



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 4433/1
File Number: 2011/005384-1
Duration of Permit: 5 December 2011 to 5 December 2016

PERMIT HOLDER

Minister for Health

LAND ON WHICH CLEARING IS TO BE DONE

LOT 406 ON DEPOSITED PLAN 216401 (WEST BUSSELTON 6280)

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 238 native trees within the area hatched yellow on attached Plan 4433/1.

CONDITIONS

1. Environmental management plan

- (a) The Permit Holder must prepare, implement and adhere to a Western Ringtail Possum Management Plan.
- (b) The Western Ringtail Possum Management Plan must include:
 - (i) a plan for managing the *impacts*, inclusive of an *offset proposal* implemented in accordance with conditions 1(c) and 1(d) of this permit;
 - (ii) a table setting out the Permit Holder's commitments to the Western Ringtail Possum Management Plan requirements; and
 - (iii) a program for monitoring compliance with the Permit Holder's commitments;
- (c) Determination of *offsets*:
 - (i) in determining the *offset* to be implemented with respect to a particular area of native vegetation proposed to be cleared under this Permit, the Permit Holder must have regard to the *offset* principles contained in condition 1(d) of this Permit;
 - (ii) the Permit Holder shall implement the *offset proposal* approved under condition 1(c)(iii); and
 - (iii) each *offset proposal* shall include a *direct offset*, timing for implementation of the *offset proposal* and may additionally include *contributing offsets*.
- (d) For the purpose of this condition, the *offset* principles are as follows:
 - (i) *direct offsets* should directly counterbalance the loss of the native vegetation;
 - (ii) *contributing offsets* should complement and enhance the *direct offsets*;
 - (iii) *offsets* are implemented only once all avenues to avoid, minimise, rectify or reduce environmental impacts have been exhausted;
 - (iv) the environmental values, habitat, species, *ecological community*, physical area, ecosystem, landscape, and hydrology of the *offset* should be the same as, or better than, that of the area of native vegetation being *offset*;
 - (v) a ratio greater than 1:1 should be applied to the size of the area of native vegetation that is offset to compensate for the risk that the *offset* may fail;
 - (vi) *offsets* must entail a robust and consistent assessment process;

- (vii) in determining an appropriate *offset*, consideration should be given to ecosystem function, rarity and type of *ecological community*, *vegetation condition*, habitat quality and area of native vegetation cleared;
 - (viii) the *offset* should either result in no net loss of native vegetation, or lead to a net gain in native vegetation and improve the *condition* of the natural environment;
 - (ix) *offsets* must satisfy all statutory requirements;
 - (x) *offsets* must be clearly defined, documented and audited;
 - (xi) *offsets* must ensure a long-term (10-30 year) benefit; and
 - (xii) an *environmental specialist* must be involved in the design, assessment and monitoring of *offsets*.
- (e) Once the Permit Holder has developed a Western Ringtail Possum Management Plan, the Permit Holder must provide that Western Ringtail Possum Management Plan to the CEO for the CEO's approval. The clearing to which the Western Ringtail Possum Management Plan relates and the implementation of the Western Ringtail Possum Management Plan shall not take place until the Permit Holder receives approval from the CEO.

2. Records must be kept

The Permit Holder must maintain records of the Western Ringtail Possum Management Plan activities undertaken, in accordance with the Western Ringtail Possum Management Plan in relation to condition 1.

3. Reporting

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of record required under condition 2 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 5 September 2016, the Permit Holder must provide to the CEO a written report of records required under condition 2 of this Permit where these records have not already been provided under condition 3(a) of this Permit.

