Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7545/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Shire of Ravensthorpe
Application received date: 31 March 2017

1.3. Property details

Property: Lot 1358 on Deposited Plan 215071
Local Government Authority: Ravensthorpe, Shire of
Localities: Hopetoun

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
4.72		Mechanical Removal	Extractive industry

1.5. Decision on application

Decision on Permit Application: Refusal
Decision Date: 8 April 2019

Reasons for Decision:

The application for a clearing permit was received on 31 March 2017, and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. The assessment determined that the proposed clearing may be at variance to principles (a), (b), (c), (d), (g) and (h), and is not likely to be at variance to the remaining clearing principles.

The Delegated Officer determined that the application area has the potential to support a number of threatened and priority flora species, which are known to occur within the local area, and may constitute an occurrence of a federally listed threatened ecological community. It was also determined that the proposed clearing may result in appreciable land degradation, particularly relating to subsurface acidification and wind erosion.

On 1 September 2017, a Delegated Officer of the former Department of Environment Regulation (DER) wrote to the applicant, outlining the abovementioned environmental impacts and requesting advice on the Shire of Ravenshorpes (the Shire) intentions on undertaking flora and vegetation surveys of the application area to identify the presence of absence of conservation significant flora taxa.

On 4 December 2017, the applicant advised in an email that the Shire of Ravensthorpe does not intend to undertake flora and vegetation surveys of the application area and accepts that the final decision shall be made on the information currently available.

On 22 March 2019, DWER officers met on site with the applicant to discuss the application and conduct a site inspection of the application area. The applicant reconfirmed that they will not be conducting flora and vegetation surveys of the application area.

Noting that the applicant has advised they do not intend to undertake flora and vegetation surveys, and the potential impacts to conservation signficant flora and communities as discussed above, the Delegated Officer determined to refuse to grant a clearing permit.

2. Site Information

Clearing Description

The application is to clear 4.72 hectares of native vegetation within Lot 1358 on Deposited Plan 215071, Hopetoun, for the purpose of gravel extraction (Figure 1).

Vegetation Description

The application area is described as mapped Beard vegetation type '47' which is described as 'Shrublands; tallerack mallee-heath' (Shepherd et al., 2001).

A site inspection undertaken by officers of the Department of Water and Environmental Regulation (DWER) identified one vegetation type within the application area described as a tallerack (*Eucalyptus pleurocarpa*) Mallee woodland over a dense native heath (DWER, 2019).

Vegetation Condition

The vegetation condition and description was determined via a DWER site inspection (DWER, 2019). The application area was determined to be in a completely degraded to very good (Keighery, 1994) condition, described as:

- Pristine: Pristine or nearly so, with no obvious signs of disturbance (Keighery, 1994); to
- Completely Degraded; No longer intact, completely/almost completely without native species (Keighery, 1994).

The majority of application area was determined to be in pristine condition, with only a small area within the southwest portion of the application area determined to be completely degraded.

Soil type

The application area has been mapped by the Department of Primary Industries and Regional Development as 'Hammersley 9 Subsystem' described as gently undulating plain with a dominance of deep sand sheets deposited across the land surface (Schoknecht et al., 2004).

Notes

The local area considered in the assessment of this application is defined as a 10 kilometre radius measured from the perimeter of the application area.

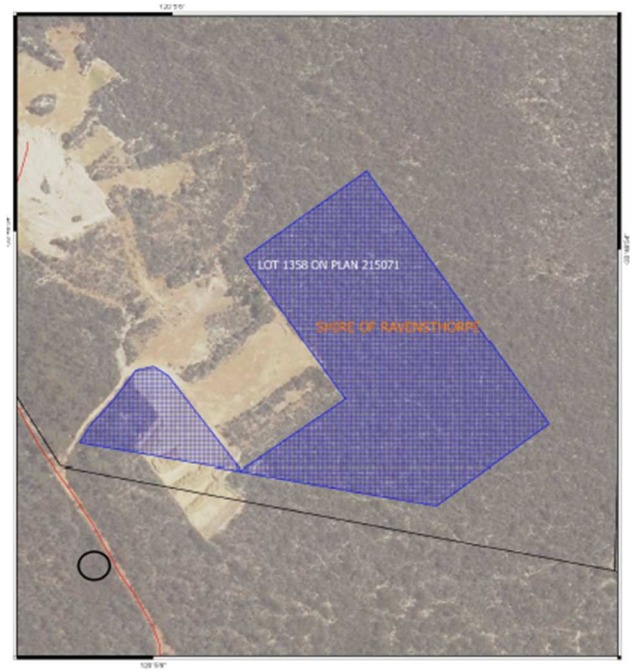

Figure 1: Application Area

3. Assessment of application against clearing principles

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

Proposed clearing may be at variance to this Principle

As discussed under Section 2, a site inspection of the application area undertaken by DWER officers identified the vegetation within the application area ranged from a completely degraded to pristine (Keighery, 1994) condition, with the majority of the application area in pristine (Keighery, 1994) condition (DWER, 2019). A small area in completely degraded (Keighery, 1994) condition occurs within the southwest portion of the application area and has been historically cleared (DWER, 2019).

