



1. Application details

1.1. Permit application details

Permit application No.: 6107/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Mr Ralph Thomas McColl

1.3. Property details

Property: LOT 7082 ON PLAN 225081 (ST RONANS 6302)
Local Government Area: Shire of York

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
280		Mechanical Removal	Grazing & Pasture

1.5. Decision on application

Decision on Permit Application: Refuse
Decision Date: 21 November 2014

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
The vegetation under application is mapped as: Beard vegetation association 4. Described as medium forest; jarrah-marri (Shepherd et al, 2001). Mattiske vegetation association Ck. Described as woodland of Eucalyptus wandoo with mixtures of Eucalyptus patens, Eucalyptus marginata subsp. thalassica and Corymbia calophylla on the valley slopes in arid and perarid zones (Mattiske and Havel, 1998). Mattiske vegetation association Y6. Described as woodland of Eucalyptus wandoo-Eucalyptus accedens, less consistently open forest of Eucalyptus marginata fs24 subsp. Thalassica - Corymbia calophylla on lateritic uplands and breakaway landscapes in arid and perarid zones(Mattiske and Havel, 1998).	To clear 280 hectares of native vegetation within Lot 7082 on Deposited Plan 225081, St Ronans, for the purpose of grazing and pasture.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994) To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The condition of the vegetation under application was determined via a site inspection of the property (DER, 2014) undertaken in June 2014 and a vegetation and flora assessment of the property undertaken by EnviroSure (2009).

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 at variance to this Principle

The application is to clear 280 hectares of native vegetation within Lot 7082 on Deposited Plan 225081, St Ronans, for the purpose of grazing and pasture. The application area falls on the border of two land uses with extensive conservation areas to the west and agricultural land that has been largely cleared of native vegetation to the east.

The vegetation within lot 7082 is contiguous with the Wandoo National Park where a significant number of rare flora species have been recorded. The vegetation under application has been mapped as an open eucalyptus woodland in a very good to excellent (Keighery, 1994) condition (EnviroSure, 1999). Granite outcrops and a minor watercourse are present within the application area.

The area under application is located along the border of the Jarrah Forest and Avon Wheatbelt Interim Biogeographic Regionalisation of Australia (IBRA) bioregions. The vegetation under application is mapped as Beard vegetation association 4 of which there is approximately 19 percent and 28 percent pre-European extent remaining within the Avon Wheatbelt and Jarrah forest bioregions respectively (Government of Western Australia, 2013). Given this, the application area falls within a highly cleared landscape.

Calyptorhynchus baudinii (Baudin's cockatoo) and *Calyptorhynchus latirostris* (Carnaby's cockatoo) have been recorded within the local area (10 kilometre radius). Carnaby's cockatoo and Baudin's cockatoo are listed as endangered under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and vulnerable/endangered under the Wildlife Conservation Act 1950 (WC Act).

Black cockatoos nest in large hollows of eucalyptus trees and forage on the seeds, nuts and flowers of a large variety of plants including Eucalyptus and Banksia species (Shah, 2006). A site inspection of the application area recorded numerous large mature Eucalypts containing hollows of various sizes (DER, 2014) as well as large stands of Banksia and Hakea. Given this the application area contains significant breeding, roosting and foraging habitat for black cockatoo's. A fauna assessment of lot 7082 (Western Wildlife, 2007) recorded a flock of over 100 Carnaby's cockatoo roosting and feeding within the study area. The fauna assessment (Western Wildlife, 2007) notes "there is the potential that this species could breed within the study area".

A fauna assessment (Western Wildlife, 2007) concluded that 12 amphibian, 44 reptile, 106 bird and 24 mammal species have the potential to occur within lot 7082. Of these, one reptile, five birds and one mammal listed under state or federal legislation, four birds and one mammal listed as priority (P) by the Department of Parks and Wildlife (Parks and Wildlife) and 37 birds of local significance have the potential to occur on site.