DEFINITIONS

The following meanings are given to terms used in this Permit:

condition means the rating given to native vegetation using the *Keighery scale* and refers to the degree of change in the structure, density and species present in the particular vegetation in comparison to undisturbed vegetation of the same type;

contributing offset/s has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9: Environmental Offsets*, January 2006;

direct offset/s has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9: Environmental Offsets*, January 2006;

ecological community/ies means a naturally occurring biological assemblage that occurs in a particular type of habitat (English and Blythe, 1997; 1999);

environmental specialist means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

impacts means any impact of clearing on environmental values;

offset/s means an offset required to be implemented under condition 1 of this Permit;

Keighery scale means the vegetation condition scale described in *Bushland Plant Survey: A Guide to Plant Community Survey for the Community (1994)* as developed by B.J. Keighery and published by the Wildflower Society of WA (Inc). Nedlands, Western Australia;

offset proposal means an *offset* determined by the Permit Holder in accordance with condition 1 of this Permit;

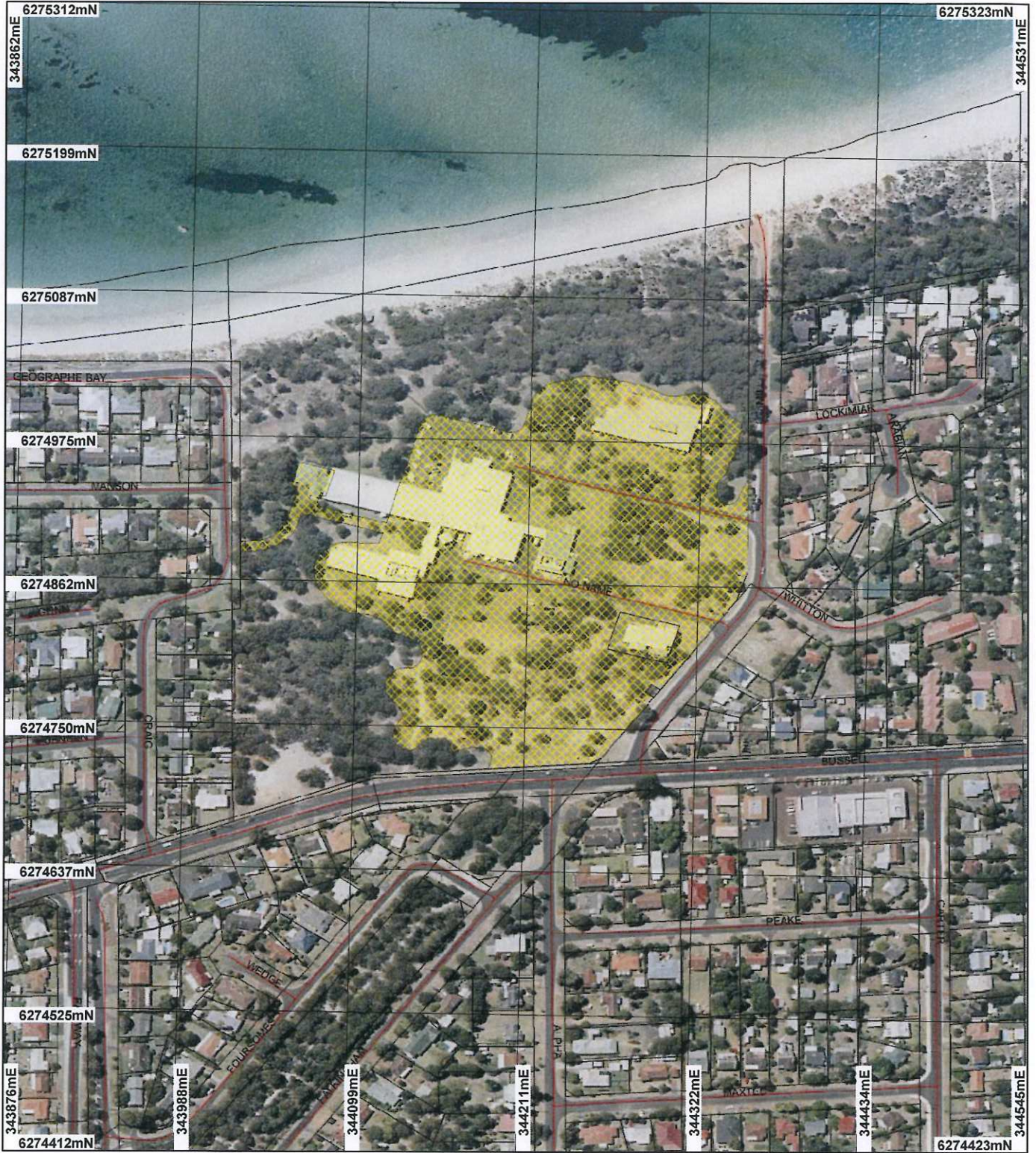


Robert Atkins
DEPUTY DIRECTOR GENERAL, ENVIRONMENT

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




8 November 2011

Plan 4433/1



LEGEND

Clearing Instruments

-  Areas Approved to Clear
 -  Road Centrelines
 -  Cadastre
- Busselton 50cm Orthomosaic - Landgate 2007



Scale 1:3963
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

 Date 5.11.11

R. Atkins
Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 4433/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Minister for Health

1.3. Property details

Property: LOT 406 ON PLAN 216401 (House No. 11 MILL WEST BUSSELTON 6280)
Local Government Area: Shire of Busselton
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
	238	Mechanical Removal	Building or Structure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 8 November 2011

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
Mapped Beard vegetation association 990 is described as 'Low forest: peppermint (<i>Agonis flexuosa</i>)' (Shepherd, 2009).	The application is to clear 238 trees for the purpose of redeveloping the Busselton Health Campus. The vegetation through the applied area consists predominantly of medium-sized to mature <i>Agonis flexuosa</i> trees with exotic tree species present within the south-east corner and north-west section of the applied area. The majority of the area under application is in a degraded (Keighery, 1994) condition and consists of <i>Agonis Flexuosa</i> (peppermint trees) with understorey of grassy weeds.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994) To Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	The condition of the vegetation under application was determined via a site inspection (DEC 2011a).

