

Proposal to construct a road across Vasse Estuary (Ford Road), Shire of Busselton

Shire of Busselton

**Report and recommendations
of the Environmental Protection Authority**

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Summary and recommendations

This report is to provide advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment on a proposal to construct a road across the Vasse Estuary, Shire of Busselton.

Relevant environmental factor

It is the EPA's opinion that the following environmental factors are relevant to this proposal:

- (a) waterbirds - physical disruption of waterbird habitat;
- (b) wetland vegetation - physical disturbance to wetland vegetation;
- (c) flood management - changes to water flow and vegetation composition;
- (d) Specially Protected (Threatened) Fauna - disruption of Southern Brown Bandicoot habitat; and
- (e) surface water quality - potential contamination of wetlands.

Conclusion

The EPA considers the proposal to construct a road over the Vasse - Wonnerup Wetlands as proposed is environmentally unacceptable as it cannot be managed to meet the EPA's objectives in relation to impacts on waterbird habitat, and is inconsistent with the intent of the Environmental Protection (Swan Coastal Plain Lakes) Policy 1992.

Other advice

The EPA notes that the Shire of Busselton has permitted the dumping of 'fill' material along the proposed road alignment north of the proposed estuary crossing. The EPA has been advised that this has altered local hydrological characteristics and resulted in the degradation of intertidal samphire vegetation adjacent to the Vasse Estuary (LDM, 1997). The EPA understands that soil and native vegetation disturbance associated with deposition of fill is also likely to have contributed to the spread of exotic weeds in the vicinity of the proposed alignment.

The EPA therefore, considers that the Shire of Busselton should remove fill previously placed in the Ford Road alignment.

Recommendations

The EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister considers the report on the relevant environmental factor of waterbirds and the EPA's objective with regard to this factor, as set out in Section 3 of this report.
2. That the Minister notes that the EPA has reported on the environmental factor of waterbirds, but not considered in detail the environmental factors of:
 - (a) wetland vegetation;
 - (b) flood management;
 - (c) Specially Protected (Threatened) Fauna; and
 - (d) surface water quality,

because the proposal cannot meet the EPA's objectives in relation to waterbirds.

3. That the Minister notes that the proposal cannot be managed to meet the EPA's objective in relation to waterbirds. The EPA has decided that detailed assessment of the remaining factors is not required unless the Minister for the Environment determines that the assessment of the remaining factors was needed before a decision on the proposal could be made.
4. That the Minister notes that the EPA has not included in this Bulletin "conditions and procedures to which the proposal should be subject, if implemented" because the EPA holds the view that the proposal should not be implemented.
5. That the Minister not issue a statement that the proposal may be implemented.
6. That the Minister notes the EPA's other advice presented in Section 4 in relation to previous deposition of fill along the proposed alignment, and the EPA's view that the Shire of Busselton should remove the fill and prepare and implement a weed control and wetland rehabilitation plan for the area affected by the fill deposition.

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1. Introduction and background

This report is to provide advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment on a proposal to construct a road across the Vasse Estuary, Shire of Busselton.

Ford Road is currently an unsealed road (track) at the location indicated in Figure 1. Some 'fill' material has been placed in the northern most section prior to 1991, where the track crosses the Vasse Estuary, in anticipation of a sealed road being constructed.

This 'filling' was brought to the attention of the EPA in 1991. The Shire was subsequently advised that any filling of the estuary was contrary to the Environmental Protection (Swan Coastal Plain Lakes) Policy which was being developed at that time, and that any proposal to construct a formal road would need to be referred to the EPA for assessment.

The proposal was referred to the EPA by the Shire in 1992 and the level of assessment set as Consultative Environmental Review (CER). A CER document as such was not prepared, as the 'proposal application document' submitted to the EPA by the Shire was considered adequate (Shire of Busselton, 1993). This documentation was released for public review for a period of 2 weeks in June 1993.

The EPA considered the proposal in 1993/94 and determined that *the potential detrimental environmental impacts of this proposal are so significant as to be unacceptable and therefore recommended that it not proceed.*

The EPA subsequently advised the Shire of Busselton in 1994 that the proposal was unlikely to be found acceptable and that additional work would be required to assess the environmental factors accurately.

In accordance with this request, the Shire commissioned additional studies to identify flora and fauna values in the vicinity of Ford Road, the need for Ford Road, and other alternative routes. The Shire has submitted a further environmental report (Ford Road Environmental Study (LDM, 1997)) and requested that the EPA re-commence its assessment of this proposal.

Further details of the proposal are presented in Section 2 of this report. Section 3 discusses the environmental factors relevant to the proposal while, Section 4 presents other advice the EPA considers relevant to this assessment. The EPA's conclusion is presented in Section 5 and the EPA's recommendations in Section 6. References used during the preparation of this report are included as an appendix to this report.