The reptile of conservation significance is the South West carpet python (*Morelia spilota imbricata*) listed under schedule 4 of the WC Act. The bird species of conservation significance include the Peregrine falcon (schedule 4), Carnaby's cockatoo, Baudin's cockatoo, Rainbow bee-eater (listed as migratory), Fork tailed swift (listed as migratory), Barking owl (P2), Masked owl (P3), White browed babbler (P4) and Crested shrike-tit (P4). The mammals of conservation significance are the Chuditch (vulnerable under the EPBC Act and WC Act) and Western brush wallaby (P4).

Three rare flora species have been recorded within the local area. Parks and Wildlife (2014) has advised that the application area may contain two of these. Species one is often associated with seasonally wet depressions, wandoo woodlands and sandy soils, has a limited distribution and is known from nine populations and 710 mature individuals (Parks and Wildlife, 2014). A site inspection of the application area identified suitable habitat for this species within and adjoining the application area (DER, 2014).

Species two is often associated with granite outcrops, is known from 16 populations with approximately 866 mature individuals and has a range of approximately 75 kilometres north-south and 60 kilometres east-west (Parks and Wildlife, 2014). A site inspection of the application area identified suitable habitat for this species within the application area (DER, 2014). If recorded within the application area, the location would be the most western occurrence for the species (Parks and Wildlife, 2014).

Seventeen priority flora species have also been recorded within the local area. Given the mapped and observed vegetation type and condition, the application area may provide habitat for these species.

The vegetation under application is not likely to be representative of a priority or threatened ecological community.

Given the above, the application is at variance to this clearing principle.

Methodology References:
Government of Western Australia (2013)
DER (2014)
Envirosure (1999)
Keighery (1994)
Parks and Wildlife (2014)
Shah (2006)
Western Wildlife (2007)

GIS Datasets:
- SacBiodataSets - accessed July 2014

(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**
Numerous fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded in the local area (10 kilometre radius). These include *Calyptorhynchus baudinii* (Baudin's cockatoo), *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Idiosoma nigrum* (shield-backed trapdoor spider), *Phascogale calura* (red-tailed phascogale) and *Phascogale tapoatafa* subsp. *tapoatafa* (southern brush-tailed phascogale)(DEC, 2007-).

The vegetation under application has been mapped as an open eucalyptus woodland in a very good to excellent (Keighery, 1994) condition (Envirosure, 1999). A site inspection of the application area recorded numerous large mature Eucalypts containing hollows of various sizes across the property (DER, 2014).

Carnaby's cockatoo is listed as endangered under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and Wildlife Conservation Act 1950 (WC Act). Baudin's cockatoo is listed as endangered under the EPBC Act and vulnerable under the WC.

Black cockatoos nest in large hollows of eucalyptus trees and forage on the seeds, nuts and flowers of a large variety of plants including Eucalypts and Banksia's (Shah, 2006). Given this the application area contains significant potential breeding, roosting and foraging habitat for black cockatoos. A fauna assessment of lot 7082 (Western Wildlife, 2007) recorded a flock of over 100 Carnaby's cockatoo roosting and feeding within the study area. The fauna assessment (Western Wildlife, 2007) notes "there is the potential that this species could breed within the study area".

The Carnaby's cockatoo recovery plan (DEC, 2012) summarises habitat critical to the survival for Carnaby's cockatoos as:

- The eucalypt woodlands that provides nest hollows used for breeding, together with nearby vegetation that provides feeding, roosting and watering habitat that supports successful breeding;
- Woodland sites known to have supported breeding in the past and which could be used in the future, provided adequate nearby food and/or water resources are available or are re-established; and
- In the non-breeding season the vegetation that provides food resources as well as the sites for nearby watering and night roosting that enable the cockatoos to effectively utilise the available food resources.

