CLIENTS | PEOPLE | PERFORMANCE

Main Roads Western Australia

Fregon Pit 6

Preliminary Environmental Impact Assessment

May 2011

INFRASTRUCTURE | MINING & INDUSTRY | DEFENCE | PROPERTY & BUILDINGS | ENVIRONMENT

Contents

Table Index

Figure Index

Plate Index

Appendices

Executive Summary

Main Roads Western Australia (Main Roads) Great Southern Region has been requested by the Department of Premier and Cabinet to undertake significant improvement works to the roads within and adjoining the Fitzgerald River National Park. This proposal is to be undertaken in conjunction with the Department of Environment and Conservation and the Shire of Jerramungup.

The proposal, known as 'Point Ann Roads Stage 2' is the stage of the Bremer Bay to Point Ann Road upgrade that comprises of widening, improving geometry and sealing the existing unsealed road from the Start of the Fitzgerald River National Park boundary, located on Collets Road, to Point Ann at the end of Point Ann Road. The roadworks will be completed by Main Roads on behalf of the Department of Environment and Conservation. Main Roads will be directly managing these roadworks. This gravel pit will provide 90% of the gravel required for these works with the remainder sourced from within the National Park.

GHD was commissioned by Main Roads to undertake a PEIA for Fregon Pit 6 to be used for the upgrade works to assess the environmental impacts. The PEIA included an environmental risk assessment, identification of the environmental constraints and issues associated with the proposed works and determination of any environmental approvals required before works begin. The more significant outcomes of this PEIA are:

- No Declared Rare Flora species as listed by the DEC or species of national conservation significance listed under the EPBC Act were recorded within Fregon Pit 6.
- Vegetation within Fregon Pit 6 consisted mostly of *Eucaluypus buprestium/E. pleurocapra* Very Open Tree Mallee over *Lambertia inermis* Tall Open Shrubland, Mixed Open Heath, Mixed Open Low Heath and Mixed Very Open Sedgeland.
- The bushland condition of Fregon Pit 6 was considered to be Excellent (2). However, there were numerous small areas of vegetation that were found to have multiple plant deaths.
- There were no weeds found within Fregon Pit 6, during the February 2011 Survey.
- The project is unlikely to impact any protected fauna species.
- Noise and dust emissions will require management as per Environmental Protection Regulations (Government of Western Australia, 2004).
- There are no Threatened Ecological Communities (TECs) or Environmentally Sensitive Areas (ESAs) located within the pit area.
- No indigenous artefacts were found within the pit area.
- The proposal is not likely to be at variance with any of the "Ten Clearing Principles" for clearing native vegetation and clearing can therefore take place under Main Roads Statewide Purpose Clearing Permit CPS818/5.

1. Introduction

1.1 Background

Main Roads Western Australia (Main Roads) Great Southern Region has been requested by the Department of Premier and Cabinet to undertake significant improvement works to the roads within and adjoining the Fitzgerald River National Park. This proposal is to be undertaken in conjunction with the Department of Environment and Conservation (DEC) and the Shire of Jerramungup. The work forms part of an economic boost for the Shire of Ravensthorpe after the closure of the BHP Billiton Ravensthorpe Nickel Mine. The upgrade will provide improved access to the Fitzgerald River National Park for tourists and sealing the road will reduce the risk of spreading *Phytophthora* disease through the Park.

The proposal, known as 'Point Ann Roads Stage 2' is the stage of the Bremer Bay to Point Ann Road upgrade that comprises of widening, improving geometry and sealing the existing unsealed road from the Start of the Fitzgerald River National Park boundary, located on Collets Road, to Point Ann at the end of Point Ann Road. The roadworks will be completed by Main Roads on behalf of the Department of Environment and Conservation. Main Roads will be directly managing these roadworks. This gravel pit will provide 90% of the gravel required for these works with the remainder sourced from within the National Park.

GHD was commissioned by Main Roads to undertake a PEIA for the pits to be used for the upgrade works to assess any potential environmental impacts. The PEIA includes an environmental risk assessment, identification of the environmental constraints and issues associated with the proposed works and determination of any environmental approvals required before works begin.

1.2 Study Area

This report relates solely to Fregon Pit 6 which is located along the eastern side of Devils Creek Road north of the intersection of Collets Rd. The location of Fregon Pit 6 is shown in Figure 1. The proposed pit is approximately 28.61 ha in area.

1.3 Scope

The preparation of this PEIA included:

- A search of the Department of Environment and Conservation (DEC) *Threatened Flora Database's Declared Rare and Priority Flora List*;
- A search of the DEC *Threatened Ecological Communities* (TECs) database;
- A search of the DEC *Threatened Fauna* database;
- A search of the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) *Protected Matters* Search Tool;
- Assessment against the "Ten Clearing Principles";
- A review of the Department of Agriculture Western Australia's (DAFWA) *Natural Resource Management Information* Tool;
- An Aboriginal Heritage Survey of the site, including both an ethnographical and archaeological survey, and consultation with representatives of the local Aboriginal community;

- A site visit during January 2011 by an Ecologist, which included:
  - An assessment of vegetation type and condition as well as opportunistic flora observations.
  - Notes of any additional significant impacts.
- A site visit during January 2011 by a Zoologist, which included:
  - opportunistic fauna observations and fauna habitat assessment

This PEIA addresses the following aspects related to the proposed pit planning and development:

- Land use;
- Groundwater;
- Surface water (including wetlands);
- Public drinking water source areas;
- Environmentally Sensitive Areas;
- Acid sulfate soils;
- Contaminated sites;
- Vegetation and flora;
- Threatened Ecological Communities;
- Fauna;
- European Australian heritage;
- Indigenous heritage;
- Visual amenity; and
- Noise and dust.

The following aspects are not considered relevant to the operations of Fregon Pit 6:

- Air quality; and
- Salinity

2. Existing Environment

The following section describes the existing environment of Fregon Pit 6. Possible social and environmental constraints that may have some influence on the project, and recommendations are provided in Section 4.

2.1 Climate

Fregon Pit 6 is located in the Esperance Plains region of Western Australia. The nearest climate data to the pit area is the Ravensthorpe Meteorology weather station.

The Esperance Plains area has a warm Mediterranean climate with winter rains averaging 500 mm to 700 mm per annum and 5 - 6 dry months per annum. The area experiences a wide range of temperatures, as indicated by the mean annual maximum and minimum temperature range. During the three months prior to the field investigation 114 mm of rainfall was received in Ravensthorpe. The average long term rainfall for the corresponding three month period is 133 mm. The average monthly rainfall and temperature and monthly rainfall Ravensthorpe is shown in (Plate 1).

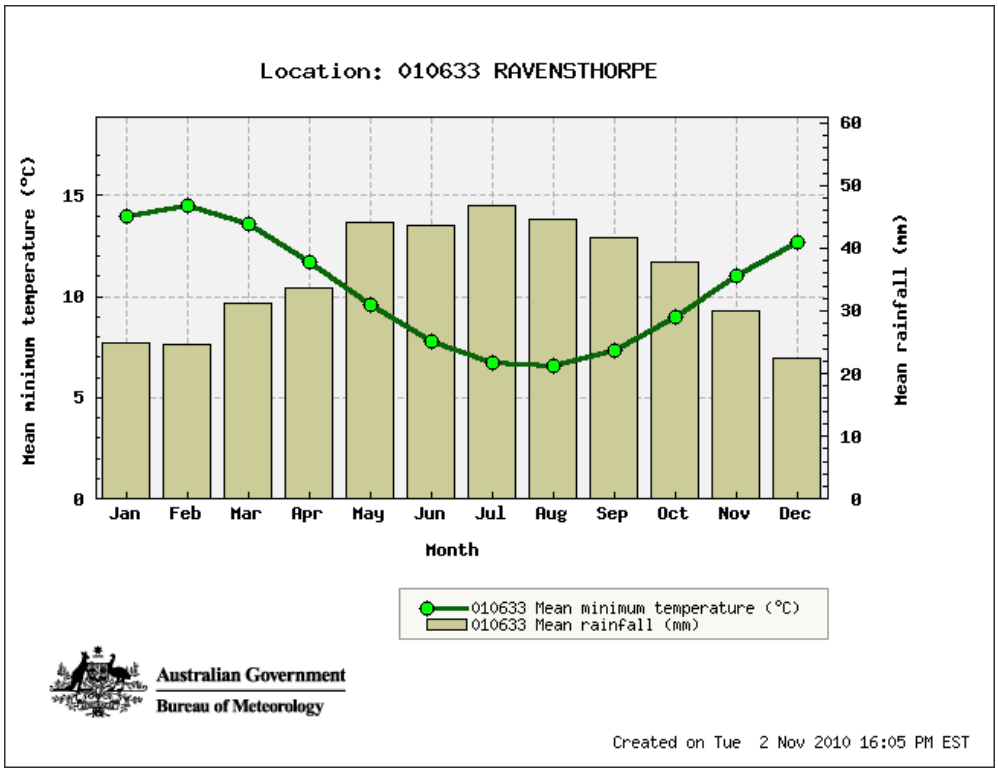


Plate 1 Average monthly rainfall and minimum temperatures for Ravensthorpe (Source: Australian Government, Bureau of Meteorology, 2010)

2.2 Topography and Geology

Fregon Pit 6 is located within the Yilgarn geological region. The Australian Soil Resource Information System (ASRIS, 2011) describes the landforms of this region as *'Sand plains; low hills and ridges; breakaways; salt lakes; dune fields'.*

The Department of Agriculture and Food, WA (DAFWA) NRM information tool describes the soil landscape as the Ravensthorpe zone. The Ravensthorpe zone is described as '*Rolling low hills on greenstone (mafic and ultramafic). Moderately dissected with south-flowing rivers. Red fine-textured soils*'. Soils in the area are texture contrast soils (DAFWA, 2011).

The topography of Fregon Pit 6 is approximately 105 m AHD in the south and increases to 125 m AHD in the north (Landgate, 2011).

2.3 Land Use

Fregon Pit 6 is located within a road reserve. The pit site is largely vegetated and the vegetation was recorded to be in excellent condition during the site visit in February 2011. The land use surrounding Fregon Pit 6 is agricultural and road reserve.

2.4 Hydrogeology and Hydrology

2.4.1 Groundwater

Fregon Pit 6 is not located within any groundwater areas that are protected under the *Rights in Water and Irrigation (RiWI) Act 1914* according to the Department of Water's (DoW's) Groundwater Proclamation Areas map (DoW, 2011).

2.4.2 Surface Water

The pit area is located in the Gordon Inlet - Gairdner River catchment (DAFWA, 2011). This area is not managed under the *RiWI Act 1914* according to the Department of Water (DoW, 2011).

Wetlands of International Significance are listed under the Ramsar Convention which is an International treaty that covers the conservation of internationally important wetlands. The EPBC Protected Matters Search Tool indicated that there are no Ramsar listed sites located within the pit area. There are no conservation category or resource enhancement wetlands, or any other wetlands located within Fregon Pit 6 (DAFWA, 2011).

2.5 Public Drinking Water Source Areas

The DoW Geographic Data Atlas identified no Public Drinking Water Source Areas (PDWSA) located within Fregon Pit 6 (DoW, 2011).

2.6 Environmentally Sensitive Areas

The DEC's online Native Vegetation Viewer was searched to determine the location of any Environmentally Sensitive Areas (ESAs) within the pit area. The search found that there were no ESAs located within Fregon Pit 6 (DEC, 2011b).

2.7 Acid Sulfate Soils

A review of the Australian Soil Resource Information System (ASRIS, 2011) indicates that the pit has an 'extremely *low risk of ASS occurring with very low confidence*' over the area.

2.8 Contaminated Sites

A search of the online DEC Contaminated Sites Database shows that Fregon Pit 6 does not have any registered contaminated sites. During the site visit no activities that are likely to result in contamination were observed (DEC, 2011a).

2.9 Vegetation and Flora

2.9.1 Vegetation – Regional Context

Fregon Pit 6 is situated within the Esperance Interim Biogeographic Regionalisation of Australia (IBRA) region, sub-region Fitzgerald. The Esperance bioregion is characterised by myrtaceous and proteaceous scrub and mallee heaths on sandplain, overlying Eocene sediments; rich in endemics.

Herbfields and heaths (rich in endemics) occur on abrupt granite tors and quartzite ranges that rise from the plain. Eucalypt woodlands occur in gullies and alluvial foot-slopes.

Vegetation within Western Australia has been surveyed, mapped and described by Beard (1979). The broad scale vegetation association of Fregon Pit 6 is described as Scrub – heath and mallee – heath on sandplain with tallerack (*Eucalyptus tetragona*) as characteristic species (Beard 1979).

2.9.2 Vegetation Extent and Status

A vegetation type is considered underrepresented if there is less than 30% of its original distribution remaining. From a purely biodiversity perspective, and not taking into account any other land degradation issues, there are several key criteria now being applied to vegetation (EPA 2000). These are detailed below:

- The "threshold level" below which species loss appears to accelerate exponentially at an ecosystem level is regarded as being at 30% of the pre-European / pre-1750 extent for the vegetation type;
- 10% of the pre-European / pre-1750 extent for the vegetation type is regarded as being a level representing *Endangered*; and
- Clearing which would put the threat level into the class below should be avoided.

Such status can be delineated into five (5) classes, where:

- *Presumed Extinct*: Probably no longer present in the bioregion
- *Endangered**: <10% of pre-European extent remains
- *Vulnerable**: 10-30% of pre-European extent exists
- *Depleted**: >30% and up to 50% of pre-European extent exists

Least Concern: >50% pre-European extent exists and subject to little or no degradation over a majority of this area.

* or a combination of depletion, loss of quality, current threats and rarity gives a comparable status

The native vegetation type represented in the survey area; its regional extent and reservation status are drawn from Shepherd, *et al*. (2002), and Shepherd pers. comm. (2005) (refer Table 1).

Table 1 Vegetation extent and status

Vegetation Association Number	Association Description	Pre-European Extent (ha)	Current Extent (ha) in Fitzgerald IBRA sub-region	% Remaining	% Current Extent in Conservation Reserves
47	Shrublands; tallerack mallee-heath	1033061	269230	35.6	48.4

The extent of Vegetation Association 47 is considered *Depleted*.

2.9.3 Vegetation and Condition

The vegetation of the Fregon Pit 6 is mostly represented by one vegetation type which is described as:

Vegetation type:

Eucaluypus buprestium/E. pleurocapra Very Open Tree Mallee over *Lambertia inermis* Tall Open Shrubland, Mixed Open Heath, Mixed Open Low Heath and Mixed Very Open Sedgeland.

The bushland condition of Fregon Pit 6 is considered to be Excellent (2). However, there were numerous small areas of vegetation with multiple plant deaths.

2.9.4 Flora Species

A total of 146 plant taxa (including subspecies and varieties) representing 27 families were recorded in the survey area (Appendix B). All of these are native species.

Dominant families recorded from Fregon Pit 6 include:

- Proteaceae 38 taxa,
- Fabaceae 20 taxa,
- Myrtaceae 19 taxa,
- Cyperaceae 15 taxa,
- Restionaceae 8 taxa, and
- Ericaceae 7 taxa,

2.9.5 Conservation Significant of Flora

No Declared Rare Flora species as listed by the DEC (2011) or species of national conservation significance listed under the EPBC Act were recorded within the pit area.

One P3 species *Stylidium clavatum* was found located in the study area. P3 species are poorly known taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but are in need of further survey.

2.9.6 Weeds

No weed species were found within the survey area during the February 2011 survey (Sandiford, 2011).

In order minimise the impact of clearing on this area, management strategies should be developed to control the spread of weed seed material or other propagules into, or from, adjacent areas.

2.9.7 Clearing

The vegetation of Fregon Pit 6 is regionally well represented and clearing for the pit development will not have a significant impact on this vegetation. Clearing impacts will be remediated in the longer term by rehabilitation and revegetation of the pit at the completion of materials extraction.

2.9.8 Plant Pathogens

Dieback mapping was undertaken by the DEC during 2011. This mapping provided to Main Roads by the DEC shows that Fregon Pit 6 is dieback free. However, hygiene management practices are recommended to prevent future risk of spreading the disease to the pit site.