2. The proposal

The proponent seeks to construct a sealed road, known as Ford Road, along the alignment indicated in Figure 1. Construction of the road would be in accordance with the Shire's long term traffic management plans.

The road is currently a track within a gazetted road reserve, and crosses the western (upper) end of the Vasse Estuary. This portion of the Estuary is usually dry during summer months, and is used at present by two-wheel drive vehicles. In winter the alignment becomes inundated. The remainder of the track crosses a swampy estuarine area and some pasture land at the south end.

The sealed road is intended to cater for 2 lanes of traffic and link Peel Terrace to the north and the Bussell Highway to the south. The original road design as proposed to the EPA in 1991 has been significantly modified. In a letter to the Department of Environmental Protection of 6 January 1999, the proponent has indicated an intention to construct a bridge with a length of 75 metres across the Vasse Estuary, as shown in Figure 2. This bridge has been incorporated as part of the modified road design to minimise restriction to the flow of water within the estuary, to reduce impact on fringing riparian vegetation adjacent to the Estuary, and to allow for unimpeded movement of waterbirds within the Estuary east and west of the proposed road.

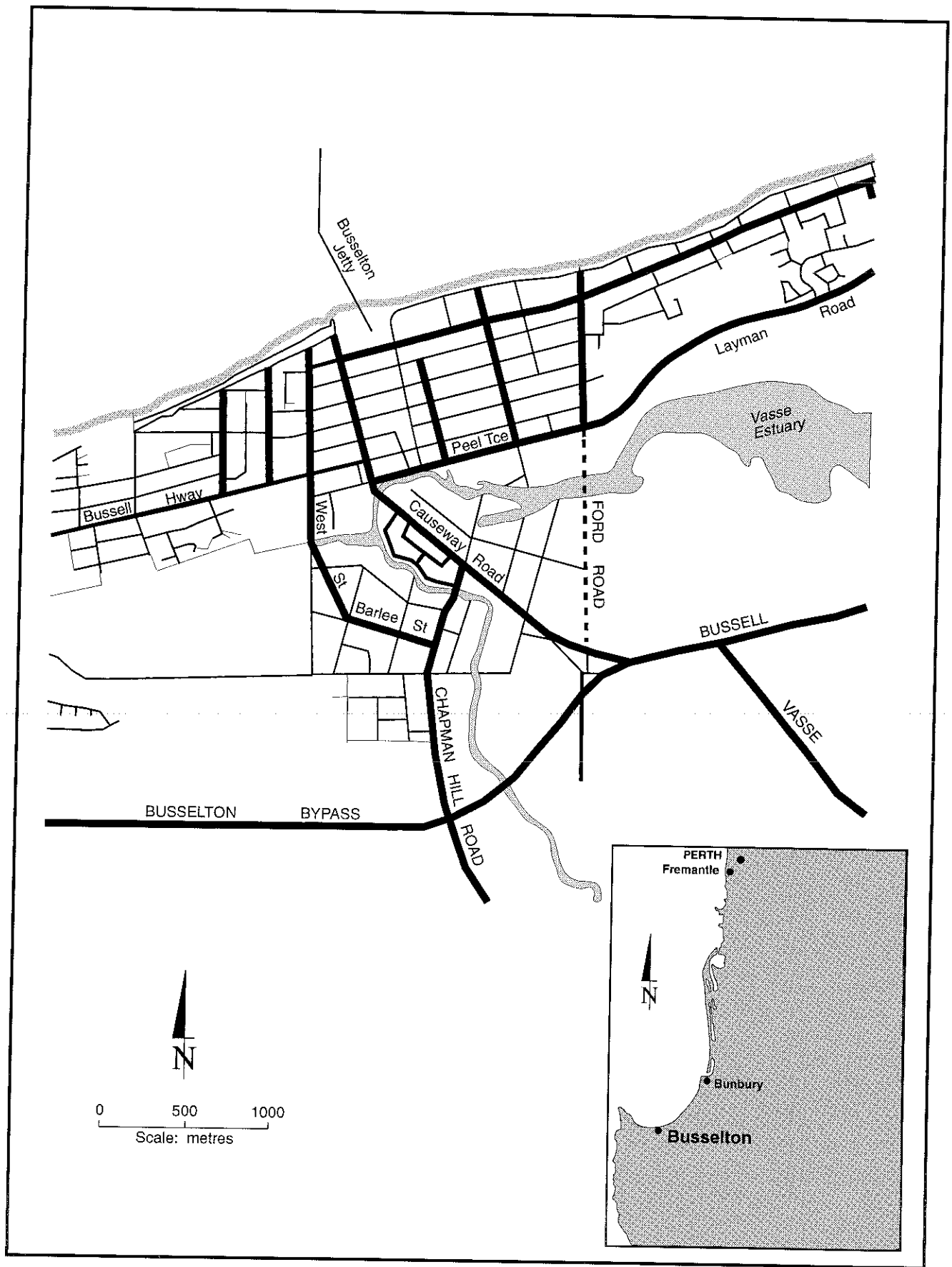
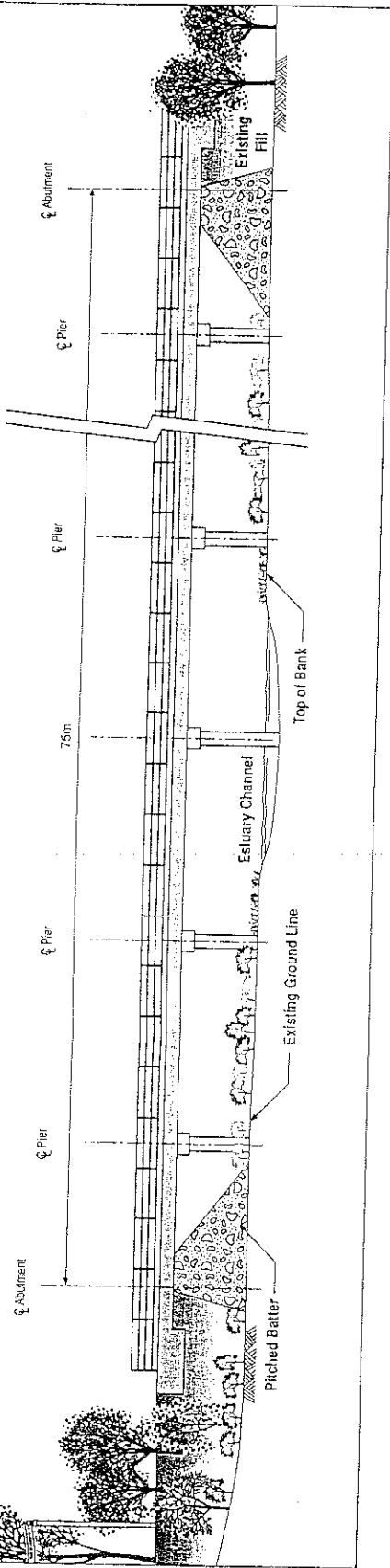
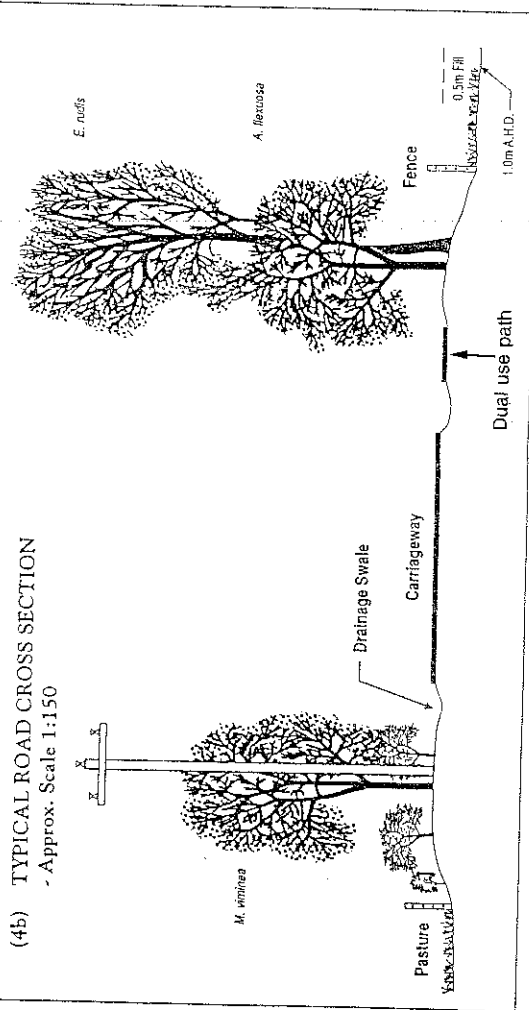


Figure 1. Map indicating location of Ford Road.