The recovery plan also states, "Success in breeding is dependent on the quality and proximity of feeding habitat within 12 kilometre of nesting sites. Along with the trees that provide nest hollows, the protection, management and increase of this feeding habitat that supports the breeding of Carnaby's cockatoo is a critical requirement for the conservation of the species" (DEC, 2012). As the application area contains numerous potential nest sites, contains extensive feeding habitat and falls within 500 metres of two watercourses, it fulfils all habitat requirements deemed critical to Carnaby's cockatoo survival.

The mapped and observed (DER, 2014) vegetation type does not match the critical habitat definition for the shield-backed trapdoor spider (Avon Valley Catchment Council, 2007), given this it is not likely to be present within the application area. The application area is not likely to form core habitat for Red-tailed phascogale or Brush tailed phascogale as it falls outside of their known distribution.

A fauna assessment (Western Wildlife, 2007) concluded that 12 amphibian, 44 reptile, 106 bird and 24 mammal species have the potential to occur within lot 7082. Of these one reptile, five birds and one mammal listed under state or federal legislation, four birds and one mammal listed as priority (P) by the Department of Parks and Wildlife (Parks and Wildlife) and 37 birds of local significance have the potential to occur on site.

The reptile of conservation significance is the South West carpet python (*Morelia spilota imbricata*) listed under schedule 4 of the WC Act. The bird species of conservation significance include the Peregrine falcon (schedule 4), Carnaby's cockatoo, Baudin's cockatoo, Rainbow bee-eater (listed as migratory), Fork tailed swift (listed as migratory), Barking owl (P2), Masked owl (P3), White browed babbler (P4) and Crested shrike-tit (P4). The mammals of conservation significance are the Chuditch (vulnerable under the EPBC Act and WC Act) and Western brush wallaby (P4).

A DER site inspection of the application area recorded a family of Emu (*Dromais novaehollandiae*) within the application area (DER, 2014). A fauna assessment of lot 7082 (Western Wildlife, 2007) lists the emu as conservation significant.

Given the above, the application is at variance to this clearing principle.

Methodology

References:

Avon Valley Catchment Council (2007)
DEC (2007-)
DEC (2012)
DER (2014)
Envirosure (2009)
Keighery (1994)
Shah (2006)
Western Wildlife (2007)

References:

Avon Valley Catchment Council (2007)
DEC (2007-)
DEC (2012)
DER (2014)

Envirosure (2009)
Keighery (1994)
Shah (2006)
Western Wildlife (2007)
GIS Datasets:
- Carnaby Cockatoo feeding
- Hydrography linear

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

Comments Proposal may be at variance to this Principle

The vegetation within lot 7082 is contiguous with the Wandoo National Park where a significant number of rare flora species exist (Parks and Wildlife, 2014). The vegetation under application has been mapped as an open eucalyptus woodland in a very good to excellent (Keighery, 1994) condition (Envirosure, 1999). A site inspection (DER, 2014) of the application area confirmed the condition of the vegetation as well as the presence of granite outcrops and a seasonally wet depression.

Two rare flora species have been recorded within the local area.

Species one is often associated with seasonally wet depressions, wandoo woodlands and sandy soils (Parks and Wildlife, 2014), has a limited distribution and is known from nine populations and 710 mature individuals. A site inspection of the application area identified suitable habitat for this species within and adjoining the application area (DER, 2014).

Species two is often associated with granite outcrops (Parks and Wildlife, 2014), is known from 16 populations with approximately 866 mature individuals and has a range of approximately 75 kilometres north-south and 60 kilometres east-west. A site inspection of the application area identified suitable habitat for this species within the application area (DER, 2014). If recorded in the application area, the location would be the most western occurrence (Parks and Wildlife, 2014).

Given the above, the application may contain rare flora and may be at variance to this clearing principle.

Methodology Reference:
DER (2014)
Envirosure (1999)
Keighery (1994)
Parks and Wildlife (2014)

GIS Databases:
- SAC Biodatasets - accessed July 2014

(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 community (TEC) is located approximately 40 kilometres from the application area and is associated with wetlands of the Wheatbelt.