2.10 Threatened Ecological Communities

No listed Threatened Ecological Communities (TECs) are present in this location (DAFWA 2011).

2.11 Fauna

2.11.1 Fauna Species

A total of ten birds were recorded during the February 2011 survey within Fregon Pit 6. There were also scats observed of one further bird and two mammals, one introduced and one native (Appendix B). This survey only provides a brief snapshot of those species present at the time of sampling (daytime), in one season, in one year. Not all potentially occurring species would be recorded during a single survey due to spatial and temporal variations in fauna population numbers. A summary of observed species is in Table 2.

A breakdown of the fauna species previously recorded in the surrounding area (within a 10 km search area) and during the survey event for Fregon Pit 6 is provided in Table 3 below.

Table 2 Summary of fauna species diversity at Fregon Pit 6

	Number of Fauna Species				
Results	**Mammals**	**Birds**	**Reptiles**	**Amphibians**	**Introduced**
January 2011 Survey	1 (scats only)	11	0	0	1 (scats only)
NatureMap (10km radius)	2	124	2	0	1
DEWHA (10 km radius)	4	9	0	0	0

2.11.2 Conservation Significant Fauna

Desktop assessments identified 16 conservation significant fauna species which have been previously recorded and/or may potentially occur in the vicinity (i.e. within 10 km search radius) of Fregon Pit 6. One of these conservation significant fauna species (Carnaby's Cockatoo) was observed within Fregon Pit 6 during the February 2011 survey event.

A brief description of the habitat preference and the likelihood of occurrence of conservation significant fauna species occurring in the pit area are examined in Table 3. However, some of these species once may have ranged throughout the area but may now be extinct or locally extinct. Other species may be nomadic or have large home ranges and only opportunistically or infrequently utilise the pit area.

Introduced Species

The scats of one feral species were recorded during the February 2011 survey; however, the following species may also occur in the study area:

- Foxes
- Rabbits
- Cats
- Kookaburras
- Feral bees

Habitat Assessment: The vegetation and habitat is in very good condition with a diverse range of mature species providing suitable habitat for vertebrate fauna.

Table 3 Conservation significant fauna identified by desktop assessment as occurring or potentially occurring near Fregon Pit 6

Species	Status	Habitat Requirements	Likelihood of Occurrence	Source
Birds				
Australian Bustard (*Ardeotis australis*)	Priority 4 (DEC)	The Bustard ranges over much of Australia and utilises habitats such as grasslands, Spinifex and arid scrub with bluebush and saltbush. Also open woodland of mulga, mallee and heath (Morcombe, 2004).	**Possible** Habitat present. Although species is not common in the area.	*NatureMap*
Bush-stone Curlew (*Burhinus grallarius*)	Priority 4 (DEC)	The Bush Stone Curlew is found in a variety of habitats, including: open woodland; dry watercourses with fallen branches and leaf litter; and, sand plains with Spinifex and mallee.	**Unlikely** Suitable habitat is not present.	*NatureMap*
Baudin's Cockatoo (*Calyptorhynchus baudinii*)	Endangered (WC) Vulnerable (EPBC)	Baudin's Cockatoo, also known as the Long-billed Black-Cockatoo, is found in the south-west of Western Australia in the forest and woodlands of Jarrah (*Eucalyptus marginata)*, Karri *(E. diversicolor)* and Marri *(Corymbia calophylla).* The primary food source of this cockatoo is the seeds of the Marri (Garnett and Crowley, 2000). This species has been impacted by the removal of large Marri throughout its range as this tree is its principal food source.	**Unlikely** Cockatoo species may occasionally fly through the survey area. No feeding habitat was observed within the survey areas and there are no breeding opportunities. Impacts from clearing would be minimal.	*NatureMap*
Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*)	Endangered (WC) Endangered (EPBC)	Carnaby's Black Cockatoo, listed as Endangered under the EPBC Act and Endangered under the WC Act, is distributed across the south-west of Western Australia in uncleared or remnant areas of Eucalyptus Woodland and Shrubland or kwongan heath. Breeding usually occurs in the Wheatbelt region of Western Australia, with flocks moving to the higher rainfall coastal areas to forage after the breeding season. These Cockatoos feed on the seeds of a variety of native plants, including Allocasuarina, Banksia, Eucalyptus, Grevillea and Hakea, and some introduced plants. They will also feed on the nectar from flowers of a number of species, and on insect larvae.	**Unlikely** Cockatoo species may occasionally fly through the survey area. Potential feeding habitat was observed within the survey areas. However, the available feeding habitat is a considerable distance from any potential breeding or nesting opportunities. Impacts from clearing would be minimal.	EPBC Search *NatureMap*

Species	Status	Habitat Requirements	Likelihood of Occurrence	Source
Cattle Egret (*Ardea ibis*)	Migratory wetlands / marine (EPBC)	The Cattle Egret is found over most of Australia except it is excluded from the central deserts and much of the semi arid areas of Western Australia. The preferred habitat is shallow open wetlands and margins, moist pastures of tall grass and mudflats (Morcombe, 2004).	**Unlikely** Suitable habitat is not present.	EPBC Search
Great Egret (*Ardea alba*)	Migratory wetlands / marine (EPBC)	The Great Egret is found over most of Australia except it is excluded from the central deserts of Western Australia. The preferred habitat is wetlands, flooded plains of crops, pasture, dams and roadside ditches, estuarine mudflats, mangrove and reef (Morcombe, 2004).	**Unlikely** Suitable habitat is not present.	EPBC Search
Fork-tailed Swift (*Apus pacificus*)	Migratory marine (EPBC)	The Fork-tailed Swift is a summer migrant that can be found over most of Australia. This species prefers high airspace over most habitat types and rarely utilizes land surface. (Morcombe, 2004).	**Likely** This species is an aerial spp. therefore habitat is not necessary for the species to be present.	EPBC Search
Malleefowl (*Leipoa ocellata*)	Threatened (WC) Vulnerable (EPBC) Migratory terrestrial (EPBC)	On the south coast of Western Australia, the Malleefowl generally occurs in semi-arid and arid habitats between the Nullarbor and Albany. Habitat consists of shrublands and low woodlands that are dominated by mallee vegetation (Pizzey *et al*. 2007).	**Unlikely** Habitat present but largely degraded.	EPBC Search *NatureMap*
Rainbow Bee-eater (*Merops ornatus*)	Migratory terrestrial (EPBC)	The Rainbow bee-eater ranges over much of Australia with southern populations migrating to northern regions. The bee-eater prefers woodlands, open forest, semi-arid scrub, grasslands, farmland and clearings in dense forest areas (Morcombe, 2004).	**Likely** Habitat present; Most suitable on plains.	EPBC Search
Western Bristlebird (*Dasyomis longirostris*)	Vulnerable (WC) Vulnerable (EPBC)	The Western Bristlebird is found in a variety of heathland habitats including: dense, low closed coastal heaths; open heaths with dense stands of eucalypt thickets; and also tall swampy heaths (Pizzey *et al*. 2007).	**Possible** Habitat present.	EPBC Search

Species	Status	Habitat Requirements	Likelihood of Occurrence	Source
Western Ground Parrot (*Pezoporus wallicus flaviventris*)	Critically Endangered (WC) Endangered (EPBC) Migratory terrestrial (EPBC)	The Western Ground Parrot is very rare but has been previously recorded in low heath with open mallee vegetation communities and around swamps in the Fitzgerald River National Park.	**Unlikely** Suitable habitat is not present.	EPBC Search
White-bellied Sea-Eagle (*Haliaeetus leucogaster*)	Migratory terrestrial (EPBC)	The White-bellied Sea-Eagle is usually found in coastal habitats and/or areas that are characterised by the presence of large areas of open water (larger rivers, swamps, lakes, the sea). Birds have been recorded in (or flying over) a variety of terrestrial habitats (Marchant & Higgins 1993).	**Unlikely** This species may occasionally fly through the survey area. However, habitat is not suitable for nesting as there are no adjacent large waterbodies.	EPBC Search *NatureMap*
Mammals				
Chuditch (*Dasyurus geoffroii*)	Vulnerable (WC) Vulnerable (EPBC)	The Chuditch currently occurs in sclerophyll forests and heath and mallee shrublands of the southwest region of Western Australia, and the southern Wheatbelt. The Chuditch occurs at low densities, even in quality habitats of coastal areas.	**Unlikely** This habitat is not suitable for the long-term survival of the Chuditch.	EPBC Search
Dibbler (*Parantechinus apicalis*)	Endangered (WC) Endangered (EPBC)	Dibblers usually prefer dense long unburnt (i.e. >10 years) vegetation with a thick litter layer and sandy soils. They typically occur in heath and mallee vegetation communities along the South Coastal areas of Western Australia.	**Possible** Habitat present.	EPBC Search
Red-tailed Phascogale (*Phascogale calura*)	Endangered (WC) Endangered (EPBC)	The Red-tailed Phascogale prefers vegetation that has remained unburnt for at least 20 years. Habitat typically consists of *Allocasuarina* woodlands with hollow-containing eucalypts (e.g. *Eucalyptus wandoo*) and *Gastrolobium spp*. (Maxwell *et al*. 1996).	**Unlikely** Suitable habitat is not present.	EPBC Search

Species	Status	Habitat Requirements	Likelihood of Occurrence	Source
Western Brush Wallaby (*Marcopus irma*)	Priority 4 (DEC)	The Western Brush Wallaby occurs throughout South Western Australia and is found in some areas of mallee and heath, however, is more commonly observed in open forests and woodlands with grassy areas and scrubby thickets (Cronin 2008).	**Likely** Not observed within Fregon Pit 6, however, was observed in other similar nearby (within 20km) survey areas.	*NatureMap*

2.11.3 Conclusion

No specific habitats were evident within Fregon Pit 6 that were not present in the local area. Therefore clearing of vegetation is unlikely to significantly impact on native fauna. Although the area is demonstrated to provide habitat for Cockatoos, it is not critical habitat for them (Chapman, 2011).

2.12 Heritage and Social Issues

2.12.1 European Australian Heritage

No European heritage sites within Fregon Pit 6 were identified under the Commonwealth register. A search of the Heritage Council of Western Australia (HCWA) did not identify any heritage sites within the pit area (HCWA, 2011).

2.12.2 Indigenous Heritage

Archaeological surveys of the pit site were carried out by David Guilfoyle, Grahame Miniter and Errol Williams in February 2011. These surveys included a site visit. No sites were located within Fregon Pit 6 but one isolated quartz artefact was located in a sandy track bordering the gravel extraction pit (Guilfoyle, 2011). No ethnographic issues were raised with the site (Goode, 2011).

2.13 Visual Amenity

Fregon Pit 6 is located adjacent to Devils Creek Road which is a local, unsealed road, thus the works which will be conducted will be clearly visible to any passing road users. However, this impact will not be permanent and the pit area will be revegetated at the end of the project resulting in no change to the visual amenity in the longer term.

2.14 Noise and Dust

There are residential and commercial properties located within approximately 1.5 km of Fregon Pit 6. These properties are unlikely to be impacted during construction and operation due to the distance between the properties and the pit. Works must comply with the *Environmental Protection Noise Regulations (1997)*.

As the works will be conducted close to Devils Creek Road, there may be an impact from dust on passing traffic as excessive dust generation could limit the visibility for passing motorists. Dust creation should be addressed by compliance with the Pit Management Plan prepared for the extraction site.

3. Assessment against the Ten Clearing Principles

The clearing of any native vegetation is regulated by the DEC and requires a permit under Part V of the *Environmental Protection Act (1998).* Main Roads has been issued with a Statewide Clearing Permit (CPS 818/5) which provides for clearing for roadworks to occur under certain conditions and prescribes specific management and offset requirements.

CPS 818/5 requires an assessment to clear native vegetation for roadworks against the "Ten Clearing Principles". The clearing required for this project has been assessed against the "Ten Clearing Principles", as can be seen in Table 4, and it is concluded that the project clearing is not likely to be at variance.

A map showing the area of vegetation to be cleared at Fregon Pit 6 and also the vegetation type and condition is included in Figure 2.

Table 4 Assessment Against the Ten Clearing Principles

Principle Number	Principle	Assessment	Outcome
(a)	Native vegetation should not be cleared if it comprises a high level of biological diversity.	The study area is not considered to be of higher biodiversity than the surrounding area, and the proposed clearing is unlikely to have any significant impact on the biodiversity of the region.	The proposal is unlikely to be at variance with the principle.
(b)	Native vegetation should not be cleared if it comprises the whole, or part of, or is necessary for the maintenance of a significant habitat for fauna indigenous to Western Australia.	No specific habitats are evident that were not present in the local area.	The proposal is not at variance with the principle.
(c)	Native vegetation should not be cleared if it includes, or is necessary for the continued existence of rare flora.	No Declared Rare Flora species were recorded within Fregon Pit 6.	The proposal is not at variance with the principle
(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.	No TECs were identified within the pit area.	The proposal is not at variance with the principle.
(e)	Native vegetation should not be cleared if it is significant as a remnant	The vegetation within Fregon Pit 6 is mapped as Beard vegetation association 47. This association	The proposal is not at variance with the principle.

Principle Number	Principle	Assessment	Outcome
	vegetation in an area that has been extensively cleared.	has 35.6% of the pre-European extent remaining and is considered depleted. However 48.4% of the remaining extent is in conservation reserved and is therefore considered to be well reserved.	
(f)	Native vegetation should not be cleared if it is growing in or in association with a watercourse or wetland.	There are no watercourses or wetlands within the pit area.	The proposal is not at variance with the principle.
(g)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	The proposed clearing area is to be rehabilitated after completion of the project. As a result no appreciable land degradation will occur in the long term.	The proposal is not at variance with the principle.
(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.	Clearing of Fregon Pit 6 is not likely to have an impact on the environmental values of the adjacent area due to the large size of the conservation area surrounding the Pit.	The proposal is unlikely to be at variance with the principle.
(i)	Native vegetation should not be cleared if the clearing is likely to cause deterioration in the quality of the surface or underground water.	The clearing of native vegetation is not considered likely to alter the quality of surface or ground waters within the pit area.	The proposal is not at variance with the principle.
(j)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the intensity of flooding.	The clearing of vegetation is unlikely to cause or exacerbate flooding due to the small area of the site.	The proposal is not at variance with the principle.

4. *Environmental Protection and Biodiversity Conservation Act 1999*

On June 22nd 2009, the Department of Environment and Conservation referred the 'Road Upgrades and walk trail development in the Fitzgerald National Park to the then Department of Environment, Water Heritage and the Arts (DEWHA) (now known as the Department of Sustainability, Water, Environment, Population and Communities, (DSWEPC), for assessment of potential impact on matters of National Environmental Significance. The project, in its entirety, that is the road upgrade and associated works such as gravel sources, covering a project area of 421 hectares. The referral noted that 80% of the proposed footprint for the project would be located on existing roads, tracks and sites.

The then DEWHA responded on 17th July, 2009 with a decision that the project was - "*not a controlled action if undertaken in a particular manner*". Ten measures for managing potential impact were listed in the decision.

In September 2010, the DEC prepared a Compliance Document detailing the actions undertaken to both ensure compliance as well as the commitments for ongoing compliance as the project progresses.

Appendix C includes the initial referral prepared by DEC, the referral decision and the 2010 Compliance document.

5. Conclusion and Recommendations

The aim of this PEIA was to identify possible social and environmental constraints that may have some influence on the project as well as the environmental approvals that will be required before Fregon Pit 6 can be constructed. Notwithstanding any further EPA or Environmental Agency advice, GHD is of the view that provided the management measures herein are employed, the impacts of the development and operation of Fregon Pit 6 will be limited to the pit area.

5.1 Recommendations

The following discussion and accompanying recommendations are presented to manage the social and environmental impacts in constructing and operating Fregon Pit 6 adjacent to Devils Creek Road at Bremer Bay. These are also summarised in Table 5.

5.1.1 Environmental Protection Authority

It is GHD's opinion that this project does not require referral to the EPA for further assessment. This is due to the expected insignificance of impact of the proposed works on native vegetation, protected flora and protected fauna. Should the scope and extent of the works be changed, Main Roads should review this recommendation.

