main Roads Western Australia
RMB 959
Derby WA 6728



Dear Marni

RE: SENSITIVE WATER RESOURCES – GIBB RIVER ROAD

Thank you for referring the above works proposed by Main Roads Kimberley Region. The Department of Water has no objection to the proposed upgrades.

In response to your request to identify any sensitive water resources in the areas outlined on the maps you provided, no Public Drinking Water Source Areas or significant lakes, rivers or wetlands are identified within the three areas proposed for upgrade and widening.

However, it should be noted that the proposal is located within the Canning Kimberley Groundwater Area proclaimed under the Rights in Water and Irrigation Act, 1914. Therefore, if there is a requirement for groundwater, application should be made to the Department of Water for a licence. Licences, if granted, may contain conditions on the sustainable use of water.

Please call Meghan Barnes in the Kununurra Office on 9166 4112 if you require further information.

Yours sincerely

Dave Munday
Regional Manager
Department of Water
Kimberley Region

21 March 2007

CORRESPONDENCE	
<input type="checkbox"/>	Doc No <u>D07#45580</u>
<input type="checkbox"/>	File <u>07/1087</u>
<input type="checkbox"/>	Action _____
<input type="checkbox"/>	Action _____
<input type="checkbox"/>	Distribute to <u>Env Officer</u>
<input type="checkbox"/>	RO Action Complete _____

Kimberley Region
Lot 225 Bandicoot Drive Kununurra Western Australia 6743
PO Box 625 Kununurra Western Australia 6743
Telephone (08) 9166 4100 Facsimile (08) 9426 4818
www.water.wa.gov.au

20/04/2011

Appendix G

WAPC's Acid Sulfate Soils Mapping



ACID SULFATE SOILS

APPLICANT SELF - ASSESSMENT FORM

PLEASE COMPLETE THIS SELF-ASSESSMENT FORM AND ANSWER THE FOLLOWING:

STEP 1:

IS THERE EVIDENCE OF A SIGNIFICANT RISK OF DISTURBING ACID SULFATE SOILS AT THIS LOCATION?

Question 1:

Is the land depicted in Figures 1 - 10 of the Western Australian Planning Commission's Planning Bulletin No. 64: Acid Sulfate Soils as having a 'high risk of Actual Acid Sulfate Soil (AASS) & Potential Acid Sulfate Soil (PASS) < 3m from surface'?

Note: Planning Bulletin No. 64: Acid Sulfate Soils can be downloaded from:
<http://www.wapc.wa.gov.au/publications/policies/bulletins/PB64/64Nov03.html>



TICK BOX AS APPROPRIATE:

YES

☐

NO

☒

Question 2:

Is the land located in an area, whether depicted in Figures 1 - 10 or not, where site characteristics and local knowledge lead you to form the view that there is a significant risk of disturbing acid sulfate soils at this location?



TICK BOX AS APPROPRIATE:

YES

☐

NO

☒

If YES to either of these two questions go to Step 2.

If NO to both of these questions no further investigation is required.
Sign this form and submit it with your application.

STEP 4:

CARRY OUT DETAILED SITE ASSESSMENT IN ACCORDANCE WITH DEPARTMENT OF ENVIRONMENT GUIDELINES.

Question 7:

Did the Detailed Site Assessment reveal the presence of acid sulfate soils?

TICK BOX AS APPROPRIATE:

YES

☐

NO

☐

If YES to this question either modify the design of the proposal to ensure that there is no disturbance to acid sulfate soils at this location or, alternatively, prepare an Acid Sulfate Soil Management Plan to mitigate the potential adverse effects of acid sulfate soil disturbance. Sign this form and submit it with your application together with the written results of the Preliminary and Detailed Site Assessments and, if applicable, the completed Acid Sulfate Soil Management Plan.

If NO to this question then no further investigation is required. Sign this form and submit it with your application together with the written results of the Preliminary and Detailed Site Assessments.