Given the above, the application is not likely to be at variance to this principle.

Methodology GIS Databases:
- SAC Biodatasets - accessed July 2014

(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 area under application is located along the border of the Jarrah Forest and Avon Wheatbelt Interim Biogeographic Regionalisation of Australia (IBRA) bioregions. These IBRA bioregions retain approximately 54 and 18 percent pre-European vegetation respectively (Government of Western Australia, 2013). The Eucalyptus wandoo, Eucalyptus accedens woodlands within the application area are transitional between these two bioregions.

The vegetation under application is mapped as Beard vegetation association 4 of which there is approximately 19 percent and 28 percent pre-European extent remaining within the Avon Wheatbelt and Jarrah forest bioregions respectively (Government of Western Australia, 2013).

The area under application is located within the Shire of York, within which there is approximately 35 percent pre-European extent remaining (Government of Western Australia, 2013).

The application area is mapped as Mattiske vegetation associations Ck and Y6 within which there is approximately 41 percent and 51 percent pre-European extent remaining respectively (Mattiske and Havel, 1998).

The application area falls on the border of two land uses with extensive conservation areas to the west and agricultural land that has been largely cleared of native vegetation to the east. The local area surrounding the application area therefore retains approximately 50 percent native vegetation.

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

Clearing the vegetation under application is likely to cause significant land degradation through salinity, eutrophication and water erosion. Given this the application area is significant in maintaining soil and land conservation (Commissioner of Soil and Land Conservation, 2014). The application area may also contain rare and priority flora and significant habitat for conservation significant fauna.

Given the above, the proposed clearing is at variance to this principle.

	Pre-European (ha)	Current Extent Remaining (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Jarrah Forest	4,506,660	2,457,731	54	68
Avon Wheatbelt	9,517,109	1,778,407	18	9
Shire				
Shire of York	213,260	76,160	35	65
Beard Vegetation Association 4 within Bioregion*				
Avon Wheatbelt	10,333	1,964	19	4
Jarrah Forest	1,022,712	292,975	28	22
Mattiske Vegetation Complex **				
Ck	133,889	56,168	41	24
Y6	158,392	82,349	51	26

Methodology References:
 Commissioner of Soil and Land Conservation (2014)
 Commonwealth of Australia (2001)
 *Government of Western Australia (2013)
 **Mattiske and Havel (1998)

GIS Databases:
 - SacBiodataSets - accessed July 2014

(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 at variance to this Principle**
 A minor non-perennial watercourse (13 Mile Brook) is mapped within the application area. A second tributary of 13 Mile Brook, classified as a minor river, runs approximately 200 metres from the application area within contiguous vegetation. The Helena River, classified as a major river, originates approximately one kilometre from the application area.

A site inspection identified standing pools of water within the application area (DER, 2014).

As watercourses are mapped within and in close proximity to the application area, the proposed clearing is at variance to this clearing principle.

Methodology References:
 DER (2014)
 GIS Datasets:
 - Hydrography linear

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

Comments Proposal is seriously at variance to this Principle

The Department of Agriculture and Food Western Australia undertook a site inspection of the application area on 29 May 2014 (Commissioner of Soil and Land Conservation, 2014). The corresponding land degradation assessment report found that the risk of the proposed clearing causing land degradation is extreme.

A minor non-perennial watercourse (13 Mile Brook) is mapped within the application area. A second tributary of 13 Mile Brook, classified as a minor river, runs approximately 200 metres from the application area within contiguous vegetation. The Helena River, classified as a major river, originates approximately one kilometre from the application area. A site inspection identified standing pools of water within the application area (DER, 2014).

Ground water salinity levels in the local area have been mapped as saline (Water and River Commission, 2000) at 7000-14000 milligrams per litre total dissolved solids. The application area has been mapped adjacent to an area of salinity risk. Although extensive reserves exist to the west of the application area, the land to the east has almost been largely cleared for agriculture.