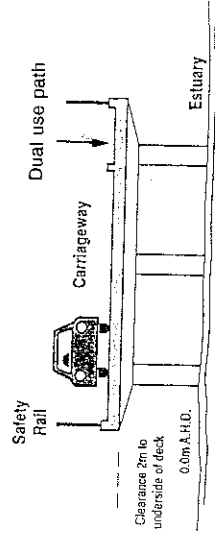
(4a) LONG SECTION SHOWING TYPICAL BRIDGE & ABUTMENTS
 - Approx. Scale 1:150



(4b) TYPICAL ROAD CROSS SECTION
 - Approx. Scale 1:150



(4c) TYPICAL BRIDGE CROSS SECTION
 - Approx. Scale 1:150



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Busseton Shire Council
 FORD ROAD ENVIRONMENTAL STUDY
 ROAD AND BRIDGE SECTIONS

Figure	4
Revision Indicator	1
LEPROVOST DAMES & MOORE	

Figure 2. Design details of proposed bridge to be incorporated within the revised Ford Road proposal.

Table 1. Summary of key Proposal Characteristics (LDM, 1997)

Element	Description
Width of road	1200 metres long, 7.5 metres wide
Area of disturbance (for construction of road and swales for stormwater retention)	up to 20 metres wide
Type of vegetation directly lost	estuarine vegetation and pasture
Length of bridge	50 - 75 metres

3. Environmental factors

3.1 Relevant environmental factors

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and on the conditions and procedures to which the proposal should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

The EPA considered the proposal in 1993/94 based on the 'proposal application document' and determined that the following environmental factors were relevant to the proposal:

- (a) waterbirds - physical disruption of waterbird habitat;
- (b) wetland vegetation - physical disturbance to wetland vegetation;
- (c) flood management - changes to water flow and vegetation composition;
- (d) Specially Protected (Threatened) Fauna - disruption of Southern Brown Bandicoot habitat; and
- (e) surface water quality - potential contamination of wetlands.

A summary of the EPA's assessment, including government agencies and public comment as at February 1994 is presented in Table 2. The EPA concluded at that time that more information was required to assess these factors accurately.

The EPA has now considered the additional information provided on these factors by the Shire (LDM, 1997) and determined that enough is known of the 'waterbirds' factor for the EPA to form the opinion that the proposal cannot meet the environmental objective and thus should not proceed. The EPA has therefore decided only to report in detail on this relevant environmental factor, as detailed below. A summary of the EPA's assessment of this factor and its position in relation to the other factors is presented in Table 3.

Table 2. Summary of relevant environmental factors associated with original Ford Road proposal and status of assessment, as of February 1994.

PRELIMINARY ENVIRONMENTAL FACTOR	PROPOSAL CHARACTERISTIC	GOVERNMENT AGENCY AND PUBLIC COMMENTS	EPA VIEW AS OF FEBRUARY 1994
BIOPHYSICAL			
Wetland vegetation	Proposed road crosses a portion of the Vasse - Wonnerup wetland ecosystem. Potential impact on wetlands through physical disturbance to wetland vegetation.	CALM, DEP and public submissions advise that the Vasse-Wonnerup wetlands are listed as a Ramsar Wetland of international significance and therefore has a high conservation value. Vegetation composition in the vicinity of the proposed alignment forms an important waterbird habitat. DEP also advise that the Vasse-Wonnerup Wetland system is protected under the Lakes EPP.	Construction of proposed road is likely to be disruptive to this important conservation area and therefore have an unacceptable impact on the conservation value of the wetland ecosystem. Shire advised by EPA in 1994 that more information is required to assess this factor accurately.
Flood management	The proposed road crosses the Vasse Estuary which is open shallow water at this location. Road proposed to have 2 culverts to allow for movement of water. No information provided by proponent on local hydrodynamics.	CALM, DEP and public submissions raised point that dumping of spoil along road alignment has already altered water flow and resulted in changes to vegetation composition. CALM advise that the road will alter the natural water flow and may lead to localised flooding. CALM recommend additional culverts (6). WAWA also recommend additional culverts (4) - proponent has agreed to increase number to 4.	Natural water movement is crucial to the functioning of wetland ecosystems, and road as proposed may constrict water flow reducing water velocities and increase silt deposition. Inadequate information has been presented by proponent to demonstrate how water flows will be maintained. Shire advised in writing to remove fill already dumped along road alignment to restore the hydrological regime.