APPLICANT SIGNATURE:

Full Name

Signature

Date

TICK BOX FOR ATTACHMENTS AS APPROPRIATE:

☐

Preliminary Site Assessment Results

☐

Detailed Site Assessment Results

☐

The Proposal Has Been Designed To Avoid Disturbance Of Acid Sulfate Soils At This Location

☐

Completed Acid Sulfate Soil Management Plan

Appendix H

Department of Agriculture and Food Advice on Declared Weeds

Hi Marni

Thanks for the plant images of your environmental survey for Gibb River Road Stage 1. No declared plants or serious environmental weeds seem to be present at the following 3 locations surveyed.

Bindoola Creek Crossing.

Pentecost Jump Up.

SLK 606

Regards

Mick Everett

Department of Agriculture

PO Box 278 DERBY WA 6728

Phone (08) 91910328

Mobile 0404904971

Fax (08)91910334

email meverett@agric.wa.gov.au

Appendix I

Department of Environment and Water Resources

DEWR DATABASE SEARCH – BINDOOLA CREEK CROSSING

EPBC Act Protected Matters Report

8 March 2007 16:22

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: -15.76435,127.71056, -15.76690,127.71056, -15.76690,127.71533, -15.7643,127.71533



Report Contents: [Summary](#)
[Details](#)

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

[Caveat](#)
[Acknowledgments](#)



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: None
(Ramsar Sites)

Commonwealth Marine Areas: None

Threatened Ecological Communities: None

[Threatened Species:](#) 4

[Migratory Species:](#) 9

Commonwealth Lands: None

Commonwealth Heritage Places: None

Places on the RNE: None

Listed Marine Species:	13
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Other Commonwealth Reserves:	None
Regional Forest Agreements:	None

Details

Matters of National Environmental Significance

Threatened Species [Dataset Information]	Status	Type of Presence
--	--------	------------------

Birds

Erythrotriorchis radiatus *	Vulnerable	Species or species habitat likely to occur within area
Red Goshawk		
Erythrura gouldiae *	Endangered	Species or species habitat may occur within area
Gouldian Finch		
Malurus coronatus coronatus *	Vulnerable	Species or species habitat likely to occur within area
Purple-crowned Fairy-wren (western)		

Sharks

Pristis microdon *	Vulnerable	Species or species habitat likely to occur within area
Freshwater Sawfish		

Migratory Species [Dataset Information]	Status	Type of Presence
---	--------	------------------

Migratory Terrestrial Species

Birds

Erythrura gouldiae	Migratory	Species or species habitat may occur within area
Gouldian Finch		
Haliaeetus leucogaster	Migratory	Species or species habitat likely to occur within area
White-bellied Sea-Eagle		
Hirundo rustica	Migratory	Species or species habitat may occur within area
Barn Swallow		
Merops ornatus	Migratory	Species or species habitat may occur within area
Rainbow Bee-eater		
Rhipidura rufifrons	Migratory	Species or species habitat may occur within area
Rufous Fantail		

Migratory Wetland Species

Birds

Charadrius veredus	Migratory	Species or species habitat may
------------------------------------	-----------	--------------------------------

Oriental Plover, Oriental Dotterel

occur within area

[*Glareola maldivarum*](#)

Migratory

Species or species habitat may occur within area

Oriental Pratincole

[*Numenius minutus*](#)

Migratory

Species or species habitat may occur within area

Little Curlew, Little Whimbrel

Migratory Marine Species

Reptiles

[*Crocodylus porosus*](#)