Perennial deep rooted vegetation maintains groundwater levels through transpiration, as this vegetation is removed the water table rises bringing with it saline minerals accumulated in the sediment for thousands of years. This saline water table kills shallow rooted vegetation as it rises before the water component is evaporated on the surface leading to significant land degradation (Water and Rivers Commission, 2000).

The Commissioner of Soil and Land Conservation (2014) noted that salinity was observed within the property adjoining the application area along a drainage line common to both properties. The salinity level of this waterway appeared to be increasing, especially downstream of the clearing area. It was noted that due to the significant size of the area to be cleared and proximity of the application area to waterways, the risk of salinity causing land degradation is very high.

The Commissioner of Soil and Land Conservation (2014) also noted that a shallow water table is likely to be present in some areas. Clearing these areas has a very high risk of waterlogging and it was advised that the likelihood of the proposed clearing causing land degradation through waterlogging is very high.

Given the soils present within the application area, the intended land use and position within the landscape, the Commissioner of Soil and Land Conservation (2014) also advised that the risk of water erosion causing land degradation is extreme.

The Department of Water (2014) has advised that a vegetated buffer to watercourses would be required due to the risk of erosion.

Given the above, the application is seriously at variance to this clearing principle.

Methodology References:
DER (2014)
Department of Water (2014)
Commissioner of Soil and Land Conservation (2014)
Water and Rivers Commission (2000)

GIS Datasets:
- Hydrography linear

(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 at variance to this Principle

The vegetation within Lot 7082 of which the application area is part, is contiguous with Wandoo National Park, an approximately 44 000 hectare A class reserve. The application area itself falls approximately 120 metres from the reserve boundary at the closest point.

The headwater of the Helena River (classified as a major river) falls within Wandoo National Park approximately one kilometre from the application area. 13 Mile Brook runs through the application area and parallel to Wandoo National Park (within approximately 100 metres) as it flows north of the application area.

The Commissioner of Soil and Land Conservation (2014) advised that:

- the risk of salinity causing land degradation is very high, on and off site;
- the risk of waterlogging causing land degradation is very high and
- the risk of water erosion causing land degradation is extreme.

Given the close proximity of the application area to Wandoo National Park, the potential land degradation risk is likely to impact on the condition of vegetation within the National Park.

Given the above, the clearing as proposed is at variance to this principle.

Methodology References:
Commissioner of Soil and Land Conservation (2014)

GIS Datasets:
- DEC Tenure

(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 at variance to this Principle

A minor non-perennial watercourse (13 Mile Brook) is mapped within the application area. A second tributary of 13 Mile Brook, classified as a minor river, runs approximately 200 metres from the application area within contiguous vegetation. The Helena River, classified as a major river, originates approximately one kilometre from the application area. A site inspection identified standing pools of water within the application area (DER, 2014).

Ground water salinity levels in the local area have been mapped as saline (Water and River Commission, 2000) at 7000-14000 milligrams per litre total dissolved solids. The application area has been mapped adjacent to an area of salinity risk. Although extensive reserves exist to the west of the application area, the land to the east has been largely cleared for agriculture.

Perennial deep rooted vegetation maintains groundwater levels through transpiration, as this vegetation is removed the water table rises bringing with it saline minerals accumulated in the sediment for thousands of years. This saline water table kills shallow rooted vegetation as it rises before reaching the surface through watercourses and wetlands (Water and Rivers Commission, 2000).

The Commissioner of Soil and Land Conservation (2014) noted that salinity was observed within the property adjoining the application area along a drainage line common to both properties. The salinity level of this waterway appeared to be increasing, especially downstream of the clearing area. It was noted that due to the significant size of the area to be cleared and proximity of the application area to waterways, the risk of salinity is very high.

Clearing the vegetation under application will cause significant changes in the salinity of surface and underground water. Therefore, the proposed clearing is at variance to this principle.