BIOPHYSICAL			
Waterbirds	Proposed road crosses a portion of the Vasse - Wonnerup wetland ecosystem, which is known to support a large number of waterbirds, many of which are protected by international treaties including JAMBA and CAMBA.	CALM advise that the proposed road may impact on waterbirds through physical disruption of wetland habitat. Further, street lighting and traffic movement on the proposed road may disrupt bird breeding and feeding activities.	Construction of the proposed road and associated traffic movement poses an unacceptable threat to an important waterbird feeding and breeding ground. This is not in accordance with international waterbird treaties to which Australia is a signatory. Shire advised by EPA in 1994 that more information is required to assess this factor accurately.
Specially Protected (Priority) Fauna	The proposed road is in the vicinity of an area which may support Declared Rare and Priority fauna.	CALM advise that the area may provide habitat for the Declared rare and Endangered Southern Brown Bandicoot.	The proposed road may disrupt the habitat of Declared rare and Endangered fauna.
POLLUTION MANAGEMENT			
Surface water quality	Road crosses wetland area.	CALM raise the concern that there is a risk of potential contamination of wetlands - contaminated stormwater run-off, fuel spillage etc. Public submissions raise point that proponent has provided insufficient information on possible methods of containing spills.	The EPA considers that the potential impacts of fuel/oil spillages on the bird feeding and breeding grounds adjacent to the Ford Road alignment are significant.

Table 3. Summary of assessment of relevant Environmental factors associated with the modified Ford Road proposal, as of May 1999.

RELEVANT ENVIRONMENTAL FACTOR	RELEVANT AREA	EPA OBJECTIVE	EPA ASSESSMENT	EPA ADVICE
BIOPHYSICAL Wetland vegetation	Vasse - Wonnerup Wetlands.	<ul style="list-style-type: none"> • Maintain the integrity, functions and environmental values of wetlands. • Ensure Environmental Protection Policy (EPP) Lakes are protected and their key ecological functions are maintained. • Comply with the intent of the Ramsar 'Convention on Wetlands of International Importance'. 	The EPA notes the conclusions of the Environmental Study commissioned by the Shire (LDM, 1997), i.e. the vegetation communities are highly disturbed and road construction will not impact on vegetation communities of high ecological value. However some vegetation has been affected by the dumping of fill along the road alignment.	No report on this factor. However, EPA considers that the fill material should be removed and the Shire of Busselton prepare a weed control and wetland rehabilitation plan for the area, to the satisfaction of CALM.
Flood management	Vasse - Wonnerup Wetlands	<ul style="list-style-type: none"> • Ensure that the hydrological regime is maintained such that it does not compromise the integrity, functions and environmental values of wetlands. 	The EPA notes the additional advice received by the proponent (Environmental Study commissioned by the Shire (LDM, 1997) and recent hydrological calculations) and advice from CALM with respect to this factor. EPA considers that natural water movement is crucial to the functioning of wetland ecosystems and reiterates that it is essential that there be no impedance of water flow across the wetland ecosystem as a result of the road being constructed.	No report on this factor.

RELEVANT ENVIRONMENTAL FACTOR	RELEVANT AREA	EPA OBJECTIVE	EPA ASSESSMENT	EPA ADVICE
BIOPHYSICAL				
Waterbirds	Vasse - Wonnerup Wetlands	<ul style="list-style-type: none"> Comply with intent of international waterbird treaties to which Australia is a signatory - Japan Australia Migratory Bird Agreement (JAMBA) and China Australia Migratory Bird Agreement (CAMBA). Comply with the intent of the Environmental Protection (Swan Coastal Plain Lakes) Policy 1992, including protecting the beneficial use of the area as designated under the lakes EPP, i.e. use of lakes as a refuge for many rare and endangered species of flora and fauna including many birds which migrate from the northern hemisphere and which are protected under international treaties. 	EPA notes additional advice provided in Environmental Study (LDM 1997) that confirms the wetland supports a large number of waterbirds and that the proposal is likely to disrupt movement of waterbirds, alter foraging and nesting habitats, and result in road deaths of waterbirds. EPA also notes CALM's view that it is strongly opposed to the proposal; and DEP's advice that the proposal is not consistent with the intent of the Lakes EPP.	EPA recommends that the proposed road is environmentally unacceptable as it cannot be managed to meet the EPA's objectives in relation to waterbirds, and is inconsistent with the intent of the Environmental Protection (Swan Coastal Plain Lakes) Policy.
Specially Protected (Threatened) Fauna	Vasse - Wonnerup Wetlands	<ul style="list-style-type: none"> Protect Specially Protected (Threatened) Fauna, consistent with the provisions of the Wildlife Conservation Act 1950. 	EPA notes additional advice provided within the Environmental Study (LDM, 1997) which states that mammals of conservation significance may be present in the area.	No report on this factor.

RELEVANT ENVIRONMENTAL FACTOR	RELEVANT AREA	EPA OBJECTIVE	EPA ASSESSMENT	EPA ADVICE
POLLUTION MANAGEMENT				
Surface water quality	Vasse - Wonnerup Wetlands	<ul style="list-style-type: none"> Maintain or improve the quality of existing surface water to ensure that existing and potential uses, including ecosystem maintenance are protected, consistent with the draft WA Guidelines for Fresh and Marine Waters (EPA, 1993). 	<p>EPA notes that CALM reiterates concerns of the risk of potential contamination of wetlands, including contaminated stormwater run-off and fuel spills. The EPA also notes that this factor has been partially addressed within the Environmental Study (LDM 1997). The EPA considers that this factor remains significant and needs to be managed very carefully.</p>	No report on this factor.