5.1.2 Waterways

The proposed Fregon Pit 6 will not have any impact on waterways or wetlands.

5.1.3 Acid Sulfate Soils

The risk of ASS being present in the study area is extremely low. As a result it is assumed there is no need for specific ASS management.

5.1.4 Weed Management

The field investigations identified no weeds within Fregon Pit 6.

Vehicle hygiene practices to be implemented to minimise the potential spread of weeds to or from the site.

5.1.5 Fauna

Schedule any vegetation clearing in late summer/autumn to minimise the risk of disturbing nesting birds.

All state native fauna are protected under the Western Australian *Wildlife Conservation Act 1950*, therefore any native fauna disturbed by site clearing should not be handled and be allowed to make its own way to adjacent vegetated areas. Should any fauna be injured, DEC should be contacted for advice.

5.1.6 Dieback management

A dieback survey has been undertaken for the site and the area has been found to be dieback free. These data are valid for three years and must be rechecked if any work is to occur after one year of this survey.

Vehicle hygiene practices to be implemented to minimise the potential spread of dieback to the site.

5.1.7 Indigenous Heritage

No artefacts were found at Fregon Pit 6. However, if material likely to be of interest to the Aboriginal community is uncovered during construction works they should immediately cease works within 50 m of the material and the DIA advised of the findings.

If skeletal material is uncovered during works then the WA Police Service is to be advised immediately.

5.1.8 Noise and Dust

Pit operation should be managed to comply with the *Environmental Protection (Noise) Regulations 1997.* The risk created by dust generation and its possible impact on traffic on Devils Creek Road should be managed, it is therefore recommended that dust management be incorporated into pit operations to minimise dust generation.

5.1.9 Clearing of Native Vegetation

An assessment against the “Ten Clearing Principles” found that the proposal is not likely to be at variance with any of the principles. It is therefore recommended that clearing is undertaken in accordance with Clearing Permit CPS 818/5 granted to the Commissioner of Main Roads under section 51E of the *Environmental Protection Act 1986.*

Table 5 PEIA Recommendations

Constraint	Risk	Recommendation
EPA Referral	Risk of environmental harm is minimal and manageable by compliance with a Pit Management Plan	Project does not require referral to EPA. Decision to be reviewed if existing proposal is altered.
Waterways	No wetlands or significant waterways are present within the pit area	No action is required.
Acid Sulfate Soils	Extremely low risk of ASS	No action is required.
Weed Management	Spread of weeds	Vehicle hygiene practices to be implemented to minimise the potential spread of weeds.
Fauna	Potential	Site clearing to occur during summer/autumn period to minimise impact on nesting birds.
Dieback Management	Site is Dieback free	Vehicle hygiene practices to be implemented to minimise the potential spread of dieback to the site.
Indigenous Heritage	No Indigenous artefacts were identified within the pit area	No action is required.
Visual amenity	Reduced visual amenity	Revegetation plan.
Noise and dust	Construction will generate noise and dust emissions	Noise complies with *Environmental Protection (Noise) Regulations 1997.* Dust management will be incorporated into pit operations.
Clearing of Native Vegetation	The proposal is not likely to be at variance with any of the “Ten Clearing Principles”	Clearing can be undertaken in accordance with Clearing Permit CPS 818/5.

6. Limitations

This report presents the results of desktop data searches and site reconnaissance surveys. The site assessments were opportunistic. Complete biological assessments may take several seasons to complete and different times of the day. The conclusions of this report were based on the information gathered during these investigations and thus reflect the environment of the study area at the time of survey. GHD accepts no responsibility for any variation in the flora and fauna present at the site due to natural and seasonal variability.

The data and advice provided herein relate only to the study area described herein and must be reviewed by a competent scientist before being used for any other purpose. GHD accepts no responsibility for other use of the data or edits made to the report or any of its contents (as submitted) to the client without prior agreement with GHD.

Where reports, searches, any third party information and similar work have been performed and recorded by others the data is included and used in the form provided by others. The responsibility for the accuracy of such data remains with the issuing authority, not with GHD.

7. Consultation

7.1 Database Searches

A number of database search requests were completed over the pit area by the DEC to gain information necessary to complete the PEIA. The results of these are noted within this report. The agencies contacted and the information provided / discussed included the following:

- DEC-Declared Rare and Priority Flora database search;
- DEC-WA Herbarium Specimens database search;
- DEC-Threatened and Priority Fauna database search;
- DEC-TEC database search;
- DEC-Contaminated sites database search;
- DoW-Public drinking water source search;
- A search of the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) Protected Matters Search Tool; and
- A relevant literature and database review.

8. References

ASRIS. (2011). Australian Soil Resource Information System, [Online], available from http://spatial.agric.wa.gov.au/slip/, accessed January 2011.

Chapman, A (2011) Fauna habitats of washdown site on Murray Road and Gravel Pit #. Unpublished Report, Prepared on behalf of Main Roads Albany.

Department of Agriculture and Food. WA (2011). NRM Info. Online], available from: http://spatial.aric.wa.gov.au/slip. Accessed January 2011.

Department of Environment and Conservation (2011a). Contaminated Sites database. [Online], available from: https://secure.dec.wa.gov.au/idelve/css/, accessed January 2011.

Department of Environment and Conservation (2011b). Native Vegetation Map Viewer. . [Online], available from: http://maps.dec.wa.gov.au/idelve/nv/index.jsp, accessed , January 2011.

Department of Environment and Conservation (2011c). Floristic survey for a proposed gravel quarry on Swamp Rd. Unpublished Report. Prepared by Damien Rathbone

Department of Environment, Water, Heritage and the Arts (2011) *EPBC Protected Matters Search tool* [Online] available from: http://www.environment.gov.au/erin/ert/epbc/, accessed January 2011

Department of Water (2011). Geographic Data Atlas [Online], available from http://www.water.wa.gov.au/idelve/dowdataext/index.jsp, accessed January 2011

GHD (2010). Flora and Fauna Survey Report – Fitzgerald River National Park Road Upgrade. Unpublished Report. Prepared on Behalf of Main Roads Albany. October 2010.

Goode, B (2010) AN ETHNOGRAPHIC ABORIGINAL HERITAGE SURVEY OF ROAD AND RECREATION FACILITY UGRADES AT POINT ANN IN THE FITZGERALD RIVER NATIONAL PARK,WESTERN AUSTRALIA. Unpublished Report. Prepared on Behalf of Main Roads Albany.

Government of Western Australia (2004). Environmental Protection Regulations. State Law Publisher. Perth, Western Australia.

Guilfoyle, D. (2011). Report of an Archaeological Assessment of Road and Recreation Facility Upgrades, at Point Ann in the Fitzgerald River National Park, Western Australia. Unpublished Report. Prepared on Behalf of Main Roads Albany.

Landgate (2011). Landgate Map Viewer, [Online], available from http://www.landgate.wa.gov.au/. Accessed January 2011.

Sandiford, E.M. (2011). Flora and Vegetation Survey of proposed “Fregon”gravel pit on Devils Creek Rd. Unpublished Report. Prepared on Behalf of Main Roads Albany.

Shepherd, D.P., Beeston, G.R., and A.J.M. Hopkins (2002). Native Vegetation in Western Australia – Extent, Type and Status. Resource Management Technical Report 249, Department of Agriculture, Western Australia.

Shepherd, D.P. (2005) Personal Communication. Information updated from above reference, and available in database form.

Figures

1:75,000 (at A3)

0 375 750 1,500 2,250 3,000 3,750

Meters

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 50

N

LEGEND

- Road
- Fregon Gravel Pit
- Point Ann Roads Stage 2
- DEC Estate

CLIENTS | PEOPLE | PERFORMANCE

mainroads WESTERN AUSTRALIA

powered by SLIP ENABLER

Main Roads WA - ETS
Fitzgerald River National Park
– Permits and Approvals

Job Number	61-26658
Revision	1
Date	26 May 2011

Locality Map

Figure 1

G:\61\26658\GIS\Maps\MXD\61_26658_G003_Rev1.mxd

Data source: GHD: Point Ann Roads Stage 2 - 20110525 , Fregon Gravel Pit - 20111130; DEC: DEC Estate - 201011Main Roads: Roads - 20110525, Landgate: Bremer and Extents Feb 2008, Hood Point Mosaic Feb 2008, Roads - 20110120 created by: cagilbert

239 Adelaide Terrace Perth WA 6004 Australia T 61 8 6222 8222 F 61 8 6222 8555 E permail@ghd.com.au W www.ghd.com.au

711,000 711,500 712,000

6,215,500 6,215,000 6,214,500

DEVILS CREEK RD

Fregon Pit 6

Locality Map

STUDY AREA

BREMER BAY

POINT HENRY

LEGEND

Roads

Cadastral Boundary

Fregon Gravel Pit - *Cleared Area: 28.61 ha*

Vegetation Type

Eucaluypus buprestium/E. pleurocapra Very OpenTree Mallee over *Lambertia inermis*Tall Open Shrubland,Mixed Open Heath, Mixed Open Low Heath and Mixed Very Open Sedgeland

Bushland Condition: 2 - Excellent

1:5,000 (at A3)

0 25 50 100 150 200 250

Metres

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1994, Zone 50

N

CLIENTS | PEOPLE | PERFORMANCE

Main Roads WA - ETS
Fitzgerald River National Park
– Permits and Approvals

Fregon Pit 6
Proposed Clearing Area

Job Number 61-26658
Revision 0
Date 19 May 2011

Figure 2

G:\61\26658\GIS\Maps\MXD\6126658_G002_Fig2_Rev0.mxd

239 Adelaide Terrace Perth WA 6004 Australia T 61 8 6222 8222 F 61 8 6222 8555 E permail@ghd.com.au W www.ghd.com.au

Data Source: GHD: Landgate: Bremer and Extents 2729 2728 Feb 2008; MRWA: Roads - 20110112. GHD: Swamp Road Upgrade, Shire Pit 5a - 20110114. Commonwealth of Australia: NatMap Geodata Topo 250K Series3_GA - 2006. Created by: jhchen, tgoad, tgoad

Appendix A

Flora and Fauna Glossary

Conservation Categories and Definitions for *EPBC Act* Listed Flora and Fauna Species

Conservation Category	Definition
Extinct	Taxa not definitely located in the wild during the past 50 years
Extinct in the Wild	Taxa known to survive only in captivity
Critically Endangered	Taxa facing an extremely high risk of extinction in the wild in the immediate future
Endangered	Taxa facing a very high risk of extinction in the wild in the near future
Vulnerable	Taxa facing a high risk of extinction in the wild in the medium-term
Near Threatened	Taxa that risk becoming Vulnerable in the wild
Conservation Dependent	Taxa whose survival depends upon ongoing conservation measures. Without these measures, a conservation dependent taxon would be classified as Vulnerable or more severely threatened.
Data Deficient (Insufficiently Known)	Taxa suspected of being Rare, Vulnerable or Endangered, but whose true status cannot be determined without more information.
Least Concern	Taxa that are not considered Threatened

Conservation Codes and Descriptions for DEC Declared Rare and Priority Flora Species

Conservation Code	Description
R: Declared Rare Flora – Extant Taxa	Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such.
P1: Priority One – Poorly Known Taxa	Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P2: Priority Two – Poorly Known Taxa	Taxa which are known from one or a few (generally<5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P3: Priority Three – Poorly Known Taxa	Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but are in need of further survey.
P4: Priority Four – Taxa in need of monitoring	Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5 – 10 years.

Bush Forever (Government of WA, 2000) Vegetation Condition Rating Scale

Vegetation Condition Rating	Vegetation Condition	Description
1	*Pristine or Nearly So.*	No obvious signs of disturbance.
2	*Excellent*	Vegetation structure intact, disturbance affecting individual species, and weeds are non-aggressive species.
3	*Very Good*	Vegetation structure altered, obvious signs of disturbance.
4	*Good*	Vegetation structure significantly altered by very obvious signs of multiple disturbances retains basic vegetation structure or ability to regenerate it.
5	*Degraded*	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not in a state approaching good condition without intensive management.
6	*Completely Degraded*	The structure of the vegetation is no longer intact and the area is completely or almost without native species.

EPBC Act Fauna Conservation Categories

Listed threatened species and ecological communities

An action will require approval from the Environment Minister if the action has, will have, or is likely to have a significant impact on a species listed in any of the following categories:

- extinct in the wild,
- critically endangered,
- endangered, or
- vulnerable.

Critically endangered and endangered species

An action has, will have, or is likely to have a significant impact on a critically endangered or endangered species if it does, will, or is likely to:

- lead to a long-term decrease in the size of a population, or
- reduce the area of occupancy of the species, or
- fragment an existing population into two or more populations, or
- adversely affect habitat critical to the survival of a species, or
- disrupt the breeding cycle of a population, or
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or
- result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat*, or
- interfere with the recovery of the species.

**Introducing an invasive species into the habitat may result in that species becoming established. An invasive species may harm a critically endangered or endangered species by direct competition, modification of habitat, or predation.*

Vulnerable species

An action has, will have, or is likely to have a significant impact on a vulnerable species if it does, will, or is likely to:

- lead to a long-term decrease in the size of an important population of a species, or
- reduce the area of occupancy of an important population, or
- fragment an existing important population into two or more populations, or
- adversely affect habitat critical to the survival of a species, or
- disrupt the breeding cycle of an important population, or
- modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or
- result in invasive species that are harmful a vulnerable species becoming established in the vulnerable species' habitat*, or

- interferes substantially with the recovery of the species.

An important population is one that is necessary for a species' long-term survival and recovery. This may include populations that are:

- key source populations either for breeding or dispersal,
- populations that are necessary for maintaining genetic diversity, and/or
- populations that are near the limit of the species range.

*Introducing an invasive species into the habitat may result in that species becoming established. An invasive species may harm a vulnerable species by direct competition, modification of habitat, or predation.

Listed migratory species

An action will require approval from the Environment Minister if the action has, will have, or is likely to have a significant impact on a listed migratory species. Note that some migratory species are also listed as threatened species. The criteria below are relevant to migratory species that are not threatened.

An action has, will have, or is likely to have a significant impact on a migratory species if it does, will, or is likely to:

- substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat of the migratory species, or
- result in invasive species that is harmful to the migratory species becoming established* in an area of important habitat of the migratory species, or
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of the species.

An area of important habitat is:

- habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species, or
- habitat utilised by a migratory species which is at the limit of the species range, or
- habitat within an area where the species is declining.

Listed migratory species cover a broad range of species with different life cycles and population sizes. Therefore, what is an ecologically significant proportion of the population varies with the species (each circumstance will need to be evaluated).

*Introducing an invasive species into the habitat may result in that species becoming established. An invasive species may harm a migratory species by direct competition, modification of habitat, or predation.

The Commonwealth marine environment

An action will require approval from the Environment Minister if:

- the action is taken in a Commonwealth marine area and the action has, will have, or is likely to have a significant effect on the environment, or

- the action is taken outside a Commonwealth marine area and the action has, will have, or is likely to have a significant effect on the environment in a Commonwealth marine area.

An action has, will have or is likely to have a significant impact on the environment in a Commonwealth marine area if it does, will, or is likely to:

- result in a known or potential pest species becoming established in the Commonwealth marine area*, or
- modify, destroy, fragment, isolate or disturb an important or substantial area of habitat such that an adverse impact on marine ecosystem functioning or integrity in a Commonwealth marine area results, or
- have a substantial adverse effect on a population of a marine species or cetacean including its life cycle (eg breeding, feeding, migration behaviour, and life expectancy) and spatial distribution, or
- result in a substantial change in air quality** or water quality (including temperature) which may adversely impact on biodiversity, ecological integrity, social amenity or human health, or
- result in persistent organic chemicals, heavy metals, or other potentially harmful chemicals accumulating in the marine environment such that biodiversity, ecological integrity, social amenity or human health may be adversely affected.

*Translocating or introducing a pest species may result in that species becoming established.

**The Commonwealth marine area includes any airspace over Commonwealth waters.

Western Australian Threatened Fauna Categories

Category	Code	Description
Schedule 1	S1	Fauna which is rare or likely to become extinct.
Schedule 2	S2	Fauna which is presumed extinct.
Schedule 3	S3	Birds which are subject to an agreement between the governments of Australia and Japan (JAMBA) relating to the protection of migratory birds and birds in danger of extinction.
Schedule 4	S4	Fauna that is otherwise in need of special protection.