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 application is to clear 238 trees within Lot 406 Bussell Highway, West Busselton for the purpose of redeveloping the Busselton Health Campus.

The vegetation through the applied area consists predominantly of medium-sized to mature *Agonis flexuosa* trees with exotic tree species present within the south-east corner and the north-west section of the applied area (DEC 2011a). There is no native understorey present within the entire application area. The majority of the vegetation is in a degraded (Keighery 1994) condition with some areas in a completely degraded (Keighery 1994) condition (DEC 2011a).

There are 39 priority species and 15 declared rare flora species recorded within the local area (10 kilometre radius). The declared rare and priority flora have been recorded on the same mapped vegetation and soil types as the application area. As the vegetation under application contains no native understorey and current site management practices involve regular mowing (Coffey Environments 2011a), the vegetation is no longer likely to contain habitat to support flora species of conservation significance.

Within the local area (10km radius) there are records of 26 fauna species of conservation significance. There are numerous records of Western Ringtail Possum (*Pseudocheirus occidentalis*) (WRP) (Threatened, Wildlife Conservation Act 1950; Vulnerable, Environment Protection and Biodiversity Conservation Act 1999) within the application area. WRP surveys were undertaken by Coffey Environments (2011a) in February and November 2009, February and December 2010 and March 2011 for the Busselton Health Campus site. The surveys identified that the highest number of WRP found over the hospital site were 77 individuals in December 2010 with the lowest number of 44 individuals found in February 2009, showing that numbers fluctuate seasonally (Coffey Environments 2011a). According to De Torres and Elscot (2010), most surveys carried out to estimate the population density of WRP use ad hoc techniques that markedly underestimate the population size. Therefore, there could be a significantly higher population of WRP found throughout the hospital site than is indicated from the spotlighting and drey surveys.

The surveys demonstrate that a significant number of WRP's permanently occupy the application area and during the DEC (2011a) site inspection, WRP scats were found in several locations across the site although no formal WRP survey was conducted.