Migratory

Species or species habitat likely to occur within area

Estuarine Crocodile, Salt-water Crocodile

Other Matters Protected by the EPBC Act

Listed Marine Species [Dataset Information]	Status	Type of Presence
Birds		
<i>Anseranas semipalmata</i> Magpie Goose	Listed - overfly marine area	Species or species habitat may occur within area
<i>Apus pacificus</i> Fork-tailed Swift	Listed - overfly marine area	Species or species habitat may occur within area
<i>Ardea alba</i> Great Egret, White Egret	Listed - overfly marine area	Species or species habitat may occur within area
<i>Ardea ibis</i> Cattle Egret	Listed - overfly marine area	Species or species habitat may occur within area
<i>Charadrius veredus</i> Oriental Plover, Oriental Dotterel	Listed - overfly marine area	Species or species habitat may occur within area
<i>Glareola maldivarum</i> Oriental Pratincole	Listed - overfly marine area	Species or species habitat may occur within area
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle	Listed	Species or species habitat likely to occur within area
<i>Hirundo rustica</i> Barn Swallow	Listed - overfly marine area	Species or species habitat may occur within area
<i>Merops ornatus</i> Rainbow Bee-eater	Listed - overfly marine area	Species or species habitat may occur within area
<i>Numenius minutus</i>	Listed -	Species or species habitat may occur

Little Curlew, Little Whimbrel

overfly
marine
area

within area

[Rhipidura rufifrons](#)

Rufous Fantail

Listed -
overfly
marine
area

Species or species habitat may occur
within area

Reptiles

[Crocodylus johnstoni](#)

Freshwater Crocodile

Listed

Species or species habitat may occur
within area

[Crocodylus porosus](#)

Estuarine Crocodile, Salt-water Crocodile

Listed

Species or species habitat likely to
occur within area

DEWR DATABASE SEARCH – PENTECOST JUMP-UP

EPBC Act Protected Matters Report

8 March 2007 16:18

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.

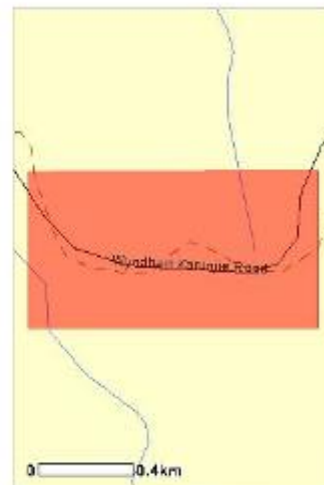
You may wish to print this report for reference before moving to other pages or websites.

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: -15.77565,127.78243, -15.78163,127.78243, -15.78163,127.79427, -15.7756,127.79427



Report Contents: [Summary](#)
[Details](#)
• [Matters of NES](#)
• [Other matters protected by the EPBC Act](#)
• [Extra Information](#)
[Caveat](#)
[Acknowledgments](#)



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)	None
Commonwealth Marine Areas:	None
Threatened Ecological Communities:	None
Threatened Species:	4
Migratory Species:	9

Other Matters Protected by the EPBC Act

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Places on the RNE:	None

Listed Marine Species:	13
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Other Commonwealth Reserves:	None
Regional Forest Agreements:	None

Matters of National Environmental Significance

Threatened Species [Dataset Information]	Status	Type of Presence
--	--------	------------------

Birds

Erythrotriorchis radiatus *	Vulnerable	Species or species habitat likely to occur within area
Red Goshawk		
Erythrura gouldiae *	Endangered	Species or species habitat may occur within area
Gouldian Finch		
Malurus coronatus coronatus *	Vulnerable	Species or species habitat likely to occur within area
Purple-crowned Fairy-wren (western)		

Sharks

Pristis microdon *	Vulnerable	Species or species habitat likely to occur within area
Freshwater Sawfish		

Migratory Species [Dataset Information]	Status	Type of Presence
---	--------	------------------

Migratory Terrestrial Species

Birds

Erythrura gouldiae	Migratory	Species or species habitat may occur within area
Gouldian Finch		
Haliaeetus leucogaster	Migratory	Species or species habitat likely to occur within area
White-bellied Sea-Eagle		
Hirundo rustica	Migratory	Species or species habitat may occur within area
Barn Swallow		
Merops ornatus	Migratory	Species or species habitat may occur within area
Rainbow Bee-eater		
Rhipidura rufifrons	Migratory	Species or species habitat may occur within area
Rufous Fantail		