3.2 Waterbirds

Description

The proposed alignment of Ford Road crosses the Vasse Estuary, as indicated in Figure 1. This alignment is dry during the summer months, but is inundated with water during winter months. The Vasse Estuary is included within the Vasse - Wonnerup wetland ecosystem, which is recognised as a wetland of international importance under the RAMSAR convention (Figure 3). The Vasse -Wonnerup wetlands are also known to provide habitat for a large number of waterbird species, many of which are protected under the Japan Australia Migratory Bird Agreement (JAMBA) and the China Australia Migratory Bird Agreement (CAMBA).

The following comments have been received in relation to the proposal :

Department of Conservation and Land Management

CALM believes that the best option for the protection of the conservation values for the Vasse-Wonnerup wetland system is that Ford Road should be closed and that the fill material placed on the alignment on the northern side of the Vasse Estuary should be removed. CALM also notes that the LDM Study (1997) strongly supports CALM's view that the wetlands in the vicinity of Ford Road provide a very valuable wildlife habitat, especially for waterbirds, which substantially add to, and complement the values of the Ramsar-listed Vasse-Wonnerup wetland system.

CALM concludes that its strong preference is for Ford Road to be closed and the existing land fill to be removed.

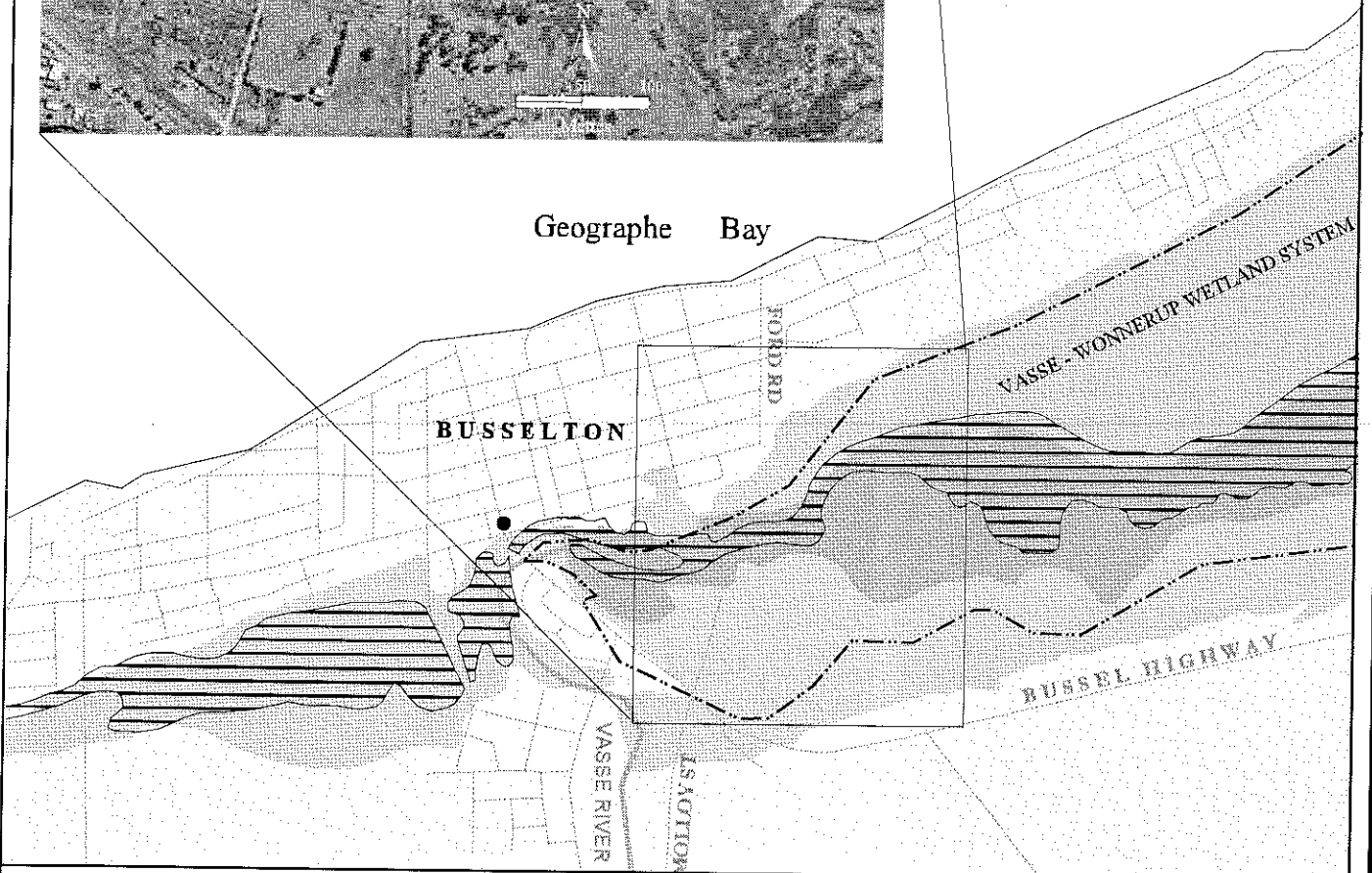
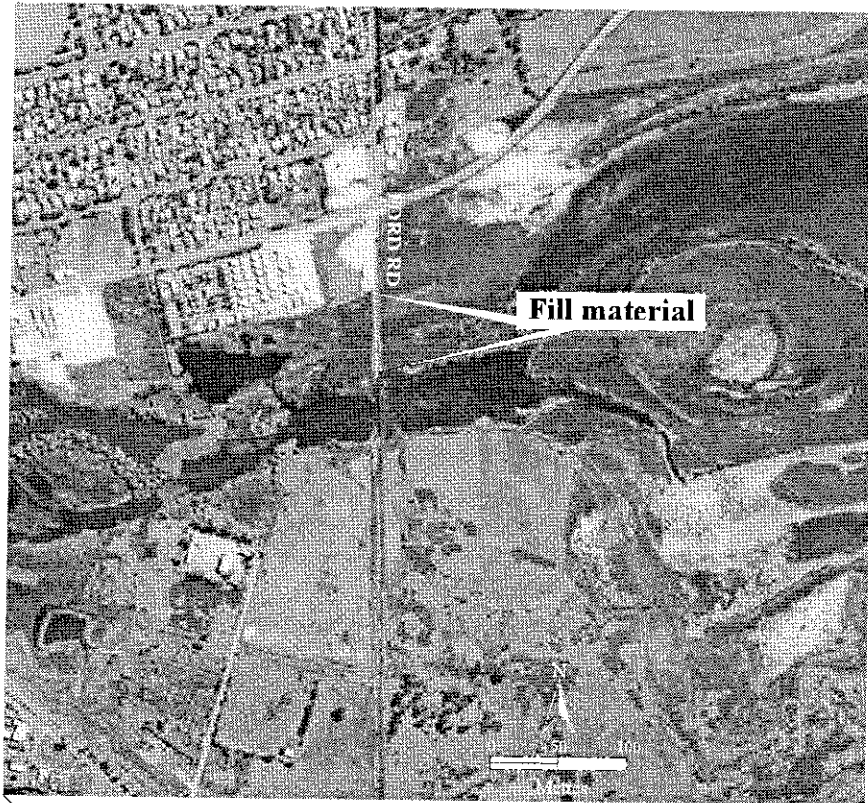
Department of Environmental Protection