DEC Priority Fauna Codes

Conservation Code	Description
Priority 1	Taxa with few, poorly known populations on threatened lands.
Priority 2	Taxa with few, poorly known populations on conservation lands. Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown Land, water reserves, etc.
Priority 3	Taxa which are known from few specimens or sight records, some of which are on lands not under immediate threat of habitat destruction or degradation.
Priority 4	Rare taxa. Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5 – 10 years.
Priority 5	Taxa in need of monitoring. Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

(Species not listed under the *Wildlife Conservation Act 1950*, but for which there is some concern).

Appendix B

Site Visit Observations

Flora List

Fauna List

Fregon Pit 6 Observed Fauna List February 2011

Scientific Name	**Common Name**
Birds	
Calyptorhynchus latirostris	Carnaby's Cockatoo
Acanthiza chrysorrhoa	Yellow-rumped Thornbill
Zosterops lateralis	Silvereye
Phylidonyris novaehollandiae	New Holland Honeyeater
Phylidonyris melanops	Tawny-crowned Honeyeater
Cracticus torquatus	Grey Butcherbird
Anthochaera carunculata	Red Wattlebird
Phaps elegans	Brush Bronzewing
Purpureicephalus spurius	Red-capped Parrot
Neophema elegans	Elegant Parrot
Dromaius novaehollandiae	Emu (scats only)
Mammals	
Macropus fuliginosus	Western Grey Kangaroo (scats only)
Leporidae	Rabbit (scats only)

Flora Observed within the Fregon Pit 6 Study Area during February 2011 Survey

Anarthriaceae
Anarthria gracilis
Anarthria laevis
Anarthria prolifera
Anarthria scabra
Lyginia imberbis

Apiaceae
Platysace effusa
Xanthosia singuliflora

Asparagaceae
Laxmannia brachyphylla
Lomandra hastilis

Campanulaceae
Lobelia rarifolia

Casuarinaceae
Allocasuarina humilis
Allocasuarina microstachya
Allocasuarina thuyoides

Cyperaceae
Caustis dioica
Cyathochaeta avenacea
Lepidosperma aff. *densiflora*
Lepidosperma carphoides
Lepidosperma striatum
Lepidsoperma sp.1
Lepidsoperma sp.2
Mesomelaena stygia subsp. *stygia*
Mesomelaena tetragona
Schoenus caespititius
Schoenus curvifolius
Schoenus obtusifolius
Schoenus subbarbatus
Schoenus sublateralis
Tricostularia neesii var. *elatior*

Dasypogonaceae
Baxteria australis
Dasypogon bromeliifolius

Dilleniaceae
Hibbertia acerosa
Hibbertia gracilipes
Hibbertia mucronata

Ericaceae
Astroloma baxteri
Astroloma prostratum
Astroloma tectum
Leucopogon corynocarpus
Leucopogon gibbosus
Lysinema pentapetalum
Oligarrhena micrantha

Fabaceae
Acacia chrysella
Acacia chrysocephala
Acacia moirii subsp. moirii
Acacia varia var. parviflora
Chorizema uncinatum
Daviesia abnormis
Daviesia emarginata
Daviesia incrassata subsp. *reversifolia*
Daviesia teretifolia
Dillwynia divaricata
Eutaxia major
Gastrolobium punctatum
Gompholobium knightianum
Gompholobium marginatum
Gompholobium scabrum
Gompholobium venustum
Hovea trisperma
Jacksonia grevilleoides
Jacksonia racemosa
Kennedia coccinea subsp. *esotera*

Goodeniaceae
Dampiera juncea
Goodenia coerulea
Lechenaultia tubiflora

Haemodoraceae
Anigozanthos rufus
Conostylis vaginata
Haemodorum spicatum

Iridaceae
Patersonia lanata
Patersonia limbata

Lamiaceae
Microcorys barbata

Lauraceae
Cassytha flava
Cassytha glabella
Cassytha racemosa

Malvaceae
Lasiopetalum quinquenervium

Myrtaceae
Baeckea preissiana
Beaufortia micrantha var. *micrantha*
Calothamnus gracilis
Calothamnus sanguineus
Calothamnus villosus
Calytrix asperula
Conothamnus aureus
Darwinia sp. Ravensthorpe (G.J. Keighery 8030)
Darwinia vestita
Eucalyptus buprestium
Eucalyptus decipiens
Eucalyptus pleurocarpa
Eucalyptus tetraptera
Leptospermum spinescens
Melaleuca striata
Melaleuca subtrigona
Melaleuca tuberculata
Taxandria spathulata
Verticordia densiflora var. *cespitosa*

Appendix C

Environmental Protection and Biodiversity Conservation Act 1999

Document 2009/4958

Australian Government

Department of the Environment, Water, Heritage and the Arts

Referral of proposed action

What is a referral?

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) provides for the protection of the environment, especially matters of national environmental significance (NES). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the matters of NES without approval from the Australian Government Environment Minister. To obtain approval from the Environment Minister, a proposed action should be referred. The purpose of a referral is to obtain a decision on whether your proposed action will need formal assessment and approval under the EPBC Act.

Your referral will be the principal basis for the Minister's decision as to whether approval is necessary and, if so, the type of assessment that will be taken. These decisions are made within 20 business days, provided that sufficient information is provided in the referral.

Who can make a referral?

Referrals may be made by a person proposing to take an action, the Commonwealth or a Commonwealth agency, a state or territory government, or agency, provided that the relevant government or agency has administrative responsibilities relating to the action.

When do I need to make a referral?

A referral must be made for actions that are likely to have a significant impact on the following matters protected by Part 3 of the EPBC Act:

World Heritage properties (sections 12 and 15A)

National Heritage places (sections 15B and 15C)

Wetlands of international importance (sections 16 and 17B)

Listed threatened species and communities (sections 18 and 18A)

Listed migratory species (sections 20 and 20A)

Protection of the environment from nuclear actions (sections 21 and 22A)

Commonwealth marine environment (sections 23 and 24A)

The environment, if the action involves Commonwealth land (sections 26 and 27A), including:

- actions that are likely to have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land);
- actions taken on Commonwealth land that may have a significant impact on the environment generally;

The environment, if the action is taken by the Commonwealth (section 28)

Commonwealth Heritage places outside the Australian jurisdiction (sections 27B and 27C)

You may still make a referral if you believe your action is not going to have a significant impact, or if you are unsure. This will provide a greater level of certainty that Commonwealth assessment requirements have been met.

To help you decide whether or not your proposed action requires approval (and therefore, if you should make a referral), the following guidance is available from the Department's web site:

the Policy Statement titled Significant Impact Guidelines 1.1 – Matters of National Environmental Significance. Additional sectoral guidelines are also available.

the Policy Statement titled Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies.

the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location).

Can I refer part of a larger action?

In certain circumstances, the Minister may not accept a referral for an action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act). If you wish to make a referral for a staged or component referral, read 'Fact Sheet 6 Staged Developments/Split Referrals' and contact the Referral Business Entry Point (1800 803 772).

Do I need a permit?

Some activities may also require a permit under other sections of the EPBC Act. Information is available on the Department's web site.

What information do I need to provide?

Schedule 2 of the EPBC Regulations sets out the information that must be included in a referral. Completing all parts of this form will ensure that you submit the required information and will also assist the Department to process your referral efficiently.

You can complete your referral by entering your information into this Word file.

Instructions

Instructions are provided in green text throughout the form.

Attachments/supporting information

The referral form should contain sufficient information to provide an adequate basis for a decision on the likely impacts of the proposed action. You should also provide supporting documentation, such as environmental reports or surveys, as attachments.

Coloured maps, figures or photographs to help explain the project and its location should also be submitted with your referral. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents. Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

Please ensure any attachments are below two megabytes (2mb) as they will be published on the Department's website for public comment (Note: the Minister may decide not to publish information that is commercial-in-confidence). To minimise file size, enclose maps and figures as separate files if necessary. If unsure, contact the Referral Business Entry Point for advice. Attachments larger than two megabytes (2mb) may delay processing of your referral.

How do I submit a referral?

Referrals may be submitted by mail, fax or email.

Mail to:

Referral Business Entry Point
Environment Assessment Branch
Department of the Environment, Water, Heritage and the Arts
GPO Box 787
CANBERRA ACT 2601

- If submitting via mail, electronic copies of documentation (on CD/DVD or by email) are appreciated.

Fax to: 02 6274 1789

Faxed documents must be of sufficiently clear quality to be scanned into electronic format.

Address the fax to the mailing address, and clearly mark it as a 'Referral under the EPBC Act'.

Follow up with a mailed hardcopy including copies of any attachments or supporting reports.

Email to: epbc.referrals@environment.gov.au

Clearly mark the email as a 'Referral under the EPBC Act'.

Attach the referral as a Microsoft Word file and, if possible, a PDF file.

Follow up with a mailed hardcopy including copies of any attachments or supporting reports.

What happens next?

Following receipt of a valid referral (containing all required information) you will be advised of the next steps in the process, and the referral and attachments will be published on the Department's web site for public comment (**Note: the Minister may decide not to publish information that is commercial-in-confidence**).

The Department will write to you at the end of 20 business days to advise you of the outcome of your referral and whether or not formal assessment and approval under the EPBC Act is required. There are a number of possible decisions regarding your referral, including:

The proposed action is NOT LIKELY to have a significant impact and does NOT NEED approval

No further consideration is required under the environmental assessment provisions of the EPBC Act and the action can proceed (subject to any state or local government requirements).

The proposed action is NOT LIKELY to have a significant impact IF undertaken in a particular manner

The particular manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the particular manner to the Department.

The proposed action is LIKELY to have a significant impact and does NEED approval

If the action has, will have or is likely to have a significant impact it is called a *controlled action* and the particular matters upon which the action may have a significant impact (such as World Heritage or threatened species) are known as the *controlling provisions*.

The proposed action is subject to a public assessment process before it can be considered for approval. The assessment approach will usually be decided at the same time as the controlled action decision. (Further information about the levels of assessment and basis for deciding the approach are available on the Department's web site.)

Compliance audits

The Department may audit your project at any time to ensure that it was completed in accordance with the information provided in the referral or the particular manner specified in the decision. If the project changes, such that the likelihood of significant impacts could vary, you should write to the Department to advise of the changes.

For more information

call the Department of the Environment, Water, Heritage and the Arts Community Information Unit on 1800 803 772 or

visit the web site www.environment.gov.au/epbc

All the information you need to make a referral, including documents referenced in this form, can be accessed from the above web site.

Referral of proposed action

Project title: Road upgrades and walk trail development to and in Fitzgerald River National Park

1 Summary of proposed action

1.1 **Short description**

The Western Australian Government is proposing to upgrade and seal existing roads at the eastern and western ends of the national park, and construct a coastal walk trail, in (and just outside) the Fitzgerald River National Park on the south coast of Western Australia. This proposal keeps roads to the scale of a tourist road with small scale tourist facilities, in keeping with the national park's management plan and is not proposing a highway or major tourist development. Road upgrades, which will need to include associated facilities such as additional parking and recreation facilities, are based on existing unsealed. The walk trail will include shelters set at a distance of a day's walk apart. The proposal aims to increase the reliability of access to the park for visitors and tour operators by providing year-round guaranteed access. The walk trail will provide a new recreation opportunity within the park.

1.2 **Latitude and longitude**

	Latitude			Longitude		
location point	degrees	minutes	seconds	degrees	minutes	seconds
See Attachment 1 for the GPS locations along the indicative road and walk trail alignments. See Attachments 2a and 2b for maps showing the indicative alignments.						

1.3 **Locality**

Fitzgerald River National Park is located on the south coast of Western Australia between Bremer Bay and Hopetoun, close to Ravensthorpe and Jerramungup. The nearest regional centres are Albany to the west and Esperance to the east.

1.4	**Size of the development footprint or work area (hectares)**	Estimated at 421 hectares, with approximately 80% of the proposal footprint to be located on existing roads, tracks and sites.
1.5	**Street address of the site**	Point Ann Road, Murray Road, Swamp Road, Pabelup Drive, Hamersley Drive, coastal walk trail between Hopetoun and Bremer Bay.

1.6 **Lot description**

Fitzgerald River National Park comprises two A class reserves 31737 and 31738, encompassing about 329,039 hectares. The national park extends to the low water mark of the Southern Ocean. Other reserves include local government road reserves.

1.7 **Local Government Area and Council contact (if known)**

Approval for some parts of the road upgrades will be required from Ravensthorpe and Jerramungup Local Government Areas.
CEO – Shire of Ravensthorpe – Pascoe Durtanovich
CEO – Shire of Jerramungup – Bill Porter

1.8 **Timeframe**

Planning and the approvals process can commence immediately. Pending approvals, it is estimated that construction may commence in late 2009 with completion planned for 2011/2012.

1.9	**Alternatives** Does the proposed action include alternative timeframes, locations or activities?	✓	No
			Yes, you must also complete section 2.2
1.10	**State assessment** Is the action subject to a state or territory environmental impact assessment?		No
		✓	Yes, you must also complete Section 2.4
1.11	**Component of larger action** Is the proposed action a component of a larger action?	✓	No
			Yes, you must also complete Section 2.6
1.12	**Related actions/proposals** Is the proposed action related to other actions or proposals in the region (if known)?		No
		✓	Yes, provide details: Fitzgerald River National Park is managed by the Department of Environment and Conservation (DEC), which implements conservation and visitor services works consistent with the park's management plan.
1.13	**Australian Government funding** Has the person proposing to take the action received any Australian Government grant funding to undertake this project?	✓	No
			Yes, provide details:

2 Detailed description of proposed action

2.1 Description of proposed action

The proposal will improve access management in Fitzgerald River National Park by upgrading existing roads and establishing a walk trail, as shown at attachment 2. The proposal will utilise existing road alignments. Road upgrades will involve widening and sealing. Realignments will be required in some areas to ensure compliance with Australian Standards. Roads identified in this proposal within the national park have a width of 5 metres to 9 metres. This proposal aims to upgrade roads within the national park to a speed limit of 60km per hour which will require a road width of 9 metres. Widening and realignments will be undertaken in such a way as to avoid significant impacts. Measures to avoid and reduce impacts are outlined in section four.

Road upgrades will need to include associated facilities such as additional parking and recreation facilities to manage visitor impacts at Mylies beach, West beach, Four Mile campground, Barrens beach, East Mt Barren and Hamersley Inlet in the east of the park and St Mary's campground, Point Ann, Little Boondalup and Trigelow in the west of the park. Recreation facilities will be consistent with the park's management plan and may include parking and ablution facilities, lookouts and interpretive signage. Recreation site development will be undertaken in such a way as to avoid significant impacts whilst catering for increased visitor numbers. Measures to avoid and reduce impacts are outlined in section four.

This proposal also includes the development of a coastal walk trail. A walk trail will require a minor amendment to the park management plan. The walk trail will replace an existing unformed walking route, which will be closed. The new walk trail is to be developed on an improved alignment with shelters located a distance of a day's walk apart. Shelters will include drinking water storage from off-roof catchments. Walk trail and shelter development will be undertaken in such a way as to avoid significant impacts. Measures to avoid and reduce impacts are outlined in section four.

The rationale for the proposal is to reduce the risk of spreading the pathogen *Phytophthora cinnamomi* (dieback). Roads in the park are currently closed under wet conditions, consistent with the park's statutory management plan, to reduce this risk. Currently there is a risk of spreading dieback from road repairs following wet weather, or as a result of unauthorised visitor access during wet conditions. At the same time, the proposal will improve road and walk trail facilities to and in the park to manage the increasing demand by visitors for access to the park and the coast. The proposal will also provide reliable year-round access to the park for visitors and tour operators. The upgrade will involve improved siting, drainage and sealing to allow all-weather operation. This will result in improved environmental and recreation outcomes. In the event there is any road realignment to provide better environmental protection, the existing road alignment will be ripped and rehabilitated. In doing so the Department will undertake flora and dieback surveys and instigate other measures as outlined in section four to ensure there will be no significant impact on any matters of national environmental significance.