Methodology References:
Commissioner of Soil and Land Conservation (2014)
DER (2014)
Water and Rivers Commission (2000)

GIS Databases:
- Groundwater Salinity Statewide
- Topographic Contours, 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 falls within the headwater catchment of the Helena River. The Commissioner of Soil and Land Conservation (2014) advised that clearing of significant areas of native vegetation in the area may cause an increase in surface water runoff during high rainfall events which could contribute to stream flows. Significant change in the risk of flooding is however, unlikely.

The application is not likely to be at variance to this clearing principle.

Methodology References:
Commissioner of Soil and Land Conservation (2014)

GIS Datasets:
- Hydrography linear

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

Comments An Aboriginal site of Significance is mapped within the application area. The applicant is advised to contact the Department of Aboriginal Affairs in relation to their requirements under the Aboriginal Heritage Act 1972.

No submissions from the public have been received in relation to this application.

The Department of Water (2014) has advised that a minor watercourse is present within the application area and therefore clearing is not supported. The Department of Water (2014) has also advised that in accordance with operational policy, a biophysical assessment in order to determine an appropriate buffer to waterways would be required.

The applied area is located within the agricultural area defined in the Environmental Protection Authority's (EPA) Position Statement No.2. EPA Position Statement No. 2 states that significant clearing of native vegetation has already occurred on agricultural land, leading to a reduction in biodiversity and increase in land salinisation and therefore any further reduction in native vegetation through clearing for agriculture cannot be supported.

Eutrophication is the process by which a body of water acquires a high concentration of nutrients, especially phosphates and nitrates, promoting excessive plant growth. As this plant material decomposes, the oxygen within the water is depleted, causing the death of other organisms, such as fish. A land degradation assessment report (Commissioner of Soil and Land Conservation 2014) noted that the risk of eutrophication following clearing causing land degradation is high to extreme, particularly following waterlogging events.

At the request of the applicant the Shire of York approved the rezoning of Lot 7082 Helena Road, St Ronans, from "General Agriculture" to "Conservation" with an aim to conserve natural vegetation, whilst permitting limited development for human occupancy with strict conditions on land uses. The Environmental Protection Authority was consulted through this process. The proposed amendment was forwarded to the Western Australian Planning Commission which did not approve the proposed rezoning.

On 15 May 2014 the Shire of York was advised of the proposed clearing. To date, no response has been received.

Methodology References:
Commissioner of Soil and Land Conservation (2014)
Department of Water (2014)

4. References

- Avon Valley Catchment Council (2007) Shield-Backed Trapdoor Spider (*Idiosoma nigrum*) Conservation Plan 2008-2013
Avon Catchment Council, Western Australia.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2012) Carnaby's cockatoo (*Calyptorhynchus latirostris*) Recovery Plan. Department of Environment and Conservation, Perth, Western Australia.
- Department of Water (2014) Advice received in relation to clearing permit application CPS 6107/1. Lot 7082 Helena Road, St Ronans (DER Ref: A767320).
- DER (2014) Site Inspection Report for Clearing Permit Application CPS 6107/1, Lot 7082 Helena Road, St Ronans. Site inspection undertaken 19 July 2014. Department of Environment Regulation, Western Australia (DER Ref: A781631).
- DPaW (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed July 2014.
- Envirosure (1999) Development of a Conservation Estate, Vegetation and Flora Assesment, Avon Location 7082, Helena Road York. Envirosure September 2009.
- Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, 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.
- Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.
- Parks and Wildlife (2014) Advice received in relation to clearing permit application CPS 6107/1. Lot 7082 Helena Road, St Ronans (DER Ref: A780672).
- Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.
- 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.
- The Commissioner of Soil and Land Conservation (2014) Advice received in relation to clearing permit application CPS 6107/1. Lot 7082 Helena Road, St Ronans (DER Ref: A769039).
- Water and rivers Commission (2000) Water and Rivers Commission Water Facts 15 Salinity. Water and rivers Commission, Perth Western Australia, June 2000.