Although the area subject to this application is considered to contain significant habitat for WRPs, it does not hold a high level of floristic and faunal diversity and therefore the proposed clearing is not likely to be at variance to principle (a).

Methodology

References:

Coffey Environments (2011a)
DEC (2011a)
Keighery (1994)
Torres and Elscot (2010)

GIS Database:

- Busselton Town site 20cm Orthomosaic - Landgate 8
- SAC Biodatasets - accessed July 2011

(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 at variance to this Principle

There are numerous records of Western Ringtail Possum (WRP) (*Pseudocheirus occidentalis*), within the application area. The WRP is listed as Vulnerable under the Environment Protection and Biodiversity Conservation Act 1999 and a 'Threatened' species under the Wildlife Conservation Act 1950.

The WRP is a highly arboreal possum, which spends most of its time high in the forest canopy. They eat leaves, especially those of the peppermint, and shelter in tree hollows or dreys. Historically, the WRP was commonly found throughout the forests of the south west of WA. Today, the WRP can be found living in coastal peppermint (*Agonis flexuosa*) woodlands and ludlow tuart (*Eucalyptus gomphocephala*) forests. Populations are now limited to three areas, with the largest one near the town of Busselton (Burbridge 2004 & SEWPC 2011b).

The WRP has disappeared from 90 per cent of its original range due to a number of threats including habitat loss due to land clearing and logging. The habitat loss has resulted in remaining bushland becoming fragmented, and results in the lack of old trees with suitable hollows for the possum to rest in. Some of these trees take hundreds of years to grow to a suitable size to provide hollows. The most significant threat to the species currently is the ongoing clearing of habitat in the Busselton area for urban development (SEWPC 2011b).

There is significant pressure on the habitat of WRP in the Busselton - Dunsborough coastal strip with agricultural and urban development leading to the loss of WRP habitat. This habitat loss combined with other threatening processes has led to unnatural changes to the local WRP population and has now made it important to protect remaining habitat and manage WRP welfare during development (DEC 2009).

WRP surveys were undertaken by Coffey Environments (2011a) in February and November 2009, February and December 2010 and March 2011 for the Busselton Health Campus site. The surveys indicated that WRP are found within the application area, across all categories of vegetation condition. The surveys found that the highest number of WRP identified over the hospital site were at least 77 individuals in December 2010 with the lowest number of 44 individuals found in February 2009, showing that numbers fluctuate seasonally (Coffey Environments 2011a). According to De Torres and Elscot (2010), most surveys carried out to estimate the population density of WRP use ad hoc techniques that markedly underestimate the population size.

The Busselton Hospital lies within the Broadwater/West Busselton zone which is dominated by urban residential development. While the hospital site constitutes only a small percentage of the Broadwater Zone, it supports between 44 and 77 WRP at a density of 9.96 to 17.44 animals per ha (Coffey Environments 2011b). In the context of the Busselton to Dunsborough area this is considered a low - medium density site (DEC 2011b)

In the eastern portion of the Broadwater zone, the hospital site is a persistent and apparently viable population which is likely to be functioning as a 'source' site in a source-sink population model. The site produces a greater number of young animals than can be accommodated by the onsite habitat. These animals disperse into the surrounding vegetation, thus potentially artificially maintaining the persistence of WRP Possums in these habitat types. It could be concluded that a reduction in the number of animals emigrating from the source site may impact on the persistence of WRP in an area greater than the area of habitat directly lost through the clearing (DEC 2011b).

Surveys were not carried out during the winter months so it is difficult to determine the time of year when WRP would be least affected by the loss of habitat. Jones et al. (1994b) found that within the Busselton area, births occurred throughout the year with two birth peaks; one in April to June and a second peak in October to December. During the fauna survey (Coffey Environments 2009) it was observed that births occurred between July and October and the emergence of pouch young and dependant young were observed in November and December.