These upgrades are consistent with the management of the national park according to statutory requirements and accepted park management practices and standards.

2.2 Alternative locations, time frames or activities that form part of the referred action

n/a

2.3 Context, planning framework and state / local government requirements

Fitzgerald River National Park is managed under the *Fitzgerald River National Park Management Plan 1991 – 2001*, which is a statutory management plan prepared under the *Conservation and Land Management Act 1984* (CALM Act) (Attachment 3). Under the CALM Act, the plan remains in force until it is formally revised. Fitzgerald River National Park is vested in the Conservation Commission of Western Australia, which is a statutory body under the CALM Act.

One of the strategies in the management plan is to ensure that roads, tracks and paths are well-located and well-drained to minimise the chances of the pathogen *Phytophthora cinnamomi* (dieback) to survive. The management plan also lists upgrading of roads to meet these standards as a priority. The Conservation Commission has indicated that the roading upgrades proposed herein are consistent with the management plan for the park. The Conservation Commission has indicated that it supports the sealing of these roads due to the environmental and visitor benefits that will result.

The Conservation Commission has supported the walk trail concept and has indicated that a minor amendment to the management plan may be required to allow this, which it will support and progress. Advice will be sought on an ongoing basis from the Conservation Commission on more detailed plans as they are developed.

The *Fitzgerald River National Park Management Plan 1991-2001* establishes a wilderness zone that covers the centre of the park in which "access is non-motorised except in emergency situations and for essential management purposes. The level of management is low". As such, there is no unauthorised access permitted to the wilderness zone of the national park. Authorisation to enter this area can only be provided by the Director General of the Department of Environment and Conservation and the Chairman of the Conservation Commission following consideration of proposals. For example, research activities into the endangered western ground parrot in the wilderness zone must be in accordance with these authorisations and attached conditions. Conditions may include restrictions on movements off formed management tracks (an example of an application and approval for mechanised access within Fitzgerald River National Park is provided at Attachment 4).

The values in the Fitzgerald River National Park are outlined in the management plan and are reproduced below.

- Fitzgerald River National Park is one of Australia's richest conservation reserves for plants and animals. It is also an extremely important remnant, as much of the south-west has been cleared for agriculture. Some 20% of the known plant species of Western Australia occur within the 0.1% of the State occupied by the park. At least 75 of these occur only within the Park. The park also contains 10 species of declared rare mammals and birds.
- The Fitzgerald landscapes, with extensive vistas showing little to no evidence of human occupation or use, are a major attraction.
- The park has a rich cultural history with numerous sites of historical and archaeological importance.
- The park is one of only two international biosphere reserves in Western Australia. The biosphere reserve values are enhanced by local community interest in the park, and local adoption of the biosphere reserve concept.
- Fitzgerald provides a range of recreation opportunities in a natural setting.

- The park is well-placed to attract tourists travelling in the south-west and south-east of the State.

The management goals for Fitzgerald River National Park recognise the significant values of this park. Conservation is the highest management priority and management goals recognising this priority are described in the management plan (listed below).

CONSERVATION GOALS

- Conserve all native plant communities, animal communities, species, and the natural processes which sustain them, especially the large numbers of rare species and those in need of special protection.
- Conserve the park's landscapes, in particular the extensive vistas free of human disturbance.
- Conserve the rich Aboriginal and European history of the Park, including numerous historical and archaeological sites.

RECREATION GOAL

- Fulfil the nature-based recreation requirements of visitors to the extent that they are compatible with conserving the park's flora, fauna and landscape values, wilderness qualities and cultural heritage.

EDUCATION GOAL

- Foster a sense of stewardship for the park by the community at all levels - local, State, national and international - emphasising its special conservation, landscape, recreation, cultural and historic values.

RESEARCH AND MONITORING GOALS

- Promote and undertake the scientific study and monitoring of those physical, biological and social values and natural processes special to the park.
- Measure and control impacts of management activities and human use on the park environment.

2.4 Environmental impact assessments under Commonwealth, state or territory legislation

This proposal may be referred to the Western Australian Environmental Protection Authority under the *Environmental Protection Act 1986* (WA) for advice on whether formal impact assessment is required. However, it is considered unlikely that the proposal will have a significant adverse impact on the environment. The Environmental Protection Authority seeks the advice of the Conservation Commission on any referred proposals and the Conservation Commission's advice will be sought throughout the planning phase. In addition, flora and fauna that is specially protected as threatened flora or fauna under the *Wildlife Conservation Act 1950* (WA) cannot be removed without approval from the Western Australian Minister for Environment.

The Environmental Protection Authority's *Guidance Statement No. 56 Guidance for the Assessment of Environmental Factors - Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia* (EPA 2004) (see Attachment 5); and *Guidance Statement No. 51 Guidance for the Assessment of Environmental Factors - Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* (EPA 2004) (see Attachment 6) will be applied by DEC and Main Roads Western Australia.

2.5 Consultation with Indigenous stakeholders

Should the proposal proceed, consultation with Indigenous stakeholders including the South West Aboriginal Land and Sea Council would be undertaken. Aboriginal heritage surveys will be conducted and best practice management protocols will be applied, including appropriate consultation with

elders in the event a cultural heritage site is discovered in or near the area to be disturbed. The action will be implemented in accordance with the *Aboriginal Heritage Act 1972* and the *Heritage of Western Australia Act 1990*. If cultural heritage sites are discovered during construction, works will be stopped immediately and appropriate archaeological and/ or ethnographic surveys and consultation with elders will be undertaken.

Broader consultation with the community, including key stakeholders, will be undertaken on the detailed proposal.

2.6 A staged development or component of a larger project

Not applicable.

3 Description of environment & likely impacts

3.1 Matters of national environmental significance

3.1 (a) World Heritage Properties

Description

No World Heritage properties lie within or near the project area.

3.1 (b) National Heritage Places

Description

Fitzgerald River National Park is being assessed for inclusion on the National Heritage List.

Nature and extent of likely impact

National Heritage values have not yet been provided as the place has not been included on the National Heritage List at this stage.

3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

Description

No wetlands of international importance lie within or near the project area.

3.1 (d) Listed threatened species and ecological communities

Description

Threatened species that are potentially found in the project area are listed in Table 1.

Table 1 Threatened species potentially found in project area

Birds		
Calyptorhynchus latirostris Carnaby's Black-Cockatoo, Short-billed Black-Cockatoo	Endangered	Species or species habitat likely to occur within area
Dasyornis longirostris Western Bristlebird	Vulnerable	Species or species habitat likely to occur within area
Leipoa ocellata Malleefowl	Vulnerable	Species or species habitat likely to occur within area
Pezoporus wallicus flaviventris Western Ground Parrot	Endangered	Species or species habitat likely to occur within area
Psophodes nigrogularis oberon Western Whipbird (western mallee)	Vulnerable	Species or species habitat likely to occur within area
Mammals		
Dasyurus geoffroii Chuditch, Western Quoll	Vulnerable	Species or species habitat likely to occur within area
Parantechinus apicalis Dibbler	Endangered	Species or species habitat likely to occur within area

Phascogale calura Red-tailed Phascogale	Endangered	Species or species habitat may occur within area
Pseudomys shortridgei Dayang, Heath Rat	Vulnerable	Species or species habitat likely to occur within area
Plants		
Adenanthos dobagii Fitzgerald Woollybush	Endangered	Species or species habitat likely to occur within area
Adenanthos ellipticus Oval-leaf Adenanthos	Vulnerable	Species or species habitat likely to occur within area
Anigozanthos bicolor subsp. *minor* Little Kangaroo Paw, Two-coloured Kangaroo Paw	Endangered	Species or species habitat likely to occur within area
Coopernookia georgei Mauve Coopernookia	Endangered	Species or species habitat likely to occur within area
Daviesia obovata Paddle-leaf Daviesia	Endangered	Species or species habitat known to occur within area
Eremophila denticulata subsp. *denticulata* Fitzgerald Eremophila	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus burdettiana Burdett Gum	Endangered	Species or species habitat likely to occur within area
Eucalyptus coronata Crowned Mallee	Vulnerable	Species or species habitat likely to occur within area
Grevillea infundibularis Fan-leaf Grevillea	Endangered	Species or species habitat likely to occur within area
Myoporum cordifolium Jerramungup Myoporum	Vulnerable	Species or species habitat likely to occur within area
Ricinocarpos trichophorus Barrens Wedding Bush	Endangered	Species or species habitat likely to occur within area
Stylidium galioides Yellow Mountain Triggerplant	Vulnerable	Species or species habitat likely to occur within area
Verticordia crebra	Vulnerable	Species or species habitat likely to occur within area
Verticordia helichrysantha Coast Featherflower	Vulnerable	Species or species habitat likely to occur within area
Verticordia pityrhops	Endangered	Species or species habitat likely to occur within area

Nature and extent of likely impact

Minimal impact as this proposal mainly involves utilising existing road alignments. During the detailed planning process, impacts on threatened species will be avoided by following guidelines and policies for best practice.

3.1 (e) Listed migratory species

Description

Migratory species that are potentially found in the project area are listed in Table 2.

Table 2 Migratory species potentially found in the project area

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
Pezoporus wallicus flaviventris Western Ground Parrot	Migratory	Species or species habitat likely to 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		
Apus 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
Sterna caspia Caspian Tern	Migratory	Breeding likely to occur within area

Nature and extent of likely impact

Minimal impact as this proposal mainly involves utilising existing road alignments. During the detailed planning process, impacts on migratory species will be avoided by following guidelines and policies for best practice.

3.1 (f) Commonwealth marine area

Description

There is no Commonwealth marine area within the project area.

3.1 (g) Commonwealth land

Description

There is no Commonwealth land within the project area.

3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, or actions taken on Commonwealth land

3.2 (a)	**Is the proposed action a nuclear action?**	✓	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment

3.2 (b)	**Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?**	✓	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment

3.2 (c)	**Is the proposed action to be taken in a Commonwealth marine area?**	✓	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))

3.2 (d)	**Is the proposed action to be taken on Commonwealth land?**	✓	No
			Yes (provide details below)

If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))

3.3 Other important features of the environment

3.3 (a) Soil and vegetation characteristics

LANDFORM	GEOLOGY	SOIL TYPE	VEGETATION
Upland	Granites, gneisses	• extensive areas of shallow loamy sand • skeletal soils associated with granite exposures	• very open mallees of *E. redunca* or *E. tetragona* • Allocasuarina, Grevillea and Acacia scrub/heath associated with granite outcrops
Plain	Spongolite, siltstone	• duplex shallow sandy loams, colluvial sands and cracking clays • skeletal soils on bedrock exposures	• very open mallee of *E. decipiens* widespread • elsewhere open to very open shrub mallee
Valleys	Spongolite, siltstone	• sandy loam – shallow on walls, deeper on valley floor	• open shrub mallee of *E. conglobata* and *E. incrassata* on valley floors and drainage lines • low woodland on slopes and rims • open mallee on mesas
Ranges	Quartzite, phyllite, dolomite, conglomerates	• quartzite sand on quartzite • phyllitic loamy sand or schist duplex soils	• Banksia scrub and Adenanthos open low scrub on quartzite • very open shrub mallee of *E. incrassata*, and Banksia and Allocasuarina low scrub on phyllitic schists
Dunes	Sand over spongolite or quartzite	• loose calcareous or siliceous sands	• mallee and shrubland becoming lower and denser heath closer to coast
Inlets	Incised in quartzite, spongolite or limestone	• saline soils next to inlet • narrow deposits of colluvium and alluvium spongolite, at some slope and cliff bases	• Melaleuca woodland or shrubland on edges • Samphire heath on flats
Rivers, swamps and lakes	Granites, spongolite, quartzite	• dependent on underlying rock	• *E. occidentalis* woodland dominant

3.3 (b) Water flows, including rivers, creeks and impoundments

There are four main rivers in Fitzgerald River National Park: the Gairdner, Fitzgerald, Hamersley and Phillips. These run roughly from north-west to south-east through the Park. All have at least part of their catchments in cleared agricultural land. A number of shorter rivers and streams, most notably the St Mary and Dempster, have catchments within the Park. All rivers in the Park are intermittent, with the majority of flows occurring during winter and spring.

Fitzgerald River National Park has numerous ephemeral swamps, particularly on the plains. They are covered wholly or largely by woodland and/or shrubland. At least part of their floor is covered by a few centimetres of water during winter and spring. Floods may add up to 1.5 metres of water which may remain for up to 18 months. Water quality varies from fresh to brackish. A number of fresh (eg. Pabelup Lake) and saline (eg. Doggers Swamp) wetlands also occur.

All major rivers in Fitzgerald River National Park terminate in inlets which are normally closed to the sea by a sand bar. Only occasionally is river flow sufficient to fill any of the inlets so they overflow into the sea. Once open, inlets remain so for days to many months.

The majority of surface and groundwater in the park is saline. However, a thin layer of freshwater, overlying brackish or saline water, is likely to be present in the coastal sediments.

3.3 (c) Outstanding natural features, including caves

- Fitzgerald River National Park is one of Australia's richest conservation reserves for plants and animals. It is also an extremely important remnant, as much of the south-west has been cleared for agriculture. Some 20% of the known plant species of Western Australia occur within the 0.1% of the State occupied by the Park. At least 75 of these occur only within the Park. The Park also contains threatened animals and plants (see 3.1(d) above).
- The Fitzgerald River National Park landscapes, with extensive vistas showing little to no evidence of human occupation or use, are a major attraction.
- The park has a rich cultural history with numerous sites of historical and archaeological importance.
- The park is one of only two international biosphere reserves in Western Australia. The biosphere reserve values are enhanced by local community interest in the Park, and local adoption of the biosphere reserve concept.
- Fitzgerald River National Park provides a range of recreation opportunities in a natural setting.
- The park is well-placed to attract tourists travelling in the south-west and south-east of the State.

3.3 (d) Gradient (or depth range if action to be taken in a marine area)

The five major landforms are the upland, plains, incised valleys, ranges and dunes:

- The upland is characterised by a gently undulating terrain on the Archaean granites which underlie the northern part of the Park.
- The plains, immediately inland from the coast, are flat, with numerous swamps, depressions and large areas with no run-off. They are developed on the deeply weathered Plantagenet Group of Eocene sediments. This is the most extensive landform in the Park.
- Steep-sided valleys cut through the plain, creating the distinct, incised valley landform. The erosional scarp of the valleys is often capped by laterite. Flat mesaform hills also appear as relics on the plain.
- The ranges landform is also distinctive as it is emergent above the gently sloping plain. It has developed on the Proterozoic quartzites. Narrow sand dune systems occur along several sections of the coastline.
- The coastal dunes are readily eroded by wind, particularly when sparsely vegetated, or where wave action is likely to further decrease stability. The steeper, younger, more sparsely vegetated dunes closer to the coast are more susceptible than older stabilised dunes further inland.

