



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

| | |
|-------------------------------|--------------------------------------|
| Purpose Permit number: | CPS 8047/2 |
| Permit Holder: | BHP Billiton Iron Ore Pty Ltd |
| Duration of Permit: | 28 November 2018 to 28 November 2023 |

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of constructing and maintaining access roads and all associated activities.

2. Land on which clearing is to be done

Lot 453 on Deposited Plan 165816, Port Hedland
Lot 5432 on Deposited Plan 184949, Port Hedland
Wilson Street road reserve (PIN 11426084), Port Hedland

3. Area of Clearing

The Permit Holder must not clear more than 1.37 hectares of native vegetation within the area hatched yellow on attached Plan 8047/2.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

PART II – MANAGEMENT CONDITIONS

5. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

6. Weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

- clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III - RECORD KEEPING AND REPORTING

7. Records must be kept

The Permit Holder must maintain the following records in relation to the clearing of native vegetation authorised under this Permit:

- (a) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (b) the date that the area was cleared;
- (c) the size of the area cleared (in hectares);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 5 of this Permit; and
- (e) actions taken to minimise the risk of the introduction and spread of weeds in accordance with condition 6 of this Permit.

8. Reporting

The Permit Holder must provide to the *CEO* the records required under condition 7 of this Permit, when requested by the *CEO*.

DEFINITIONS

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

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*;
or
- (b) published in a Department of Biodiversity, Conservation and Attractions Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



Meenu Vitarana
A/MANAGER
NATIVE VEGETATION REGULATION

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

22 December 2020

Plan 8047/2

118°36'20.160"E

118°36'27.000"E

118°36'33.840"E

118°36'40.680"E

20°18'37.440"S

20°18'43.200"S

20°18'48.960"S

20°18'54.720"S

20°18'37.440"S

20°18'43.200"S

20°18'48.960"S

20°18'54.720"S





118°36'20.160"E

118°36'27.000"E

118°36'33.840"E

118°36'40.680"E

Map Layers

-  CPS areas approved to clear
-  Local Government Authorities

Road Centrelines

— Highway



0 50 100 150 200 m



1:4000

MGA Zone 50
Geocentric Datum of Australia 1994

Meenu Vitarana
2020.12.22
13:58:38 +08'00'

Officer delegated under section 20 of the
Environmental Protection Act 1986



GOVERNMENT OF
WESTERN AUSTRALIA

1 Application details and outcome

1.1. Permit application details

| | |
|-------------------------------|--|
| Permit number: | CPS 8047/2 |
| Permit type: | Purpose permit |
| Applicant name: | BHP Billiton Iron Ore Pty Ltd |
| Application received: | 21 October 2020 |
| Application area: | 1.37 hectares of native vegetation |
| Purpose of clearing: | Road construction and upgrades |
| Method of clearing: | Mechanical |
| Property: | Lot 453 on Deposited Plan 165816, Port Hedland Lot 5432 on Deposited Plan 184949, Port Hedland Wilson Street road reserve (PIN 11426084), Port Hedland |
| Location (LGA area/s): | Town of Port Hedland |
| Localities (suburb/s): | Port Hedland |

1.2. Description of clearing activities

This amendment is to increase the clearing permit boundary to 4.74 hectares and amend the purpose for which clearing may be done to include clearing for the purpose of constructing and maintaining access roads “and all associated activities” (see Figure 1, Section 1.5).

CPS 8047/1 allowed for the clearing of 1.37 hectares of native vegetation within Lot 453 on Deposited Plan 165816 and Lot 5432 on Deposited Plan 184949, Port Hedland, for the purpose of constructing and maintaining access roads. However, BHP Billiton Iron Ore Pty Ltd (BHP) has identified the need for further upgrades to the entrance to Gate 7 at the Nelson Point BHP Facility beyond the boundaries currently approved under Clearing Permit CPS 8047/1, to facilitate the transport of materials.

The area approved to be cleared under CPS 8047/1 is not proposed to be increased under this amendment, and the entire clearing permit footprint sought under CPS 8047/2 is 1.37 hectares within a 4.74 hectare boundary.

1.3. Decision on application

| | |
|-----------------------|--|
| Decision: | Granted |
| Decision date: | 22 December 2020 |
| Decision area: | 1.37 hectares of native vegetation, as depicted in Section 1.5, below. |

1.4. Reasons for decision

This clearing permit amendment application was submitted, accepted, assessed and determined in accordance with sections 51E, 51M and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for seven days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix F), the findings of a regional flora and vegetation survey and a regional fauna survey (see 0), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The Delegated Officer considered that the assessment has not changed since the original assessment for CPS 8047/1, given that the additional area under application is likely to exhibit similar site characteristics to those present within the area approved under CPS 8047/1 and that the approved clearing area remains unchanged. The Delegated Officer determined that, given the extent of the proposed clearing, the condition of the vegetation, and the current land use, the proposed amendments to allow the clearing of 1.37 hectares within a 4.74 hectare boundary and to amend the purpose for which clearing may be done are not likely to lead to an unacceptable risk to environmental values.