WRP within the application area may be displaced during the clearing process and may be not be able to successfully establish and survive within the retained habitat. This may result in an overpopulation of WRP's in the remaining suitable habitat in the short term, which may result in overgrazing and defoliation of the *Agonis flexuosa* canopy and a sharp decline in local WRP population sizes. Dispersal away from the hospital site is occurring to a small extent seasonally (Coffey Environments 2009) but the adjacent and nearby habitat patches are small and do not have the capacity to support the quantity of animals likely to be displaced by this clearing proposal. The application area also contains 11 WRP dreys (Coffey Environments 2011a), it is reasonable to assume that the clearing of dreys will decrease the overall reproductive output of the site.

Recognising the territorial nature of the species and the requirements for male home ranges to overlap multiple female territories, it is probable the applied area dissects a number of territories on the edge of proposed clearing and will impact on these animals via reduction in food resources, reduction in available mates, further habitat fragmentation etc. DEC estimates that between 30 - 40 WRP will be directly impacted by this proposal (DEC 2011b).

Given the above, the proposed clearing is at variance to principle (b).

Methodology

References:

Burbridge (2004)
Coffey Environments (2009)
Coffey Environments (2011a)
Coffey Environments (2011b)
DEC (2009)
DEC (2011a)
DEC (2011b)
De Torres and Elscot (2010)
Jones et al. (1994b)
Keighery (1994)
SEWPC (2011b)

GIS Databases:

- Busselton townsite 20cm Orthomosaic - Landgate 2008
- Pre-European vegetation
- SAC Biodatasets - accessed July 2011

(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

A search of Department of Environment and Conservation (DEC) databases identified 15 species of declared rare flora recorded within the local area (10km radius).

As the vegetation under application contains no understorey or groundcover and current site management practices involves regular mowing (Coffey Environments 2011a), the vegetation is unlikely to contain suitable habitat to support flora species of conservation significance. During a DEC (2011a) site inspection, no habitat for declared rare or priority flora species was identified within the applied area.

Therefore, the proposed clearing is not likely to be variance to this principle.

Methodology

References:

Coffey Environments (2011a)
DEC (2011a)

GIS Databases:

- Pre-European vegetation
- SAC Biodatasets - accessed July 2011

(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

There are four known records of threatened ecological communities (TEC) within the local area (10 km radius), with the closest being 9km from the application area. All four TEC's are recorded on different soil and vegetation types than the application area. Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases
- SAC Biodatasets - accessed July 2011

(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 at variance to this Principle

The vegetation under application has been identified as Beard vegetation complex 990 of which there is approximately 18 per cent of it pre-European extent remaining within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (Shepherd 2009).

The local area has approximately 20 per cent of native vegetation remaining with the majority located within conservation areas.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001).

The application area contains significant fauna habitat and is therefore significant as a remnant. In addition the vegetation is located in an extensively cleared local area.

As the vegetation under application is a significant remnant and is located within an area which has been extensively cleared, the proposed clearing is at variance to this principle.

	Pre-European (ha)	Current Extent Remaining (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1 501 209	587 889	39.1	33
Shire*				
Shire of Busselton	146 478	62 783	42.8	64.9
Beard Vegetation Association in Bioregion*				
990	1 948	359	18	10.7

* (Shepherd 2009)

Methodology References:
Commonwealth of Australia (2001)
Shepherd (2009)

GIS Database:
- Local Government Authorities
- Pre European Vegetation
- Busselton 50cm Orthomosaic - Landgate 2007
- SAC Biodatasets - accessed July 2011

(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

There are no watercourses or wetlands within the area under application. Vasse-Wonnerup System, an EPP and ANCA wetland is the closest water feature and is located 4 km east of the proposed clearing site.

The site inspection (DEC 2011a) did not identify any wetland dependant vegetation. Therefore, the vegetation under application is not considered likely to be associated with a watercourse or wetland. Therefore, the

Methodology proposal is not likely to be at variance to this principle.
References:
DEC (2011a)

GIS Database:
- Hydrogeology, Linear
- ANCA, wetlands
- EPP, Areas

(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 property under application is mapped as soil type A13 which Northcote (1960 - 1968) describes as 'Coastal dune formations backed by the low-lying deposits of inlets and estuaries: chief soils are calcareous sands on the dunes'.