3.3 (e) Buildings or other infrastructure

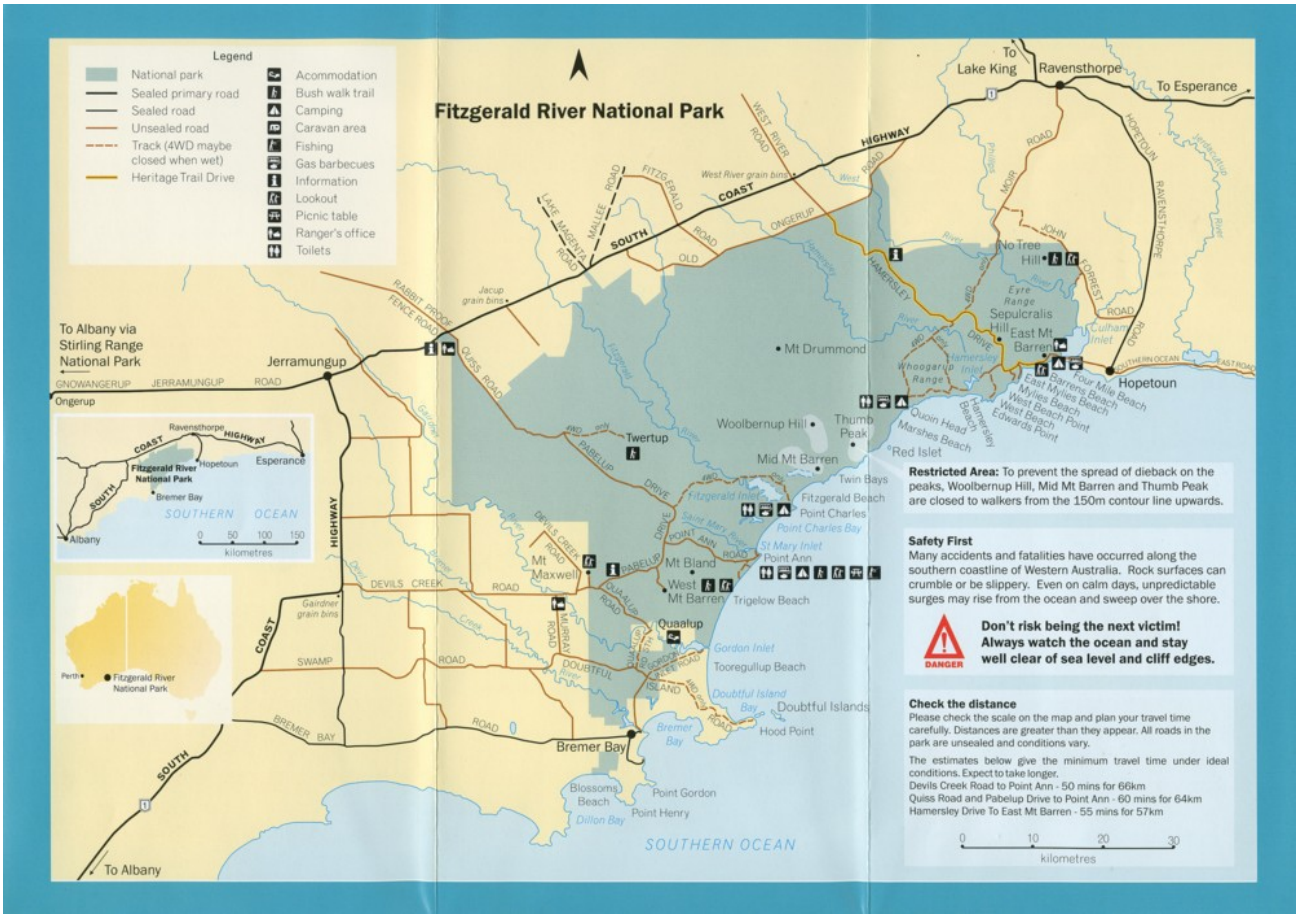
Historic buildings and infrastructure

- John Wellstead squatted at "Quaalup". He built Quaalup homestead, which is located just outside the park's boundary, in 1858. Ruins of a shepherd's hut, built by the Wellsteads, still remain near Fitzgerald Inlet. Ruins of various homesteads, including the Parsons, King, Neil and Waters families, can be found in the eastern end of the park.
- The Western Australian section of the East/West Telegraph Line was completed in 1877 after commencement in 1875. The Bremer Bay station was closed down in 1929 when the telegraph line was re-routed inland from Balladonia direct to Perth.
- The remains of a copper and manganese mine on Copper Mine Creek are still visible. The remains of an early twentieth century (c. 1910-1920) head frame, associated with the search for oil, are located near Jonacoonack on the Fitzgerald River. Nearby are a number of hut sites and a small dam.

- The No. 2 Rabbit Proof Fence was completed in 1905. It was abandoned in the 1960s, with the length between Nyabing and Point Ann being the last persisting section. Although no longer functional, parts of the fence still remain in the park (L. Sandiford, 1988).
- A small house, formerly the Twertup Field Study Centre, was built from spongolite at a quarry site in the park, but has now been destroyed by fire.
- The remains of a large concrete trough used for cleaning salmon can still be seen at Fitzgerald Inlet.

Recreation Facilities

There are about 28 recreation sites currently used in the park. Of these, 11 are used for both day use (parking and/or picnicking) and overnight camping, 13 for day use only and 4 for camping only (see map below). Some facilities have been damaged by fire in recent years and are being progressively replaced.



3.3 (f) Marine areas

There are no marine reserves located off the coast of the Fitzgerald River National Park. The 1994 Report of the Marine Parks and Reserves Selection Working Group recommended that "the area of State coastal waters between the mouth of Gordon Inlet and the mouth of Culham Inlet, should be considered for reservation as a marine reserve for conservation of flora and fauna and recreation, and that it should be added to the Fitzgerald Biosphere Reserve". No action has yet been taken on this recommendation.

3.3 (g) Kinds of fauna & flora

Flora

With 1,748 identified plant species, including 75 endemics, the Fitzgerald River National Park is one of the richest flora conservation areas in Western Australia. The park contains 20% of known plant species (both named and unnamed) for Western Australia and 42% of the known species for the South-West Botanical Province. The number of species will continue to increase as survey continues.

The Fitzgerald area is one of three nodes of high species richness in south-west Australia. Fitzgerald River National Park also has a high proportion of endemic, geographically restricted and rare species. Although the flora is typical of the Eyre Botanical District, it also contains some elements of the wetter forest and drier Goldfields flora (eg. *Gnephosis intosa* and *Ptilotus holosericeus*).

The flora of Fitzgerald River National Park consists of 5 families of fern and 87 of flowering plants. The major families represented are Myrtaceae (220 species), Proteaceae (130), Asteraceae (108) and Cyperaceae (97). Dwarf shrubs are the dominant life-form, followed by annuals and small shrubs.

The upland and plains contain the highest numbers of plant species. They are also the most extensive landforms identified in Fitzgerald River National Park.

In Fitzgerald River National Park, peak flowering occurs over August-November while the least number of species bloom in February. There is a rapid decline in the number of species flowering through the summer months. The most important summer flowering group is the eucalypts. Autumn-flowering species such as *Hakea laurina*, *Dryandra quercifolia* and Banksia media are important for the survival of honeyeaters and honey possums.

Fauna

The park has more species of vertebrate fauna than any other conservation reserve in south-west Australia. It has 22 species of native mammals (7 declared rare), 184 species of bird (3 declared rare and 2 declared as otherwise in need of special protection), 41 species of reptile (1 declared in need of special protection), 12 species of frog and 4 species of inland fish.

The very high number of vertebrates present is partially due to an overlap of arid region species and those adapted to moister conditions. The park also forms part of a corridor of uncleared vegetation from the coast to the southern wheatbelt and Goldfields. The large size of the park and lack of widespread habitat degradation, such as frequent burning and grazing by stock, enhance these values. Habitats can be degraded by dieback.

There is a concentration of rare fauna in the northern upland. This faunal richness is associated with three factors. First, the upland corresponds with the Archaean shield which underlies much of the wheatbelt. Much of the fauna is a remnant of a formerly widespread and richer wheatbelt fauna. Second, habitats exist in a tight mosaic of soil/vegetation types due to the presence of granitic outcrops and numerous minor watercourses. Third, some of the soils are not as extensively weathered and leached as those on the southern plains, and thus have a higher nutrient status.

Therefore, the northern part of Fitzgerald River National Park is a small remnant of a formerly widespread and rich faunal area. Today, it is likely that species continue to disperse, perhaps via river valleys, from the upland to the southern plains and elsewhere.

3.3 (h) Current state of the environment in the area

Fitzgerald River National Park is a 330,000 hectare area of natural vegetation in excellent overall condition, which is protected by its tenure as a A Class reserve for the purpose of national park.

The major management concern in the park is the spread of *Phytophthora cinnamomi* (dieback). The flora is highly susceptible to the disease, and this problem is compounded by summer rainfall which provides warm, moist conditions favourable to the survival and spread of *Phytophthora*. *Phytophthora* is most commonly introduced and spread in infected soil, mud or moist gravel on the wheels and underbodies of vehicles. Loss of vegetation to dieback would seriously reduce the park's conservation and recreation values.

The future of the rare fauna is also a management concern. A number of these species appear to have very specific habitat requirements, such as periods greater than 15 years between fires and protection from introduced predators such as foxes.

There is also concern about the effect of large-scale fires on the park's ecological and landscape values, as well as on adjoining farmlands and nearby towns. Fire has been a feature of the park's history over the last 40 to 50 years with some large fires burning significant areas of the park.

Another major issue is the increasing demand for visitor access to the coast for fishing, camping and beach activities. Many parts of the park, and especially the coast, are fragile and access needs to be managed to provide for enjoyable visitor experiences whilst minimising visitor impact.

3.3 (i) Other important or unique values of the environment

See above.

3.3 (j) Tenure of the action area (eg freehold, leasehold)

The area of the proposal lies mainly within the Fitzgerald River National Park. The roads to be sealed exit the park into Local Government Authority road reserves. The proposed walk trail lies within the Fitzgerald River National Park and other Crown reserves.

3.3 (k) Existing land / marine uses of area

The majority of the area is a national park and is used predominantly for a range of low-key recreational activities. The park is surrounded by farmland, townships and other Crown reserves. The coast is not heavily utilised due to its relative remoteness, with limited marine usage at present, mainly by recreational and commercial fishers.

3.3 (l) Any proposed land / marine uses of area

As an A class reserve for the purpose of “national park”, the tenure of the park is secure and non-conforming uses are not permitted. The State waters adjacent to the park may be considered for marine reservation in the future.

4 Measures to avoid or reduce impacts

In the development of a detailed project proposal, significant impacts to threatened or migratory species listed under the EPBC Act will be avoided by ensuring the alignment of roads and tracks does not cause significant impacts. During the development of the detailed proposal, on-site survey of the proposed areas will be undertaken to determine the location of conservation significant and threatened species so that those areas are avoided. If amendments to road alignments are required to enable compliance with Australian Standards for roading, the proposal and adjusted alignment will be subject to protection of significant protected flora and fauna populations and habitat to ensure minimal impacts to these values.

The Main Roads Environmental Management System will be implemented and is integrated into all key processes including planning, delivery, maintenance, network operations and supporting services. Main Roads seeks to maintain certification to ISO 14001:2004.

In addition, the proposal will be implemented in a manner consistent with relevant DEC policies including *Management of Phytophthora and disease caused by it, Policy No. 3*; *Recreation, tourism and visitor services, Policy No. 18*; *Visual resource management on lands and waters managed by the Department of Conservation and Land Management, Policy 34*; *Road management, Policy 40* (in review); *Visitor Risk Management Policy, Policy No. 53*; *Identification of Wilderness and surrounding areas, Policy 62*.

Environmental management protocols will be implemented to ensure that road and facilities construction follow best practice and are carried out in a manner that minimises environmental impact.

Vegetation and fauna habitat management

- Special environmental areas (for instance, containing threatened species under the EPBC Act; declared rare, priority or significant flora, areas of priority and protected fauna habitat under Western Australian legislation; wetlands etc) will be mapped during the design phase and road alignment and facilities will be designed to avoid them.
- Special environmental areas will be clearly delineated on site prior to commencement of construction to avoid unintentional impacts.
- Facilities will be designed to avoid clearing of vegetation.
- If clearing of vegetation is required, appropriate authorisation will be obtained and flora surveys will be undertaken.
- If clearing of vegetation is required, road alignments and facilities will be designed to minimise the amount of clearing required and avoid clearing areas containing threatened species under the EPBC Act, declared rare, priority or significant flora and areas of priority and protected fauna habitat.
- Opportunities to translocate flora, particularly threatened species under the EPBC Act, declared rare, priority or significant flora, will be investigated if clearing of vegetation is unavoidable. No clearing of conservation significant flora (including EPBC Act listed flora) will be undertaken where this significantly affects the conservation status of the species.
- The limits of clearing will be clearly demarcated on site prior to commencement of construction, to avoid unintentional clearing of vegetation.
- Any areas disturbed during construction that will not have infrastructure located on them will be rehabilitated with local species.
- Logs and dead trees will be retained for fauna habitat, providing safety requirements are met.
- Construction materials will be obtained from outside Fitzgerald River National Park where possible. If materials are required from within the park, these are to be obtained from existing gravel or sand pits.

Dieback and weed management protocols

- An example of a disease action plan developed for use by the western ground parrot research team in Fitzgerald River National Park is provided (Attachment 7).
- The response plan for the management of *Phytophthora cinnamomi* in the Fitzgerald River National Park 2006 – 2011 applies.
- A dieback and weed hygiene management plan will be developed to include the following aspects:
  - Construction will be undertaken in summer/ autumn to minimise the risk of dieback spread.
  - The development area will be surveyed and mapped to inform road alignment and recreation facilities design.
  - All vehicles, machinery and equipment will be clean on entry to the Fitzgerald River National Park.
  - All materials imported into Fitzgerald River National Park will be clean of dieback, weeds and weed seeds.
  - Dieback uninterpretable areas will be clearly identified on site and vehicles and machinery will not be permitted to move from these areas to dieback-free areas.
  - Clean-down stations will be installed at appropriate locations (away from special environmental areas) to prevent the introduction of dieback.
  - Weeds will be surveyed prior to construction.
  - Weed control will be undertaken during and following construction to manage any weeds resulting from construction disturbance. Weed control will be planned to prioritise the use of non-herbicide methods if possible, or to apply appropriate herbicides and rates if required.
  - Stockpiles, if required, are to be located within cleared areas and within the construction zone and are to avoid special environmental areas.
  - Stockpiles are to be treated for weeds if necessary.
  - Monitoring of dieback and weed spread will be undertaken following construction and appropriate mitigation will be undertaken if dieback or weeds are found to have spread.

Visual landscape management
- Design of the roads and facilities will take into account the visual landscape values of the area and seek to minimise the impact of constructed facilities.
- Design will be undertaken to maintain the aesthetic values of roads and facilities.

Access management
- Fencing or suitable barriers should be installed and maintained during construction to manage uncontrolled and unauthorised access from the construction site.

Fire management
- A fire access and management plan will be prepared to minimise the risk of fire from construction.

Drainage management
- Drainage will be designed to minimise the impact of stormwater on adjacent vegetation, and minimise the spread of dieback.
- Drainage will not be directed into natural wetlands.
- Actions will be implemented to control run-off and erosion from the construction site.

Cultural heritage
- Areas containing Registered Aboriginal sites or sites on the State Register of Heritage Places will be mapped and the road alignment and facilities will be designed to avoid these areas.
- If clearing of vegetation is required, surveys of these areas would identify any archaeological or ethnographic sites within or near the proposed area of disturbance and best practice management protocols would be applied, including appropriate consultation with elders in the event a cultural heritage site is discovered.

- Should an impact on a Registered Aboriginal site or a site on the State Register of Heritage Places be unavoidable, appropriate approvals will be sought under the *Aboriginal Heritage Act 1972* and the *Heritage of Western Australia Act 1990*.
- If cultural heritage sites are discovered during construction, works will be stopped immediately and appropriate archaeological and/ or ethnographic surveys and consultation with elders will be undertaken.

Construction management
- Dust will be managed by avoiding unnecessary clearing and applying water if required.
- Contractors will be required to dispose of any construction waste or other rubbish off-site.
- Appropriate incident reporting protocols will be established.

Training and site inductions
- All personnel involved in working on site will be appropriately trained and inducted about the values of the area and environmental protocols that are to be met.

Cumulative and/or consequential impacts
- The current park management plan contains principles that the management goal for Fitzgerald River National Park is to conserve all flora and fauna, particularly rare species and those in need of special protection, and to fulfil the nature-based recreation requirements of visitors to the extent that they are compatible with conserving the park's flora and fauna. It also refers to specific limits on camping numbers and booking systems. These objectives will be continued in any reviewed management plan and, even though the action may result in increased visitor numbers to the park, DEC will continue to manage the park to ensure there are no increased detrimental impacts on species listed as threatened under the EPBC Act, or other matters of national environmental significance.

