



## 1. Application details

### 1.1. Permit application details

Permit application No.: 1600/1  
 Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Foxbay Pty Ltd

### 1.3. Property details

Property: LOT 64 ON DIAGRAM 80539 (Lot No. 64 BANDY CREEK BANDY CREEK 6450)  
 Local Government Area: Shire Of Esperance  
 Colloquial name: Correct Lot under application

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.6		Mechanical Removal Mechanical Removal	Extractive Industry Extractive Industry

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>The application is located within Fanny Cove (number 42) vegetation complex indicative of shrublands and Mallee and Acacia scrub on south coastal dunes. The Coastal Dunes comprise of a low scrub of Acacia cyclops, A. saligna and A. cochlearis with scattered Eucalyptus angulosa occurring over a Melaleuca pentagona understorey (BCS 2006).</p> <p>IBRA Bioregion: - Esperance Plains</p> <p>Beard Vegetation Association: - 42: Shrublands; mallee &amp; acacia scrub on south coastal dunes</p>	<p>The area under application has been subject to a previous application CPS 1308/1; area was reduced by applicant which excluded current area under this application.</p> <p>Previous area applied for was 1.98ha, 0.38ha of native vegetation has been removed prior to assessment being completed. This assessment only applies to the remaining 1.60ha. The condition of vegetation is considered to range from completely degraded to good (Keighery 1994).</p>	<p>Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)</p>	<p>References: BCS (2006) Keighery, B.J. (1994)</p>

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)  
 Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)

## 3. Assessment of application against clearing principles

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

Comments **Proposal is not likely to be at variance to this Principle**  
 The area under application has been subject to a previous application CPS 1308/1. The area was reduced by the applicant and excluded the current area under application.

The previous area applied for was 1.98ha and 0.38ha of native vegetation has been removed prior to assessment being completed. This assessment only applies to the remaining 1.60ha. The condition of vegetation is considered to range from completely degraded to good (Keighery 1994).

The application is located within Beard vegetation complex 42 indicative of shrublands and Mallee and Acacia scrub on south coastal dunes (Shepherd, 2007). The Coastal Dunes comprise of a low scrub of Acacia cyclops, A. saligna and A. cochlearis with scattered Eucalyptus angulosa occurring over a Melaleuca pentagona understorey (BCS 2006). The area is also located in close proximity to a number of nature reserves.

The dominant vegetation community occurring on the land is acacia scrub on south coast dunes consisting of: Tall Open Scrub (Keighery 1994) of Acacia cyclops, A. saligna, A. cochlearis and larger shrubs of Spiridium globulosum over Low Shrubland of Sollya heterophylla, Westringia rigida, Phyllanthus calycinus, and Lepidosperma gladiatum, Pimelea ferruginea and Austrostipa elegantissima (DEC, 2007).

There are 17 records of priority flora species in the local area. The Priority One (P1) flora recorded from the local area (10km radius from areas under application), which may occur in the areas under application are described by DEC's Florabase as:

Dryandra longifolia subsp. calcicola (Priority 1) - Grows in coastal areas on white sands over limestone.  
Astartea sp. Esperance (A. Fairall 2) (Priority 1) - Grows in saline depressions near salt pans along lake margins on sandy gravels, sandy clays and/or loams.  
Dampiera sericantha (Priority 1) - Grows on plains usually on sand but has been found on gravels.  
Hibbertia carinata (Priority 1) - Grows on well-drained gravelly sand and yellow sands with gravel.  
Lepidium fasciculatum (Priority 1) - No soil information was provided on this species.

Based on the soil description and the preferred habitat of the Priority species it is possible that Priority 1 taxa Dryandra longifolia subsp. calcicola, Dampiera sericantha and Hibbertia carinata could occur within the area that has been applied to be cleared (BCS 2006). However, none of these species were identified during a site visit (DEC, 2007).

Other rare/priority species recorded as occurring within 10km radius of the area under application which may occur within the proposed areas given same soil and Beard Vegetation Association include:

-Pityrodia chrysocalyx (P3) (Sandy soils)  
-Verticordia vicinella (P4) (Sand, clay. Low-lying areas)  
-Eucalyptus x missillii (P4) (Sand over limestone or granite. Coastal sites.)  
(WA Herbarium 2008)

The closest recorded occurrence is Priority 3 Species, Lepidosperma pruinosum, located 1.2km south of area under application (gravelly, red or yellow sand, sandy loam. Granite outcrops) (WA Herbarium).