The porous nature of the soils within the application area indicates that the site is well drained and therefore very little overland surface water flow is expected thereby minimising the risk of water erosion.

The proposed clearing has a high risk of wind erosion due to the high sand content and relative ease at which these materials can be transported by wind.

The area under application has a low risk of salinity.

Given the high risk of wind erosion the proposed clearing may be at variance to this clearing principle.

The proponent has advised in their application (Coffey Environments 2011a) that wind erosion measures including dust fencing and dust suppression (e.g. damping down) will be implemented.

Methodology References:
Coffey Environments (2011a)
Northcote (1960-1968)

GIS database:
- Average Annual Rainfall Isohyets
- Hydrography, linear
- Topographic contours statewide

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

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

There are six conservation areas in the local area (10 kilometre radius), reserves R26620, R25836, R42879, R48837 and R 41597 which are located 500m south of the application area and are also System 1 reserves. Ludlow- Wonnerup Area, which is included on the Register of National Estate is located 6 km east of the application area.

The vegetation under application is not connected to these reserves as they are separated by main roads and residential areas. Therefore, the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
- DEC Tenure

GIS Databases:
- DEC Tenure
- System 1 to 5 and 7 to 12 Areas

(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

There are no watercourses or wetlands within the application area and therefore the proposed clearing is not likely to impact on the quality of surface water in any nearby watercourse or wetland.

It is noted that development in the application area may result in an increase in impervious surfaces. The proponent has advised in their application (Coffey Environments 2011a) that runoff generated from the development will ultimately be managed onsite through capture and infiltration methods.

Methodology Therefore the proposed clearing is not likely to be at variance to principle (i).
References:
Coffey Environments (2011a)

GIS Database:
- Groundwater Salinity Statewide
- Hydrography, linear

(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 application area consists of sandy, porous soils, which indicates that the application area is well drained.

No wetlands, watercourses or areas subject to inundation are mapped within the application area.

Based on the above, the clearing as proposed is not likely to increase the incidence or intensity of flooding, and is therefore not likely to be at variance to this principle.

Methodology GIS Database:
- Hydrography linear

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

Comments

The application is to clear 238 trees within Lot 406 Bussell Highway (R32275), West Busselton for the purpose of redeveloping the Busselton Health Campus.

The area under application falls within the Busselton-Capel groundwater area which is an area proclaimed under the Rights in Water and Irrigation Act 1914.

Reserve 32275 is vested with the Health Department of Western Australia.

There are no known Aboriginal Sites of Significance within the application area.

The Shire of Busselton (2011) is fully supportive of the proposed redevelopment of Lot 406 for the construction of a new health service. The Shire is not expecting to have a development application submitted for consideration, as the application is considered to be public works. The Shire has not been provided the proposed site plans and is somewhat constrained in making detailed comments and provided the following comments.

- The Shire is concerned the proposed clearing will result in a break in the ecological link across Bussell highway and a 20m ecological corridor should be revegetated along Mill Rd down to the foreshore.
- The Shire is concerned with a clearing permit being granted over the whole area and feels that the development should endeavour to retain some of the existing vegetation. The shire is willing to work with the developer on details of retaining vegetation on site.
- Should the clearing be granted the Shire would require a possum management /mitigation plan prior to the commencement of development. There should be ongoing monitoring of the possum population to gauge any adverse impact on the existing population along with any proposed remedial action.
- The shire does not support translocation of possums to any other site.
- The shire generally imposes a condition requiring offsets; the offset ratio is 10 new trees for each tree removed. Ideally offsets are planted on site or on an appropriate reserve which should be secured by a plan and approved prior to development.