According to available databases, four threatened flora and 15 priority flora species have been recorded within the local area including five priority 2, six Priority 3 and four Priority 4 flora species. Priority 4 species are considered to have been adequately surveyed, and are considered not currently threatened or in need of special protection, but could be if present circumstances change. Therefore the proposed clearing is not considered likely to impact on the conservation status of any Priority 4 flora species.

Suitable habitat for the five Priority 2 flora and six Priority 3 species may be located within the application area, and if present the proposed clearing may impact upon the conservation status of these species. As discussed under Principle (c), the application area may provide suitable habitat for one threatened flora species. The former Department of Parks and Wildlife (Parks and Wildlife) advised that a flora survey is required to determine the presence of threatened or priority flora (Parks and Wildlife, 2017).

Parks and Wildlife noted that the application area is located within a pinch-point linkage in landscape connectivity at the south end of the 'Ravensthorpe Connection' which links the Fitzgerald River National Park with the Great Western Woodlands (Parks and Wildlife, 2017). Ecological corridors are critical to maintaining ecological processes such as the movement of fauna and

population survival. Habitat loss and fragmentation are the main contributors to biodiversity decline across landscapes (Scotts and Drielsma, 2003).

As discussed under Principle (b), the application area may contain flora species that provide suitable foraging habitat for threatened fauna Carnaby's cockatoo (*Calyptorhynchus latirostris*). The application area is located approximately 14 kilometres south east of confirmed Carnaby's cockatoo breeding areas, and may therefore comprise significant habitat for this species. Suitable habitat for malleefowl (*Leipoa ocellata*) may also be located within the application area.

Noting the type and condition of the vegetation within the application area, the application area may be representative of the Commonwealth-listed 'Proteaceae dominated kwongkan shrublands of the southeast coastal floristic province of Western Australia' threatened ecological community (TEC). TECs are discussed further under Principle (d).

Given the above, the application area may comprise a high level of biological diversity and the proposed clearing may be at variance to this Principle.

Flora and vegetation surveys conducted by a suitably qualified specialist would determine the presence or absence of threatened and priority flora and a TEC within the application area, and provide further information with which to determine the extent of impacts likely to occur as a result of the proposed clearing.

(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.

Proposed clearing may be at variance to this Principle

Five fauna species listed as threatened or likely to become extinct under the *Biodiversity Conservation Act 2016* (BC Act) within the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* have been recorded within the local area (10 kilometre radius) being: Carnaby's cockatoo, malleefowl, Recherche Cape Barren goose, (*Cereopsis novaehollandiae* subsp. *grisea*), western bristlebird (*Dasyornis longirostris*) and western ground parrot (*Pezoporus flaviventris*) (Department of Biodiversity Conservation and Attractions (DBCA), 2007-).

Black cockatoos have a preference for feeding habitat that includes jarrah and marri woodlands and forest heathland and woodland dominated by proteaceous plant species such as *Banksia* sp. *Hakea* sp. and *Grevillea* sp. (Commonwealth of Australia, 2012). In addition, the application area is located approximately 14 kilometres south east of confirmed Carnaby's cockatoo breeding areas. Noting this, it is considered that the application area may contain significant foraging habitat for the abovementioned black cockatoo species.

Malleefowl usually inhabit arid and semi-arid zones in shrublands and low woodlands, particularly those dominated by mallee and/or acacias (Benshemesh, 2007). Suitable habitat for this species may occur within the application area. A requirement for the applicant to inspect the application area to identify and avoid any malleefowl nesting mounds would help to mitigate impacts to this species.

Significant habitat for the Recherche Cape Barren goose, western bristlebird and western ground parrot is not likely to be located within the application area.

As discussed under Principle (a), the application is located within a pinch-point linkage in landscape connectivity at the south end of the 'Ravensthorpe Connection' which links the Fitzgerald River National Park with the Great Western Woodlands (Parks and Wildlife, 2017). The proposed clearing may result in degradation of the ecological linkage, thereby impacting fauna movement in the local area.

Given the above the proposed clearing may impact upon significant habitat for fauna indigenous to Western Australia. Therefore, the proposed clearing may be at variance to this Principle.