The application area is relatively small and based on the information provided and available, it is unlikely that the application represents an ecosystem or genetic diversity of higher ecological value than the remnant native vegetation in the local area.

Prior clearing has compromised the biological diversity of the vegetation through the loss of species. Given this information, the vegetation under application is not considered to comprise a high level of biological diversity.

**Methodology** Keighery, B.J. (1994)  
DEC (2007)  
BCS (2006)  
Shepherd (2007)  
GIS datasets:  
- Esperance Townsite Orthomosaic - Landgate07  
- Esperance 1.4m Orthomosaic - DOLA 02

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

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

Three priority fauna species have been recorded as occurring within 10km radius of the area under application. Recherche Cape Barren Geese (Cereopsis novaehollandiae grisea - Vulnerable) located 3km west, live primarily in grassland on rocky islands, but also visit pastures and beaches on the mainland. The Hooded Plover (Charadrius rubricollis) (Priority 4), located 2km north east of the application area, lives and breeds on WA coast and on inland lakes, inhabiting inland lakes 100km from the ocean. After breeding, inland birds appear to move to lakes near the west coast or shores of southern lakes. They nest in the upper levels of the beach, in adjacent sand dunes or on shore lakes (foraging for invertebrates). They favour wide beaches and creek mouths or inlet entrances with large flat areas of sand. (Department of Environment, Water, Heritage and the Arts 2000).

DEC records indicate that there are areas of significant habitat within the 10km local area in much better condition than the areas under application (BCS 2006).

Given the above information and also considering that Bandy Creek lies 200m west of the proposed area, where the western side of Bandy Creek has been highly cleared, and the Lake Warden System occurs within approximately 1km to the north, the area under application may be utilised by these species. However, given the highly vegetated landscape and surrounding conservation areas, the proposed area is not likely to be significant or necessary for the maintenance of fauna.

**Methodology** SAC Biodatasets 170108  
Keighery, B.J. (1994)  
Department of Environment, Water, Heritage and the Arts (2000)  
GIS datasets:  
- Esperance Townsite Orthomosaic - Landgate07  
- Esperance 1.4m Orthomosaic - DOLA 02  
- Hydrography, linear (hierarchy) - DOW  
- Rivers, 1M - GA 01/06/00  
- South Coast Significant Wetlands - DOE 4/8/03  
BCS (2006)

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
There are no known records of rare flora species within the local area (10km radius). Given this, the proposal is not likely to be necessary for the continued existence of rare and/or priority flora.

**Methodology** SAC Biodatasets 100108

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
The closest Threatened Ecological Communities (TEC) or Priority Ecological Communities (PEC) is located 10km south west of the area under application, being Pink Lake 01 (PEC). This forms a component of a different Beard Vegetation Association to that of the proposed area, and is also separated from the proposed area by development. Given this information, it is unlikely that the proposed areas would be necessary for the maintenance of TEC/PEC.

**Methodology** SAC Biodatasets 160108  
GIS datasets:  
- Esperance Townsite Orthomosaic - Landgate07  
- Esperance 1.4m Orthomosaic - DOLA 02

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
The subject land occurs within Shrublands; mallee and acacia on south coast dunes and comprises one vegetation type within the subject land: Beard Vegetation Association 42. The subject land occurs within the eastern part of the Fannys Cove Vegetation System in the Eyre Botanical District (DEC, 2007).

The area under application is located in the Shire of Esperance and within the Esperance Plains Bioregion. The extent of pre-European vegetation within these areas is 72.18% and 51.74%, respectively (Shepherd, 2007).

The vegetation proposed to be cleared is a component of Beard Vegetation Association 42 (Hopkins et al., 2001) of which there is 46.17% remaining regionally, and 57.31% remaining locally (Shepherd, 2007).

Given the above, it is not likely that the proposal is at variance to this principle.