Conclusion

Management of the impact of visitors on the Fitzgerald River National Park will be improved as a consequence of this proposal. In Fitzgerald River National Park, poorly located access routes and camping areas in coastal areas are leading to localised water and wind erosion. Inland, erosion is largely restricted to tracks and firebreaks. Experience in other areas of the south-west has shown that *Phytophthora* spore survival is minimised on well-drained, hard-surfaced roads. They limit the opportunity for infected soil to be picked up or spread by vehicles. The construction of suitable car parks and recreation facilities at the end of upgraded roads will aid management of any adverse impacts that may be expected from an increase in visitation to Fitzgerald River National Park. The construction of the coastal walk trail will formalise an existing less-formal walking route. The trail will improve management of walkers through the area by provision of better information to encourage minimal impact activity as well as improved trail alignment and camping facilities.

5 Conclusion on the likelihood of significant impacts

Identify whether or not you believe the action is a controlled action (ie. significant impacts on the matters protected under the Act are likely) and the reasons why. If you think that the action is a controlled action, you must also identify the relevant protected matters in section 5.3. (An action is a controlled action if it has, will have, or is likely to have a significant impact on a matter protected by a provision of Part 3 of the EPBC Act).

5.1 Do you THINK your proposed action is a controlled action?

✓	No, complete section 5.2
	Yes, complete section 5.3

5.2 Proposed action IS NOT a controlled action.

The Western Australian Government considers that this proposal does not constitute a 'controlled action', as defined by the EPBC Act, in that it:

- does not have any potential to affect:
    - World Heritage properties;
    - National Heritage places; and/or
    - wetlands of international importance;
- is not a nuclear action;
- does not impact Commonwealth land; and
- is not being implemented by a Commonwealth agency.

While there are listed threatened and migratory species within the proposal area, the proposed actions will be undertaken following strict protocols to protect those values. In addition, the proposed road works are based on utilisation of existing unsealed roads which are therefore already disturbed sites.

This proposal will result in an improved environmental outcome by:

- improving management of visitor access to the park; and
- minimising the threat of the spread of infection by *Phytophthora*;

In addition, the proposal will increase the reliability of access to the park for visitors and tour operators by providing year-round guaranteed access and better facilities for visitors.

6 Environmental history of the responsible party

NOTE: If a decision is made that a proposal needs approval under the Act, the Minister will also decide the assessment approach. The EPBC Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach for actions that need approval under the Act.

		Yes	No
6.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** **Provide details** The Department of Environment and Conservation's mission is: "Working with the community, we will ensure that Western Australia's environment is valued, protected and conserved, for its intrinsic value, and for the appreciation and benefit of present and future generations." (DEC 2007). The department has the lead responsibility for protecting and conserving the State's environment on behalf of the people of Western Australia (DEC 2007). This includes managing the State's national parks, marine parks, conservation parks, State forests and timber reserves, nature reserves, marine nature reserves and marine management areas (DEC 2007). The department maintains and adds to the conservation values of parks while providing opportunities for people to experience WA's remarkable and varied natural environments (DEC 2008). DEC employs experts and specialists with high level skills in such areas as *Phythophthora* dieback mapping and management. Main Roads has a wealth of specialised knowledge relating to the design and construction of roads and bridges and management of associated environmental aspects (Main Roads 2009). This expertise has been used to develop guidelines, standards and specifications for use by internal staff, and external consultants working for Main Roads (Main Roads 2009). This specialised knowledge plays an important part in the planning, design, construction and maintenance of Western Australia's road network (Main Roads 2009). The Western Australian Government operates in accordance with strict policies and guidelines as described in this document.		
6.2	**Has the party taking the action ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?** Not applicable. **If yes, provide details**		
6.3	**If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?** Not applicable.		

If yes, provide details of environmental policy and planning framework

6.4 Has the person proposing to take the action previously referred an action under the EPBC Act? ✓

Main Roads Western Australia has previously referred an action under the EPBC Act.

Provide name of proposal and EPBC reference number (if known)

2009/4692	Main Roads Western Australia/Transport - land/City of Mandurah, 3km N-East of Mandurah Post Office/WA/Construction of Mandurah Entrance Road	06 Jan 2009
2007/3515	Main Roads Western Australia/Transport - land/Busselton/WA/Monaghan's Roundabout Project - Intersection of Bussell Highway and Caves Road, Shire of Busselton	25 Jun 2007
2005/2193	Main Roads Western Australia/Land transport/Perth to Bunbury/WA/Construction of New Perth Bunbury Highway project	28 Jun 2005
2002/846	Main Roads Western Australia/Land transport/Caves Road/WA/Three Turning Pockets West of Busselton Townsite	25 Oct 2002
2002/781	Main Roads Western Australia/Tourism, recreation and conservation management/Canning Vale/WA/Translocation of orchids (Caladenia huegelii) from Roe Hway Reserve	27 Aug 2002
2001/470	Main Roads Western Australia/Land Transport Infrastructure/Armadale/WA/Tonkin Highway Extension	10 Oct 2001
2001/325	Main Roads Western Australia/Land Transport Infrastructure/South West Region/WA/South Western Highway - Wokalup to Brunswick Junction - Upgrade	20 Jun 2001
2000/83	Main Roads Western Australia/Land Transport Infrastructure/Shark Bay/WA/Useless Loop Road Upgrade	14 Nov 2000

7 Information sources and attachments

(For the information provided above)

7.1 References

Department of Conservation and Land Management (CALM). 1991. Fitzgerald River National Park Management Plan 1991 – 2001. Management Plan No 15. Government of Western Australia, Perth WA.

Department of Environment and Conservation (DEC). 2007. Corporate Plan 2007-2009. Government of Western Australia, Perth WA. [http://www.dec.wa.gov.au/about-us/about-dec/corporate-plan.html accessed 22 May 2009]

Department of Environment and Conservation (DEC). 2008. Annual Report 2007-2008. Government of Western Australia, Perth WA. [http://www.dec.wa.gov.au/about-us/annual-reports/dec-annual-report-2007-2008.html accessed 22 May 2009]

Main Roads Western Australia. 2009. Main Roads website: [http://standards.mainroads.wa.gov.au/NR/mrwa/frames/standards/standards.asp?G={E582C897-FF5E-4C02-8B46-51E88C1E5DD8} accessed 22 May 2009]

Marine Parks and Reserves.1994. Report of the Marine Parks and Reserves Selection Working Group

Giummarra, G.J. 2009. *Unsealed roads manual – Guidelines to good practice*. 3rd edition March 2009, ARRB Group Ltd, Victoria.

Department of Environment and Conservation. 2006. *Recreation, Tourism and Visitor Services Policy Statement 18* and associated guidelines. Government of Western Australia, Perth WA.

Department of Environment and Conservation. *Management of Phytophthora and disease caused by it, Policy No. 3*. Government of Western Australia, Perth WA.

Department of Environment and Conservation. *Visual resource management on lands and waters managed by the Department of Conservation and Land Management, Policy 34*. Government of Western Australia, Perth WA.

Department of Environment and Conservation. *Road management, Policy 40* (in review). Government of Western Australia, Perth WA.

Department of Environment and Conservation. *Visitor Risk Management Policy, Policy No. 53*. Government of Western Australia, Perth WA.

Department of Environment and Conservation. *Identification of Wilderness and surrounding areas, Policy 62*. Government of Western Australia, Perth WA.

Environmental Protection Authority. 2004. *Guidance Statement No. 56 Guidance for the Assessment of Environmental Factors - Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia*. Government of Western Australia, Perth WA.

Environmental Protection Authority. 2004. *Guidance Statement No. 51 Guidance for the Assessment of Environmental Factors - Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia.* Government of Western Australia, Perth WA.

7.2 Reliability and date of information

Management plan information has been cross checked by Department of Environment and Conservation staff in the region. Personal communication with key management staff in the region and staff who specialise in environmental impact management was undertaken.

7.3 Attachments

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	2a and 2b
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3)	✓	2a and 2b
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.3)		
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.4)		
	copies of any flora and fauna investigations and surveys (section 3)		
	technical reports relevant to the assessment of impacts on protected matters and that support the arguments and conclusions in the referral (section 3 and 4)		
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)		

8 Contacts, signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (s 489, EPBC Act).

Under the EPBC Act a referral can only be made by:

- the person proposing to take the action; or
- a Commonwealth, state or territory government, or agency that is aware of a proposal by a person to take an action, and that has administrative responsibilities relating to the action[1].

Project title: **Road upgrades and walk trail development to and in Fitzgerald River National Park**

8.1 Person proposing to take action

Name	Keiran McNamara
Title	Director General
Organisation	Department of Environment and Conservation
ACN / ABN (if applicable)	ABN 38 052 249 024
Postal address	Locked Bag 104, Bentley Delivery Centre WA 6983
Telephone	(08) 6467 5500
Email	keiran.mcnamara@dec.wa.gov.au
Declaration	I declare that the information contained in this form is, to my knowledge, true and not misleading. I agree to be nominated as the proponent for this action.
Signature	Peter Thorp for K. McNamara Date 22/6/09

Name	Director, Parks + Visitor Services
Title	
Organisation	
ACN / ABN (if applicable)	
Postal address	
Telephone	
Email	
Declaration	I declare that the information contained in this form is, to my knowledge, true and not misleading. I agree to be nominated as the proponent for this action.
Signature	Date

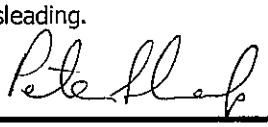
[1] *If the proposed action is to be taken by a Commonwealth, state or territory government or agency, section 8.1 of this form should be completed. However, if the government or agency is aware of, and has administrative responsibilities relating to, a proposed action that is to be taken by another person which has not otherwise been referred, please contact the Referrals Business Entry Point (1800 803 772) to obtain an alternative contacts, signatures and declarations page.*

8.2 Person preparing the referral information (if different from 8.1)

Individual or organisation who has prepared the information contained in this referral form.

Name	Peter Sharp
Title	Director Parks and Visitor Services
Organisation	Department of Environment and Conservation
Postal address	Locked Bag 104, Bentley Delivery Centre WA 6983
Telephone	(08) 442 0304
Email	peter.sharp@dec.wa.gov.au

Declaration: I declare that the information contained in this form is, to my knowledge, true and not misleading.

Signature:  Date 22/6/09

If the referring party is a small business (fewer than 20 employees), estimate the time taken, in hours and minutes, to complete this form (include your time reading the instructions, working on the questions and obtaining the information and time spent by all employees in collecting and providing this information).

Hours	Minutes

REFERRAL CHECKLIST

NOTE: This checklist is to help ensure that all the relevant referral information has been provided. It is not a part of the referral form and does not need to be sent to the Department.

HAVE YOU:

- ❑ Completed all required sections of the referral form?
- ❑ Included accurate coordinates (to allow the location of the proposed action to be mapped)?
- ❑ Provided a map showing the location and approximate boundaries of the project area?
- ❑ Provided a map/plan showing the location of the action in relation to any matters of NES?
- ❑ Provided complete contact details and signed the form?
- ❑ Provided copies of any documents referenced in the referral form?
- ❑ Ensured that all attachments are less than two megabytes (2mb)?
- ❑ Sent the referral to the Department (electronic and hard copy preferred)?

Australian Government

Department of the Environment, Water, Heritage and the Arts

Notification of REFERRAL DECISION – not controlled action if undertaken in a particular manner

Road Upgrade and Walk Trail Development, Fitzgerald River National Park, WA (2009/4958)

This decision is made under Sections 75 and 77A of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

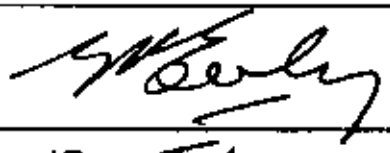
Proposed action

person named in the referral	Director General, Western Australia Department of Environment and Conservation
proposed action	To upgrade, realign where necessary and seal existing roads at the eastern and western ends of the Fitzgerald River National Park, and construct a coastal walk trail in and just outside the Fitzgerald River National Park, Western Australia.

Referral decision: Not a controlled action if undertaken in a particular manner

status of proposed action	The proposed action is not a controlled action provided it is undertaken in the manner set out in this decision.

Person authorised to make decision

Name and position	Mr Gerard Early Deputy Secretary Department of the Environment, Water, Heritage and the Arts
signature	
date of decision	17 July 2009

manner in which proposed action must be taken	The following measures must be taken to avoid significant impacts on • Listed threatened species and communities (sections 18 & 18A) and • Listed migratory species (sections 20 & 20A) 1. The action must be taken in accordance with the plans and policies outlined in the referral document. 2. The action must be managed within the scope of the Park's primary management objectives of "conserving all flora and fauna" within the park. 3. Impacts on special environmental areas must be firstly avoided, or where unavoidable, mitigated through the specific procedures outlined within section 4 of the referral documentation. 4. The project must not result in a net loss of EPBC Act listed threatened or migratory species; or habitat for EPBC Act listed threatened species; or important habitat for EPBC Act

listed migratory species.

5. No clearing may be undertaken if it will or is likely to significantly impact the conservation status of an EPBC Act listed species; or lead to a decline in size of, or area of occupation of, an important population of an EPBC Act listed species.
6. There must be no further spread of dieback to special environmental areas as a result of the development, its associated activities and/or its consequential impacts.
7. The Response Plan for the Management of *Phytophthora cinnamomi* in the Fitzgerald River National Park 2006 – 2011 must be applied.
8. A dieback and weed management plan must be developed for the action, and must be implemented, as outlined in Section 4 of the referral document.
9. Growth in visitor numbers as a result of the development must be in line with the Park's overall commitment to no detrimental impacts on the natural environment, including matters of national environmental significance protected under the EPBC Act.
10. Any growth in camping numbers or facilities must be managed within the guidelines of the Park's management plan, with mechanisms implemented to manage these impacts to ensure that there are no impacts upon the parks special environmental areas.

Definitions

EPBC Act listed threatened species are species of both flora and fauna that are listed under the EPBC Act (1999) as any of the following categories: extinct in the wild, critically endangered, endangered or vulnerable. These also include threatened ecological communities that may be considered critically endangered or endangered.

Habitat for EPBC Act listed threatened species are areas that are necessary:
- for activities such as foraging, breeding, roosting, or dispersal;
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators);
- to maintain genetic diversity and long term evolutionary development; or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/or habitat listed on the Register of Critical Habitat maintained by the Minister under the EPBC Act.

Important Habitat for listed Migratory species is:
a) habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species; and/or
b) habitat that is of critical importance to the species at particular life-cycle stages; and/or
c) habitat utilised by a migratory species which is at the limit of the species range; and/or
d) habitat within an area where the species is declining.

Special Environmental areas are areas containing EPBC Act listed threatened species, habitat for EPBC Act listed threatened species, or important habitat for EPBC Act listed migratory species

Important populations are populations that are necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:
- key source populations either for breeding or dispersal;
- populations that are necessary for maintaining genetic diversity; and/or
- populations that are near the limit of the species range.

Consequential Impacts are impacts that may result directly or indirectly from the development. They are impacts that would have not occurred had the action not taken place.

Road Upgrade and Walk Trail Development, Fitzgerald River National Park, WA (2009/4958)

EPBC Act Referral – Compliance Document

This document details how the 'Fitzgerald R Improvement Project' is complying with the EPBC referral decision 2009/4958.

Proposed Action

To upgrade, realign where necessary and seal existing roads at the eastern and western end of the Fitzgerald River National Park, and construct a coastal walk trail in and just outside the Fitzgerald River National Park, Western Australia.

EPBC Referral Decision

The proposed action is not a controlled action provided it is undertaken in a particular manner.

Proposed Manner

Ten measures have been set to avoid significant impacts, as a manner in which the proposed action must be taken. These measures are listed below with a description of how the measures will be implemented.

APPROVALS

Acting Regional Leader Nature Conservation:	Sarah Comer	)
	(Signed)	(Date)
Regional Leader Parks and Visitor Services:	Adnaan Abrahams	
	(Signed)	(Date

THE MANNER IN WHICH PROPOSED ACTION MUST BE TAKEN

The following measures must be taken to avoid significant impacts on
- **Listed threatened species and communities (section 18 & 18A) and**
- **Listed migratory species (sections 20 & 20A)**

MEASURE 1
The action must be taken in accordance with the plans and policies outlined in the referral document.