Revegetation of the application area post extraction would help mitigate impacts to fauna species and ecological linkages.

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

Proposed clearing may be at variance to this Principle

According to available datasets, four threatened flora species have been recorded within the local area (10 kilometre radius).

The first threatened flora species is known to occur on alluvium sand, sandy clay loam along river beds and plains and laterite breakaways (Western Australian Herbarium, 1998-).

The second threatened flora species grows only on the lower and intermediate slopes of a peak in Fitzgerald River National Park. This species inhabits shallow soil over quartzite in association with other mallees and scrub (Brown et al., 1998).

The third threatened flora species is confined to the rocky slopes and summits of peaks in the eastern part of Fitzgerald River National Park. This species inhabits shallow soil over quartzite in association with other mallee eucalypts and scrub (Brown et al., 1998).

The fourth threatened flora species is confined to the summits of mountain peaks in Fitzgerald River National Park. It grows in shallow soil amongst quartzite rocks supporting an association of scrub and mallee eucalypts (Brown et al., 1998).

Noting the mapped Beard vegetation type and soil types within the application area, suitable habitat for the first threatened flora species mentioned above may be located within the application area. However, suitable habitat for the remaining threatened flora species is not likely to be present within the application area.

Parks and Wildlife advised that an appropriately timed flora survey is required to determine the presence of threatened flora within the application area (Parks and Wildlife, 2017).

Given the above, the proposed clearing may be at variance to this 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.

Proposed clearing may be at variance to this Principle
According to available datasets, no State-listed TECs have been mapped within the local area (10 kilometre radius).

Noting the vegetation type and condition of the vegetation within the application area that was observed during DWER's site inspection, the application area may be representative of the Commonwealth-listed 'Proteaceae dominated kwongkan shrublands of the southeast coastal floristic province of Western Australia' TEC, listed as endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and listed as a Priority 3 ecological community by DBCA. The application area is mapped within the boundaries of this TEC.

Parks and Wildlife advised that an appropriately timed flora and vegetation survey is required to determine if, and how much of, the application area is representative of this TEC (Parks and Wildlife, 2017).

Given the above, the proposed clearing may be at variance to this Principle.

A vegetation survey conducted by a suitably qualified specialist would determine the presence or absence of a TEC within the application area, and the extent of impacts as a result of the proposed clearing.

(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.

Proposed clearing is not likely to be at variance to this Principle
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).

As indicated in the table below, the current extents of native vegetation within the Esperance Plains bioregion and represented by Beard vegetation association 47 are above the minimum 30 per cent representation threshold.

The local area (10 kilometre radius) retains approximately 39 per cent (approximately 9,611 hectares) of vegetation cover, and the application area represents approximately 0.05 per cent of this current extent.

The application area may comprise a high level of biological diversity, may comprise significant habitat for indigenous fauna including Carnaby's cockatoo and malleefowl, may contain threatened and priority flora and may contain a TEC and therefore may be considered to be a significant as a remnant of native vegetation.

However, noting the vegetation representations outlined above and the extent of vegetation cover in the local area, the application area is not likely to be located in area that has been extensively cleared.

The proposed clearing is not likely to be at variance to this Principle.

Table 1: Vegetation extents

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Current extent in all DBCA managed lands (ha)	Extent remaining in all DBCA managed lands (proportion of Pre-European extent) (%)
IBRA Bioregion*					
Esperance Plains	2,899,940.7	1,494,449	51.5	822,990.5	28.4
Beard Vegetation Association in Bioregion*					
47	959,935.9	336,490.2	35.1	178,645.7	18.6

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

Proposed clearing is not likely to be at variance to this Principle
According to available datasets, no mapped watercourses or wetlands intersect the application area. The closest minor watercourse is located approximately 300 metres from the application area.

The application area is not likely to contain native vegetation growing in association with a watercourse or wetland.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

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

Proposed clearing may be at variance to this Principle
The mapped soils within the application are described as undulating to hilly ridge and slope topography with flat to gently sloping crests to the ridges; rock outcrops are common on slopes: chief soils are hard alkaline yellow mottled and red mottled soils on the valley side slopes (Northcote et al., 1980).

According to available datasets, the land degradation risks for these mapped soils types are:
- 30-50% of map unit has a high subsurface acidification risk or is presently acid;
- 3-10% of map unit has a high water repellence risk;
- >70% of map unit has a high to extreme wind erosion risk;
- 30-50% of map unit has a moderate to high salinity risk or is presently saline; and
- all other land degradation risks are below three per cent.