**Methodology** EPA (2000)  
Shepherd, D.P. (2007)  
(DEC, 2007).  
GIS datasets:  
- Pre-European Vegetation - DA 01/01  
- Esperance 1.4m Orthomosaic - DOLA 02  
- Esperance Townsite Orthomosaic - Landgate07  
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

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

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

The subject land lies 800m north of the coastal area where Bandy Creek discharges into the created structure of Bandy Creek boat harbour (DEC, 2007). Bandy Creek lies approximately 200m west of the proposed area. The Lake Warden System, which includes Windabout Lakes, Woody Lake and Mullet Lake Nature Reserves, occurs within approximately 1km to the north. Pink Lake occurs 7.8km west of the proposed areas. The Lake Warden complex is listed under the Ramsar Convention as a wetland of international significance.

Species recorded in the local area are common coastal species (Esperance Wildflower Society (Inc) 2007), and given the distance between Bandy Creek and the proposed areas, the proposed clearing is not considered likely to be associated with a watercourse/wetland.

**Methodology** DEC (2007)  
Esperance Wildflower Society (Inc) (2007)  
GIS datasets:  
- Esperance 1.4m Orthomosaic - DOLA 02  
- Esperance Townsite Orthomosaic - Landgate07  
- Hydrography, linear (hierarchy) - DOW  
- Rivers, 1M - GA 01/06/00  
- South Coast Significant Wetlands - DOE 4/8/03  
- RAMSAR, Wetlands

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

**Comments Proposal may be at variance to this Principle**

The application is associated with the Tooregullup Soil System (245To) and the To- 5 subsystem. The system is represented by a level to undulating coastal dune system. This level plain system has moderately inclined dune ridges and associated swales with occasional swamps and is linked to calcareous deep sands and associated pale deep sands and minor calcareous shallow sands (BCS 2006).

Salinity in the area has been recorded as 500 - 1000 mg/L TDS (total dissolved solids). Mean annual rainfall has been recorded as 700 mm/year, and evaporation recorded as 1800mm/year. The elevation of the proposed areas is 20m AHD. The soil within the area under application consists of Quaternary aeolian sands which are free draining and are not subject to induced dryland salinity caused by rising water tables (DEC, 2007).

There is a possible risk of acid-sulphate soils being encountered as well as soil having a low phosphorus retention index and a moderate to extreme risk of wind erosion, given the sandy soil type and proximity to the coast. The area has a low to nil risk of waterlogging given the combination of rainfall and soil type. (DAFWA 2006).

Given this information, the proposed clearing may cause appreciable land degradation in the form of wind erosion.

**Methodology** DEC (2007)  
DAFWA (2006)  
Keighery, B.J. (1994)  
Northcote, K. H et al. (1960-68)  
GIS datasets:  
- Soils, Statewide - DA 11/99  
- Isohyets - BOM 09/98  
- Groundwater Salinity, Statewide - DOW  
- Topographic Contours, Statewide - DOLA 12/09/02  
- Rainfall, Mean Annual - BOM 30/09/01  
- Acid Sulfate Soil Risk Map, Albany-Torbay - DEC

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

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

The closest area reserved for conservation is Mullet Lake Nature Reserve, located 850m north east of the proposed areas. Woody Lakes Nature Reserve is located within 1km north west and both are on the Register of National Estate as Esperance Lakes Nature Reserve. Both also form a very small component of Beard Vegetation Association 42. There are ecological linkages between these areas and the proposed area. These areas form the Lake Warden System, listed under the Ramsar Convention as a wetland of international significance.

Given the small scale of proposed clearing (1.6ha) of vegetation considered to range from completely degraded to good (Keighery 1994), it is unlikely that the proposed clearing will impact on the environmental values of these conservation areas.

**Methodology** Keighery, B.J. (1994)  
GIS datasets:  
- Pre-European Vegetation - DA 01/01  
- CALM Managed Lands and Waters - CALM 1/07/05  
- WRC Estate - DOW  
- Register of National Estate - EA 28/01/03

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
Salinity in the area has been recorded as 500 - 1000 mg/L TDS (total dissolved solids). Mean annual rainfall has been recorded as 700 mm/year, and evaporation recorded as 1800mm/year. The elevation of the proposed areas is 20m AHD. The soil within the area under application consists of Quaternary aeolian sands which are free draining and are not subject to induced dryland salinity caused by rising water tables (DEC, 2007). The proposed area is part of the Bandy Creek Catchment.