Migratory Wetland Species

Birds

Charadrius veredus	Migratory	Species or species habitat may occur within area
Oriental Plover, Oriental Dotterel		
Glareola maldivarum	Migratory	Species or species habitat may

Oriental Pratincole		occur within area
<i>Numenius minutus</i>	Migratory	Species or species habitat may occur within area
Little Curlew, Little Whimbrel		
Migratory Marine Species		
Reptiles		
<i>Crocodylus porosus</i>	Migratory	Species or species habitat likely to occur within area
Estuarine Crocodile, Salt-water Crocodile		
Other Matters Protected by the EPBC Act		
Listed Marine Species [Dataset Information]	Status	Type of Presence
Birds		
<i>Anseranas semipalmata</i>	Listed - overfly marine area	Species or species habitat may occur within area
Magpie Goose		
<i>Apus pacificus</i>	Listed - overfly marine area	Species or species habitat may occur within area
Fork-tailed Swift		
<i>Ardea alba</i>	Listed - overfly marine area	Species or species habitat may occur within area
Great Egret, White Egret		
<i>Ardea ibis</i>	Listed - overfly marine area	Species or species habitat may occur within area
Cattle Egret		
<i>Charadrius veredus</i>	Listed - overfly marine area	Species or species habitat may occur within area
Oriental Plover, Oriental Dotterel		
<i>Glareola maldivarum</i>	Listed - overfly marine area	Species or species habitat may occur within area
Oriental Pratincole		
<i>Haliaeetus leucogaster</i>	Listed	Species or species habitat likely to occur within area
White-bellied Sea-Eagle		
<i>Hirundo rustica</i>	Listed - overfly marine area	Species or species habitat may occur within area
Barn Swallow		
<i>Merops ornatus</i>	Listed - overfly marine area	Species or species habitat may occur within area
Rainbow Bee-eater		
<i>Numenius minutus</i>	Listed - overfly marine area	Species or species habitat may occur within area
Little Curlew, Little Whimbrel		

[Rhipidura rufifrons](#)

Rufous Fantail

Listed -
overfly
marine
area

Species or species habitat may occur
within area

Reptiles

[Crocodylus johnstoni](#)

Freshwater Crocodile

Listed

Species or species habitat may occur
within area

[Crocodylus porosus](#)

Estuarine Crocodile, Salt-water Crocodile

Listed

Species or species habitat likely to
occur within area

DEWR DATABASE SEARCH – ROAD REALIGNMENT AND UPGRADE WORKS

EPBC Act Protected Matters Report

8 March 2007 16:07

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.

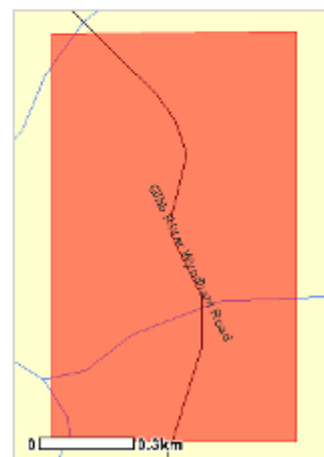
You may wish to print this report for reference before moving to other pages or websites.

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: -15.87929,127.99181, -15.89180,127.99181, -15.89180,127.99934, -15.8792,127.99934



Report Contents: [Summary](#)
[Details](#)
• [Matters of NES](#)
• [Other matters protected by the EPBC Act](#)
• [Extra Information](#)
[Caveat](#)
[Acknowledgments](#)



This map may contain data which are

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)	None
Commonwealth Marine Areas:	None
Threatened Ecological Communities:	None
<u>Threatened Species:</u>	5
<u>Migratory Species:</u>	11

Other Matters Protected by the EPBC Act

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Places on the RNE:	None
<u>Listed Marine Species:</u>	14
Whales and Other Cetaceans:	None

Critical Habitats: None

Commonwealth Reserves: None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves: None

Other Commonwealth Reserves: None

Regional Forest Agreements: None

Details

Matters of National Environmental Significance

Threatened Species [Dataset Information]	Status	Type of Presence
--	--------	------------------