Mechanical clearing may increase the risk of subsurface acidification, water repellence and wind erosion. Potential impacts inside and outside the application area as a result of the proposed clearing may be minimised through staged clearing and revegetation of the application areas.

Given the above, the proposed clearing may be at variance to this 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.

Proposed clearing may be at variance to this Principle
Two conservation areas have been recorded within the local area, the closest being Fitzgerald River National Park, located approximately 200 metres from the application area and separated by remnant vegetation and John Forrest Road.

Parks and Wildlife noted that the application is located within a pinch-point linkage in landscape connectivity at the south end of the 'Ravensthorpe Connection' which links the Fitzgerald River National Park with the Great Western Woodlands (Parks and Wildlife, 2017). The proposed clearing may result in degradation of the ecological linkage, thereby impacting fauna movement in the local area, including Fitzgerald River National Park.

Given the above, the proposed clearing may be at variance to this Principle.

The requirement to revegetate the application area post extraction would help mitigate impacts to this ecological linkage.

(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.

Proposed clearing is not likely to be at variance to this Principle
As discussed under Principle (f), no mapped watercourses or wetlands intersect the application area. The closest minor watercourse is located approximately 300 metres from the application area. The proposed clearing is not likely to cause deterioration in the quality of surface water.

Groundwater salinity within the application area is mapped between 3,000 - 7,000 milligrams per litre (measured as total dissolved solids), which is considered to be moderately saline and saline. Noting that the application area is located adjacent to an existing gravel pit, is part of a large remnant that adjoins Fitzgerald River National Park, and noting the extent of the proposed clearing, the proposed clearing is not likely to cause deterioration in the quality of underground water or local aquifer.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

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

Proposed clearing is not likely to be at variance to this Principle
The mapped soils within the application area are dominated by highly permeable gravel and yellow sands. Noting this and the absence of watercourses or wetlands within the application area, the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding.

The proposed clearing is not likely to be at variance to this Principle.

Planning instruments and other relevant matters.

The application is for the clearing of 4.72 hectares of native vegetation within Lot 1358 on Deposited Plan 215071, Hopetoun, for the purpose of gravel extraction.

The application was advertised online on the 4 May 2017 by the former Department of Environment Regulation (DER), inviting submissions from the public within a 21 day period. No submissions were received in relation to this application.

No Aboriginal Sites of Significance area located within the application area.

4. Applicant's Submissions

On 1 September 2017, a Delegated Officer of the former DER wrote to the applicant, outlining the impacts of the proposed clearing identified during the assessment of the application. The letter invited the applicant to provide advice addressing the identified impacts and on the Shire's intentions on undertaking flora and vegetation surveys of the application area to identify the presence of absence of conservation significant flora and communities.

On 4 December 2017, the applicant advised in an email that the Shire of Ravensthorpe will not be providing a formal response and does not intend to undertake flora and vegetation surveys of the application area (Shire of Ravensthorpe, 2017).

On 17 December 2018, a Delegated Officer of the Department of Water and Environmental Regulation (DWER) wrote to the applicant, providing 30 days written notice of the intent to refuse to grant a clearing permit for this application. The applicant was requested to provide a response within this timeframe. To date, no response to this correspondence has been received by DWER.

On 22 March 2019, DWER officers met on site with the applicant to discuss the application and conduct a site inspection of the application area (DWER, 2019). The applicant confirmed that they will not be conducting flora and vegetation surveys of the application area.

5. References

Benshemesh, J. (2007). National Recovery Plan for Malleefowl. Department for Environment and Heritage, South Australia.

Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia. Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

Commonwealth of Australia (2012). EPBC Act referral guidelines for three threatened black cockatoo species. Department of Sustainability, Environment, Water, Populations and Communities, Canberra. Department of Parks and Wildlife (Parks and Wildlife) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: http://naturemap.dpaw.wa.gov.au/. Accessed March 2017.

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Government of Western Australia (2016). 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. WA Department of Parks and Wildlife, Perth.

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.

Scotts, D. and Drielsma, M. (2003) Developing landscape frameworks for regional conservation planning: an approach integrating fauna spatial distributions and ecological principles. Pacific Conservation Biology. Vol. 8, No. 4.

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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.

Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. http://florabase.dpaw.wa.gov.au/ (Accessed April 2019).

GIS Databases:

- SAC Bio datasets – Accessed April 2019
- Imagery
- Pre-European Vegetation
- Geomorphic Wetlands
- Hydrography, linear
- Hydrography, hierarchy
- Annual Rainfall, Statewide
- Soils, Statewide
- Topography
- Parks and Wildlife, Tenure
- Groundwater salinity
- Aboriginal Sites of Significance