The DEP advised that the Vasse - Wonnerup Wetland system is included within the Environmental Protection (Swan Coastal Plain Lakes) Policy 1992. This prohibits filling, excavation or mining, disposal of effluent into or drainage of water out of a designated lake. The proposed road is contrary to the purpose of the EPP and the DEP is therefore opposed to it. The DEP considered that the proposed road would be an unacceptable land use within a very significant wetland ecosystem and supports CALM's comments with respect to disruption of waterbird habitat, and the need to maintain a normal hydrodynamic regime.

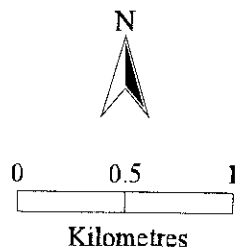
Assessment

The EPA's objectives with respect to this factor are:

- to comply with the intent of international treaties to which Australia is a signatory - Japan Australia Migratory Bird Agreement (JAMBA), China Australia Migratory Bird Agreement (CAMBA), and Ramsar Convention on Wetlands. Australia's obligations under these treaties involve co-operation in taking measures for the management and protection of migratory birds and birds in danger of extinction and also for the management and protection of their environments; and
- to comply with the intent of the Environmental Protection (Swan Coastal Plain Lakes) Policy 1992, including protecting the beneficial use of the area as designated under the lakes EPP, i.e. use of lakes as a refuge for many rare and endangered species of flora and fauna including many birds which migrate from the northern hemisphere and which are protected under international treaties.