Department of Sustainability, Environment, Water, Population and Communities (SEWPC) has determined that the Busselton Health Campus proposal is a 'controlled action' and requires assessment and approval before it can proceed. SEWPC has requested additional information in relation to revegetation, long-term management of conservation areas proposed on site, WRP monitoring program and any other measures proposed to mitigate impacts (SEWPC 2011a).

Western Ringtail Possums

The applicant advised that they will implement an on-site retention and rehabilitation of 6.55 ha of Peppermint woodland in a 'conservation area' and includes planting of no less than 476 Peppermint trees on the site. The applicant has also proposed the preparation and implementation of a Western Ringtail Possum (WRP) Management Plan and continued monitoring of the WRP population for no less than 2 years (Coffey Environments 2011a).

Public Submissions

12 public submissions were received. The environmental impact issues raised have been addressed in the assessment against clearing principles and in the information above.

A number of submissions have raised concerns with alternative hospital sites and the selection of Lot 406 for the proposed redevelopment and also the lack of community consultation with the final selection. These

considerations are beyond the scope of the assessment of this clearing application, which relates to a single site, selected by the applicant.

One submission raises the concern that the proposal is inconsistent with following approved policies

- Western Australian Planning Commission Statement of Planning Policy No. 61 - Leeuwin Naturalist Ridge Policy
- Western Australian Planning Commission Statement of Planning Policy No. 2 - Environment and Natural

Methodology

References:

Coffey Environments (2011a)
SEWPC (2011a)
Shire of Busselton (2011)

GIS Databases:

- RIWI Act, Groundwater Areas
- Town Planning Scheme Zones
- Aboriginal Sites of Significance

4. References

- Burbidge, A. (2004) Threatened Animals of Western Australia, Department of Conservation and Land Management, Perth, Western Australia.
- Coffey Environments (2009). Environmental Assessment of Threatened Species Potentially Affected by the Proposed Busselton Hospital Development. Report prepared for Department of Health and Department of Treasury and Finance. August 2009.
- Coffey Environments (2011a). Native Vegetation Clearing Permit Application. Lot 406 Bussell Highway, West Busselton WA 6280. Report prepared for Department of Health and Department of Treasury and Finance. June 2011.
- Coffey Environments (2011b). DRAFT Western Ringtail Possum Management Busselton Hospital Health Campus Redevelopment. ENAUPERT00629AA_WRP Management Plan_001_v2_gf,EP2011-143v2, October 2011.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/> (Accessed 06/07/2011).
- DEC (2009) Development Planning guidelines for Western Ringtail Possums in Busselton and Dunsborough. Department of Environment and Conservation. 04/02/2009 Version.
- DEC (2011a) Site Inspection and Regional Advice Report for Clearing Permit Application CPS 4433/1, Lot 406 Bussell Highway, West Busselton. Site inspection undertaken 14/07/2011. Department of Environment and Conservation, Western Australia (DEC Ref: A417254).
- DEC (2011b) Draft WRP Impact Statement for CPS 4433/1. Department of Environment and Conservation. DEC ref: A426928
- DeTorres, P. and Elscot, S. (2010). Estimating the population size of a threatened arboreal marsupial: use of distance sampling to dispense with ad hoc survey techniques. *Wildlife Research* 37, 512 - 523.
- Jones, B.A., How, R.A. and Kitchener, D.J. (1994b). A field study of *Pseudocheirus occidentalis* (Marsupialia: Petauridae). II. Population studies. *Wildlife Research* 21, 189-202.
- 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.
- SEWPC (2011a) EPBC 2011 6011 Busselton Heath Campus Notice of CA decision. DEC ref: A417110
- SEWPC (2011b) Western Ringtail Possum Fact Sheet (<http://www.environment.gov.au/biodiversity/threatened/publications/pubs/tsd07-w-ringtail-possum.pdf>). Accessed July 2011
- Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
- Shire of Busselton (2011) Application to clear native vegetation under the environmental protection act 1986 - Lot 406 on Deposited Plan 216401. Shire of Busselton. DEC ref: A415360

5. 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