Birds

Erythrotriorchis radiatus *	Vulnerable	Species or species habitat likely to occur within area
Red Goshawk		
Erythrura gouldiae *	Endangered	Species or species habitat may occur within area
Gouldian Finch		
Malurus coronatus coronatus *	Vulnerable	Species or species habitat likely to occur within area
Purple-crowned Fairy-wren (western)		
Rostratula australis *	Vulnerable	Species or species habitat may occur within area
Australian Painted Snipe		

Sharks

Pristis microdon *	Vulnerable	Species or species habitat likely to occur within area
Freshwater Sawfish		

Migratory Species [Dataset Information]	Status	Type of Presence
---	--------	------------------

Migratory Terrestrial Species

Birds

Coracina tenuirostris melvillensis	Migratory	Species or species habitat may occur within area
Melville Cicadabird		
Erythrura gouldiae	Migratory	Species or species habitat may occur within area
Gouldian Finch		
Haliaeetus leucogaster	Migratory	Species or species habitat likely to occur within area
White-bellied Sea-Eagle		
Hirundo rustica	Migratory	Species or species habitat may occur within area
Barn Swallow		
Merops ornatus	Migratory	Species or species habitat may occur within area
Rainbow Bee-eater		
Rhipidura rufifrons	Migratory	Species or species habitat may occur within area
Rufous Fantail		

Migratory Wetland Species

Birds

<i>Charadrius veredus</i> Oriental Plover, Oriental Dotterel	Migratory	Species or species habitat may occur within area
<i>Glareola maldivarum</i> Oriental Pratincole	Migratory	Species or species habitat may occur within area
<i>Numenius minutus</i> Little Curlew, Little Whimbrel	Migratory	Species or species habitat may occur within area
<i>Rostratula benghalensis s. lat.</i> Painted Snipe	Migratory	Species or species habitat may occur within area

Migratory Marine Species

Reptiles

<i>Crocodylus porosus</i> Estuarine Crocodile, Salt-water Crocodile	Migratory	Species or species habitat likely to occur within area
--	-----------	--

Other Matters Protected by the EPBC Act

Listed Marine Species [Dataset Information]	Status	Type of Presence
Birds		
<i>Anseranas semipalmata</i> Magpie Goose	Listed-overfly marine area	Species or species habitat may occur within area
<i>Apus pacificus</i> Fork-tailed Swift	Listed-overfly marine area	Species or species habitat may occur within area
<i>Ardea alba</i> Great Egret, White Egret	Listed-overfly marine area	Species or species habitat may occur within area
<i>Ardea ibis</i> Cattle Egret	Listed-overfly marine area	Species or species habitat may occur within area
<i>Charadrius veredus</i> Oriental Plover, Oriental Dotterel	Listed-overfly marine area	Species or species habitat may occur within area
<i>Glareola maldivarum</i> Oriental Pratincole	Listed-overfly marine area	Species or species habitat may occur within area
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle	Listed	Species or species habitat likely to occur within area
<i>Hirundo rustica</i> Barn Swallow	Listed-overfly	Species or species habitat may occur within area

	marine area	
<u>Merops ornatus</u> Rainbow Bee-eater	Listed-overfly marine area	Species or species habitat may occur within area
<u>Numenius minutus</u> Little Curlew, Little Whimbrel	Listed-overfly marine area	Species or species habitat may occur within area
<u>Rhipidura rufifrons</u> Rufous Fantail	Listed-overfly marine area	Species or species habitat may occur within area
<u>Rostratula benghalensis s. lat.</u> Painted Snipe	Listed-overfly marine area	Species or species habitat may occur within area
Reptiles		
<u>Crocodylus johnstoni</u> Freshwater Crocodile	Listed	Species or species habitat may occur within area
<u>Crocodylus porosus</u> Estuarine Crocodile, Salt-water Crocodile	Listed	Species or species habitat likely to occur within area