Relevant plans and policies include:
- *Fitzgerald River National Park Management Plan 1991-2001;*
- *Management of Phytophthora and disease caused by it, Policy No. 3;*
- *Recreation, tourism and visitor services, Policy No. 18;*
- *Visual resource management on lands and waters managed by the Department of Conservation and Land Management, Policy 34;*
- *Road management, Policy 40 (in review);*
- *Visitor Risk Management Policy, Policy No. 53;*
- *Identification of Wilderness and surrounding areas, Policy 62.*
- *Main Roads: ISO14001:2004 Environmental Management System;*
- *Guidance Statement No. 56: Guidance for the Assessment of Environmental Factors – Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia*
- *Guidance Statement No. 51: Guidance for the Assessment of Environmental Factors – Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia.*

Relevant legislation:
- *Conservation and Land Management Act 1984 (CALM Act)*
- *Environmental Protection Act 1986 (WA)*
- *Aboriginal Heritage Act 1972*
- *Heritage of Western Australia Act 1990*
- *Wildlife Conservation Act 1950 (WA)*

STATUS: Compliance

IMPLEMENTATION:
- Upgrading the recreation facilities and roads are in line with the prescriptions in the Fitzgerald River National Park Management Plan and DEC policies. To ensure that the development of the walking trail is in line with the Management Plan, amendments have been proposed to the Fitzgerald River National Park Management Plan. These are currently out for public comment.
- The 'Wilderness zone' in the Fitzgerald River National Park as described in the Fitzgerald River National Park Management Plan has not been gazetted under section 62(1)(a) of the Conservation and Land Management Act 1984, so the Policy 62 does not apply to the Fitzgerald River National Park.
- Measures are being undertaken to reduce the risk of introducing and spread of *Phytophthora cinnamomi* to the project area, or further spreading current infestations of other *Phytophthora* spp during construction of the road, recreation sites and walking trails (as detailed under Measure 6), as per the Policy No. 3 guidelines. Environmental Management Plans are being compiled to ensure *inter alia* adequate hygiene practices, informed by dieback surveys of the project area.
- Flora and fauna surveys are being conducted prior to construction as per the EPA's Guidance Statements 51 and 56. The road, recreation facilities and walking trail are being designed to avoid as much as possible any special environmental areas identified by these surveys.
- Heritage surveys are being undertaken prior to construction to comply with Acts and policies.

MEASURE 2
The action must be managed within the scope of the Park's primary management objective of "conserving all flora and fauna" within the Park.

STATUS: Compliance

IMPLEMENTATION:

- All staff, consultants, contractors and relevant affected parties attend a 'Green Card' Induction which raises their awareness of the possible environmental consequences of their actions, and principles to follow to minimize their environmental impact. On completion of the induction a Green Card is issued.
- All staff, consultants, contractors and relevant affected parties must comply with the guidelines in the Environmental Management Plan relevant for the work they are conducting. On-site Environmental Officers monitor and ensure compliance to the Environmental Management Plan
- The road and recreation sites are being designed as to minimise the 'footprint' of the sites, including visual impact.
- Flora, fauna, dieback and heritage surveys are being conducted prior to construction. The sites are being designed and constructed in order to minimise impact on special environmental areas (measure 3) and threatened flora and fauna (measure 4).
- Environmental Management Plans are being developed for the construction of the road, recreation sites and walking trail with the objective of conserving all flora and fauna within the Park. To date, an Environmental Management Plan has been developed for Hamersley Drive Upgrade Section 3, and further plans will be developed for the rest of the project area.

MEASURE 3
Impacts on special environmental areas must be firstly avoided, or where unavoidable, mitigated through the specific procedures outlined within section 4 of the referral document.

STATUS: Compliance

IMPLEMENTATION:

The special environmental areas that may potentially be impacted by the construction are being identified by flora, fauna, dieback and heritage surveys being conducted prior to construction. The road, recreation sites and walking trail are then being designed and constructed in order to avoid and/or minimise impacts on any special environmental areas. Construction is being conducted under Environmental Management Plans.

Actions for the first three kilometers of Hamersley Drive road Upgrade (road works to July 2010)

Special environmental areas identified are the vegetation associations found on the wave cut bench around the south side of East Mount Barren, micro-wetlands and threatened flora habitat.

The impacts on these areas were avoided or mitigated by:

- The alignment of the sealing of the road has been kept to the current alignment of the road as much as possible.
- The impact on DRF was minimized as much as possible. However several plants of four threatened species (*Eucalyptus burdettiana* – 16 plants, *Eucalyptus coronata* – one plant, *Kunzea similis subsp. similis* – 14 plants, *Verticordia pityrhops* – three plants) were taken (under a permit to take DRF issued by DEC).
- Vegetation clearing for the road was estimated to be 2.194ha. The vegetation was mulched in-situ with the topsoil and windrowed with no dispersal along the alignment. This has been respread up the batter and other disturbed areas to minimized erosion and promote rehabilitation (through seed stored in mulch and topsoil mix).
- Maintenance of hydrological regimes for micro-wetlands located on the wave cut bench was addressed through the use of biodegradable geo-textile and aggregate to allow controlled seepage through to the south side of the road.
- The road batters have been stabilised by rocks or biodegradable geo-textiles where required to prevent erosion of the road sides.

Similar actions will be put into place for the rest of the project area.

MEASURE 4
The project must not result in a net loss of EPBC Act listed threatened or migratory species; or habitat for EPBC Act listed threatened species; or important habitat for EPBC Act listed migratory species.

STATUS: Compliance

IMPLEMENTATION:

Prior to construction, flora and fauna surveys are being conducted to identify any EPBC Act listed threatened or migratory species; or habitat for EPBC Act listed threatened species; or important habitat for EPBC Act listed migratory species that may potentially be impacted by this project. The road, recreation sites and walking trail are then being designed and constructed in order to avoid and/or minimise impacts on these species. Construction is being conducted under Environmental Management Plans.

Findings and actions for the first three kilometers of Hamersley Drive road Upgrade (road works to July 2010)

- EPBC listed species that were impacted are *Eucalyptus burdettiana* (Endangered), *E. coronata* (Vulnerable) and Verticordia pityrhops (Endangered).
- The survey undertaken through this project has increased the recorded plant numbers of *E. burdettiana* and *E. coronata* by greater than 10 fold.
- *V. pityrhops* was not located during the survey due to the species being in vegetative phase (non-flowering) and being difficult to identify in amongst the dense vegetation within its known habitat. 3 plants of *V. pityrhops* were taken which constitutes 0.15% of the known population.
- *Kunzea similis* subsp. *similis*, which is not an EPBC listed species, had the greatest number of plants taken (14) which constitute 0.38% of population.
- Seed was collected from the *Eucalyptus burdettiana* and *E. coronata* plants taken (under a permit) and will be stored in the DEC Threatened Flora Seed Centre.

MEASURE 5
No clearing may be undertaken if it will or is likely to significantly impact the conservation status of an EPBC Act list species; or lead to a decline in size of, or area of occupation of, an important population of an EPBC Act listed species.

STATUS: Compliance

IMPLEMENTATION:

The road, recreation sites and walking trail are then being designed and constructed in order to avoid and/or minimise the area of vegetation cleared. Construction is being conducted under Environmental Management Plans.

Findings and actions for the first three kilometers of Hamersley Drive road Upgrade (road works to July 2010)

- The area cleared has been minimised for the current road construction, and will probably be 2.194 ha and is not anticipated to have a significant impact on the size/area of occupation by EPBC flora or fauna species. (EMP for Hamersley Drive Upgrade Section 3)
- A permit to take Declared Rare Flora has been issued by DEC for four DRF (*Eucalyptus burdettiana* – 16 plants, *Eucalyptus coronata* – one plant, *Kunzea similis* subsp. *similis* – 14 plants, *Verticorida pityrhops* – three plants). The taking of these plants is not anticipated to have a significant impact on the size/area of occupation by the EPBC listed species (*Eucalyptus burdettiana, Eucalyptus coronata* and *Verticorida pityrhops*.
- A condition of the permit to take DRF is that post disturbance monitoring is undertaken of the adjacent DRF populations to the areas disturbed, and the DRF's response to the disturbance for two seasons following the disturbance.

Fisher's Gravel Pit

- Due to Fisher's Gravel Pit being habitat for Carnaby's Black-cockatoo, only less than one hectare of vegetation was cleared for road construction up to July 2010.
- An EPBC referral has been submitted to DEHWA for the clearing of up to a further 14 ha of Fisher's Pit, due to it being habitat for Carnaby's Black-cockatoo.

MEASURE 6
There must be no further spread of dieback to special environmental areas as a result of the development, its associated activities and/or its consequential impacts.

Special Environmental Areas (for instance, containing threatened species under the EPBC Act; declared rare, priority or significant flora, areas of priority and protected fauna habitat under Western Australia legislation; wetlands etc)

STATUS: On-going compliance

IMPLEMENTATION:

The roads, recreation sites and walking trails are being designed in such a way as to minimise the risk of the introduction of *Phytophthora cinnamomi* into the Park as a whole and not only to special environmental areas as much as feasible. This has included:

- Including hygiene infrastructure (e.g. foot cleaning stations) at the recreation sites. Locating the walking trail within the coastal catchments, to reduce the risk of dieback being spread inland from the walking trail.
- Increase visitor awareness and appreciation of dieback and required hygiene protocols through signage, trail notes and brochures and other means
- Development of a dieback risk assessment and management plan.

Measures being undertaken to reduce the risk of introducing *Phytophthora cinnamomi* to the project area, or further spreading current infestations of other *Phytophthora* spp during construction of the road, recreation sites and walking trails include:

- A *Phytophthora* dieback status assessment for the park which determined presence and distribution of *Phytophthora* spp;
- A dieback management plan for the park, including management actions to mitigate further introduction and spread of dieback
- Pre-construction *Phytophthora cinnamomi* Hygiene Plans detailing hygiene protocol,
- Pre-construction dieback surveys to determine current distribution of *Phytophthora* spp. In the project area,
- Risk assessment of *Phytophthora* dieback in surrounding non-park areas
- A *Phytophthora* dieback risk assessment for the walking trail to guide trail design, alignment and management actions
- 'Green Card' induction of all staff/contractors which includes detailed hygiene protocol,
- Environmental Management Plans implemented as each stage comes on line,
- Environment Officer on-site during construction to check compliance with the Environmental Management Plans.

<u>Actions and findings for the first three kilometers of Hamersley Drive road Upgrade (road works to July 2010)</u>

- A dieback survey was undertaken for the area between the Park entrance and Hamersley Inlet. The dieback survey took 24 samples where dead or dying vegetation was found. Four samples returned positive for *Phyophthora multivora* and one for an unknown *Phytophthora* species. No samples were positive for *Phytophthora cinnamomi. Phyophthora megasperma* is known from the area and the dieback survey report provides maps of the known occurrence.
- The Environmental Management Plan outlines hygiene procedures for the management of potential *Phytophthora* introduction and/or spread. This includes requirements for vehicles to

be clean on entry to site, procedures for movement of vehicles and plant out of infested (*Phytophthora* spp.)

- Soil was not moved between micro-catchments during construction, to prevent any potential *Phyophthora* spp. being spread between catchments.

MEASURE 7
The Response Plan for the Management of *Phytophthora cinnamomi* in the Fitzgerald River National Park 2006 – 2011 must be applied.

STATUS: N/A

IMPLEMENTATION:

The stated '*Response Plan for the Management of Phytophthora cinnamomi in the Fitzgerald River National Park 2006-2011*' is primarily focused on the control of the current infestations in the National Park, in particular Bell Track. As such, the plan is not relevant for this action. See Measures 6 and 8 and the relevant actions and plans to be initiated.

MEASURE 8
A dieback and weed management plan must be developed for the action, and must be implemented, as outlined in Section 4 of the referral document.

STATUS: On-going compliance

IMPLEMENTATION:

Dieback and weed management is included in the Environmental Management Plans. These plans follow hygiene management protocols as detailed in the following documents:

- *Phythophthora cinnamomi* and disease caused by it – Management Guidelines
- Best Practice Guidelines for Management of Phytophthora Dieback in Extractive Industries

Dieback and weed management plans are currently being developed by DEC for this Road Upgrade and Walking Trail Project.

MEASURE 9
Growth in visitor numbers as a result of the development must be in line with the Park's overall commitment to no detrimental impacts to the natural environment; including matters of national environmental significance protected under the EPBC Act.

STATUS: On-going compliance

IMPLEMENTATION:

The recreation facilities are being upgraded to allow for greater numbers of visitors while limiting the impacts of these visitors on the natural environment of the Park. These upgrades are currently in the planning stage. Some of the key features include:

- Design of the recreation sites to complement and/or blend into the natural environment.
- Design of the recreation sites to limit erosion and other potential detrimental impacts.
- Include dieback hygiene infrastructure at appropriate recreation sites
- Use of materials for longevity and functionality.
- Installing additional toilets at major recreation sites.
- Choice of construction material to minimise visual impact.
- Sealing of carparks and paths to reduce the risk of dieback being introduced.
- DEC providing design services to the shire reserve at Hamersley Inlet to maintain standards across the Park

Interpretation of the Park is being upgraded to increase visitors' awareness and appreciation for the biodiversity and landscapes of the FRNP, which will also include information in brochures and signage on dieback and hygiene management by visitors. This interpretation is currently in the planning stage.

Actions and findings for the first three kilometers of Hamersley Drive road Upgrade (road works to July 2010)

- A Visual Impact Assessment was completed by the Recreation & Landscape Unit of DEC for the first section of Hamersley Drive.
- Recreation Master Plan completed

MEASURE 10
Any growth in camping numbers or facilities must be managed within the guidelines of the Park's management plan, with mechanisms implemented to manage these impacts to ensure that there are no impacts upon the park's special environmental areas.

Special Environmental Areas (for instance, containing threatened species under the EPBC Act; declared rare, priority or significant flora, areas of priority and protected fauna habitat under Western Australia legislation; wetlands etc)

STATUS: On-going compliance

IMPLEMENTATION:

A Recreation Master Plan for the FRNP-IP was developed in early 2010 to provide direction for the redevelopment of the recreation sites to ensure the facilities are spaced to accommodate volume growth and to minimize impact.

Recent Vistat figures suggest 40,000 visitors enter the park annually. Of these, approximately 24,000 (62%) enter from the eastern side of the Park along Hamersley Drive. This number is projected to increase significantly with the upgrading of the road network and associated facility renewal.

Recreation Master Plan:
With average levels of usage the campsites cope for the majority of the year. During peak periods however the capacities of Four Mile, St Mary's and Hamersley Inlets are exceeded. Surveys suggest that the majority of people desire the ability to camp away from others. The fragile, highly erodible soils make some camping areas environmentally unsustainable. As vegetation is stripped for firewood or damaged by vehicles, theses soils become exposed and subsequently erode. Such fragile areas cannot support camping. Site analysis has been completed to sustainable development areas within existing sites.

The management plan proposes to provide additional / alternative areas for camping which are sustainable in the long term. It suggests an increase of 100% over the next 10 years

- Caravans

Provision for caravans are discussed in the management plan stating that they should be actively discouraged due to limited space and inadequate road design in terms of safety. The proposed roading upgrades will allow for caravan access throughout the park however the appropriateness and implications on landscape and experience in providing for caravans is currently under discussion.

- Toilets / Ablutions

The management plan states that no flushing toilets or showers should be provided, suggesting a sealed vault configuration only be used. Since the Plan was written toilet technology has advanced and other environmentally appropriate facilities have been designed. Toilets are to be provided at day-use and campsites as required. Environmental and/or visual impacts will also help determine what facilities will be provided.

- Campfires

Due to lack of available firewood and wildfire risks, on-ground campfires are not permitted in the Park. The management plan allows for fires in controlled containers at the rangers discretion, however promotes the provision of gas BBQ's at the more intensively used campsites. It is likely that fires of any sort will be disallowed and that gas BBQ's may be provided at campsites.

GHD

1st Floor 10 Victoria Street
Bunbury WA 6230
T: 08 9721 0700 F: 08 9721 0777 E: bunmail@ghd.com.au

Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	G. Johnstone	F. Hannon	Fionnuala Hannon	F. Hannon	Fionnuala Hannon	18.4.2011
0	G. Johnstone	F. Hannon	Fionnuala Hannon	F. Hannon	Fionnuala Hannon	13.5.2011