Drainage from the property is internal to swales and depressions and external to Bandy Creek. Sheet flow might only occur in high rainfall events. There is a possible risk of acid-sulphate soils being encountered as well as soil having a low phosphorus retention index (DAFWA 2006).

Given the above information, the proposed clearing is unlikely to cause deterioration in the quality of surface or underground water.

**Methodology** DAFWA (2006)  
DEC (2007)  
Keighery, B.J. (1994)  
GIS Datasets:  
- Rainfall, Mean Annual - BOM 30/09/01  
- Topographic Contours, Statewide - DOLA 12/09/02  
- Public Drinking Water Source Areas (PDWSAs) - DOW  
- Isohyets - BOM 09/98  
- Groundwater Salinity, Statewide - DOW

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
The subject land appears to be above the level subject to flooding that occurred on 6 Jan 2007. Flooding in Bandy Creek was partly attributed to the presence of a weir across the point where the creek enters the boat harbour which initially caused an upstream bank-up of waters during the flood. The purpose of the weir was to prevent tidal influences of sea water affecting the lower reaches of Bandy Creek (DEC, 2007).

Mean annual rainfall has been recorded as 700 mm/year, and evaporation recorded as 1800mm/year. The elevation of the proposed areas is 20m AHD. The soil within the area under application consists of Quaternary aeolian sands which are free draining (DEC, 2007). The area has a low to nil risk of waterlogging given the combination of rainfall and soil type. (DAFWA 2006).

Drainage from the property is internal to swales and depressions and external to Bandy Creek. Sheet flow might only occur in high rainfall events (DAFWA 2006).

Given this information, the proposed clearing is unlikely to cause or exacerbate the incidence or intensity of flooding.

**Methodology** DAFWA (2006)  
DEC (2007)  
GIS Datasets:  
- Rainfall, Mean Annual - BOM 30/09/01  
- Topographic Contours, Statewide - DOLA 12/09/02  
- Isohyets - BOM 09/98

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

### Comments

The Shire of Esperance (2007) advises that no planning consent for an extractive industry at this location has been granted or received by Council. The Shire advise that they would not be supportive of clearing activities for extractive industry until a development application has been approved. If clearing permit is approved, the Shire advises that the timing and manner of the proposal should be undertaken to minimise the potential for erosion and drift to occur. Clearing should only be allowed between May - September after significant rainfall. The applicant should also be encouraged to rehabilitate all areas cleared for the purposes of the extractive industry with a suitable mix of local native vegetation species.

Furthermore, the Shire of Esperance lies within the agricultural zone of EPA Position Paper No. 2. The EPA does not support the further reduction in native vegetation through clearing for agriculture and supports active management by landholders to maintain environmental values of remaining vegetation. The application is for extractive industry and not agriculture purposes.

The area under application has been subject to a previous application CPS 1308/1. The area was reduced by the applicant and excluded the current area under this application.

The previous area applied for was 1.98ha. 0.38ha of native vegetation was removed prior to assessment being completed. This assessment only applies to the remaining 1.60ha of native vegetation. ICMS 8965

### Methodology

Shire of Esperance (2007)  
EPA (2000)

## 4. Assessor's comments

### Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing may be at variance to Principle(g), and is not likely to be at variance to the remaining clearing Principles.

## 5. References

- BSC 2006. Department of Environment and Conservation advice DEC TRIM Ref: DOC19699.  
Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM ref xxxxx
- DAFWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DoE TRIM ref XXXXX.
- Department of Environment and Conservation (DEC) (2007) Site Inspection Report Application CPS 2159/1 TRIM ref: DOC43247
- Department of Environment, Water, Heritage and the Arts (2000) The Action Plan for Australian Birds. Environment Australia.
- EPA (1999) Review of the Environmental Protection (Swan Coastal Plains Lakes) Policy 1992, Environmental Protection Authority, Western Australia.
- Esperance Wildflower Society (Inc) (2007) Bandy Creek Fishing Boat Harbour Survey TRIM ref: DOC36798
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P. (2006). Adapted from: Shepherd, D.P., Beeston, G.R., and 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Shire of Esperance (2007). Submission DEC TRIM Ref: DOC32388.
- Western Australian Herbarium, Department of Environment and Conservation. Florabase (<http://florabase.dec.wa.gov.au/>). Accessed 15 January 2008.

## 6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food

DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)