-  Vasse-Wonnerup RAMSAR Boundary, approximate only (EA, 1995)
-  Lakes EPP (DEP, 1992)
- Seminiuk's Basin Wetlands (WRC, 1992-93)
 -  Estuary, waterbody
 -  Estuary, shoreline



GIS Branch, June 1999.
 Department of Environmental
 Protection, Western Australia

Figure 3: Extent of fill dumped along Ford Rd alignment.

The EPA notes that since it considered the road as it was originally proposed in 1993/94, the Shire of Busselton has commissioned LeProvost Dames and Moore, Environmental Consultants to prepare a report entitled 'Ford Road Environmental Study' (1997), to identify whether the site is a significant waterbird habitat. This report included the following observations:

- the Vasse Estuary in the vicinity of the proposed road is considered to have significant waterbird habitat value, particularly for breeding purposes. The habitat value is due in part to the low, dense cover, together with the enclosed nature of the estuary at this location. The road is likely to disrupt movement of waterbirds including broods of young;
- altered water flow regimes may flood nests upstream, and alter foraging habitats downstream of the road; and
- there is likely to be an increase in road deaths of waterbirds through collisions with vehicles.

The EPA notes this additional advice provided in the Environmental Study (LDM 1997) which confirms that the wetland supports a large number of waterbirds and that the proposal is likely to disrupt movement of waterbirds, alter foraging and nesting habitats, and result in road deaths of waterbirds. EPA also notes CALM's strong preference that the road not proceed; and DEP's advice that the proposal is not consistent with the intent of the Lakes EPP.

The EPA therefore considers that the proposed road is environmentally unacceptable and cannot be managed to meet the EPA's objectives for this environmental factor.

4. Other advice

The EPA notes that the Shire of Busselton has permitted the dumping of 'fill' material along the proposed road alignment north of the proposed Estuary crossing. The EPA has been advised that this has altered local hydrological characteristics and resulted in the degradation of intertidal samphire vegetation adjacent to the Vasse Estuary (LDM, 1997). The EPA understands that soil and native vegetation disturbance associated with deposition of fill is also likely to have contributed to the spread of exotic weeds in the vicinity.

The EPA therefore, considers that the Shire of Busselton should remove fill previously placed in the Ford Road alignment as defined in Figure 3.

The EPA also advises that any future proposal which may involve the construction of a boardwalk for pedestrian and cycle traffic along the Ford Road alignment would be given attention through discussions between the Shire of Busselton, DEP and CALM. The EPA is of the view that a raised boardwalk across the Vasse Estuary could be consistent with one of the five primary objectives of the 'Wetlands Conservation Policy for Western Australia' (1997), which is:

"To greatly increase community awareness and appreciation of the many values of wetlands, and the importance of sound management of the wetlands and their catchments in the maintenance of these values".

In order to achieve this objective the EPA considers that an essential component of a boardwalk proposal would be the removal of fill as previously mentioned, and the preparation and implementation of a weed control and wetland rehabilitation plan.

5. Conclusion

The EPA considers the proposal to construct a road over the Vasse - Wonnerup Wetlands as proposed is environmentally unacceptable as it cannot be managed to meet the EPA's objectives

6. Recommendation

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and on the conditions and procedures to which the proposal should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

The EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister considers the report on the relevant environmental factor of waterbirds and the EPA's objective with regard to this factor, as set out in Section 3 of this report.
2. That the Minister notes that the EPA has reported on the environmental factor of waterbirds, but not considered in detail the environmental factors of:
 - (a) wetland vegetation;
 - (b) flood management;
 - (c) Specially Protected (Threatened) Fauna; and
 - (d) surface water quality,because the proposal cannot meet the EPA's objectives in relation to waterbirds.
3. That the Minister notes that the proposal cannot be managed to meet the EPA's objective in relation to waterbirds. The EPA has decided that detailed assessment of the remaining factors is not required unless the Minister for the Environment determines that the assessment of the remaining factors was needed before a decision on the proposal could be made.
4. That the Minister notes that the EPA has not included in this Bulletin "conditions and procedures to which the proposal should be subject, if implemented" because the EPA holds the view that the proposal should not be implemented.
5. That the Minister not issue a statement that the proposal may be implemented.
6. That the Minister notes the EPA's other advice presented in Section 4 in relation to previous deposition of fill along the proposed alignment, and the EPA's view that the Shire of Busselton should remove the fill and prepare and implement a weed control and wetland vegetation rehabilitation plan for the area affected by the fill deposition.

Appendix 1

References

- Commonwealth of Australia (1995), Australian Treaty Series 1981 No. 6, Department of Foreign Affairs, Canberra. Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds in Danger of Extinction and their Environment (Tokyo, 6 February 1974)
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