1.5. Site map

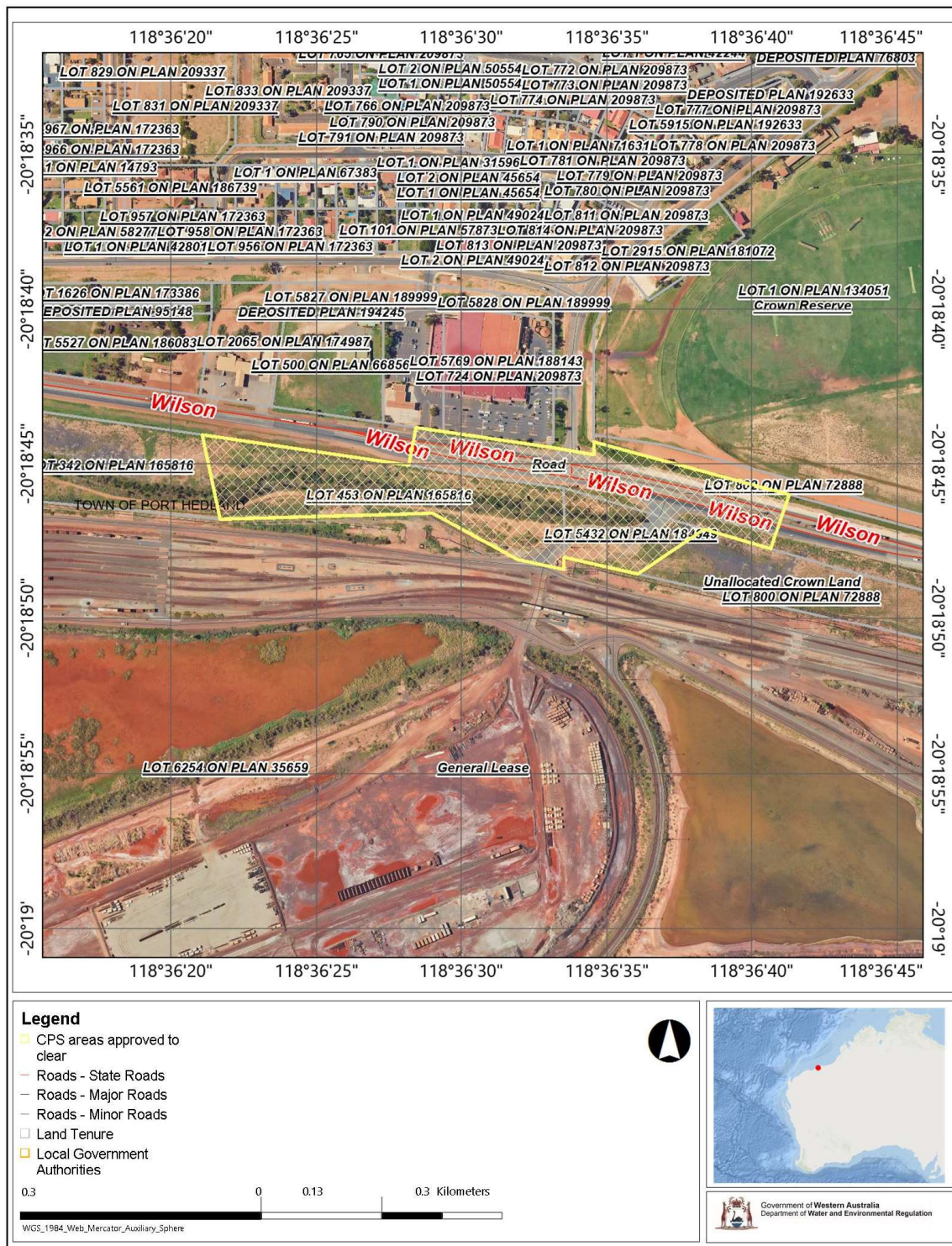


Figure 1 The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit amendment.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity; and
- the principle of the conservation of biological diversity and ecological integrity.

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant advised that the proposed amended boundary of 4.74 hectares has been kept as small as practicable to allow the required upgrades to the entrance to Gate 7 at the Nelson Point BHP Facility (BHP, 2020a). The applicant also advised that the upgrades had been planned to ensure that the total area of clearing was not increased under the proposed amendment and advised that no more than 1.37 hectares of native vegetation would be cleared within the amended boundary (BHP, 2020a).

The applicant also advised that part of the amended area, e.g. the northern side of Wilson Street, had been included in the amended boundary to allow on-ground flexibility in the road design, should the current design not be feasible on-ground (BHP, 2020b). The applicant advised that it was not expected that any clearing would occur in these areas (BHP, 2020b).

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

A review of current environmental information (Appendix B) reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 8047/1.

In assessing the additional area under application, the Delegated Officer has had regard for the site characteristics (see Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values. The assessment identified that the additional area under application is likely to exhibit similar site characteristics to those present within the area approved under CPS 8047/1.

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed amendment are limited and able to be managed to be environmentally acceptable with standard avoid and minimize and weed management conditions.

3.3. Relevant planning instruments and other matters

The amendment application was advertised on the Department of Water and Environmental Regulation's website on 20 November 2020, inviting submissions from the public within a 7-day period. No submissions were received in relation to this application.

The Town of Port Hedland provided DWER with the following comments regarding the application:

- What justification can BHP provide to clear vegetation on the northern side of Wilson Street?;
- Clearing of the land will likely result in increased dust in the subject area. What dust and stormwater mitigation measures will BHP implement during works and after completion to prevent dust and stormwater issues in the area?

- The area contains part of an established 'buffer zone' intended to reduce the impacts of noise and dust from the site to nearby residences and businesses. It is essential that the buffer zone is re-established immediately as practicable following the completion of the works to ensure these off-site impacts are reduced (Town of Port Hedland, 2020).

In response to the above, BHP provided the following additional information:

- Some minor clearing may be required on the northern side of Wilson Street to widen the road to provide a safer entry way to BHP operations and maintain the safety of the McGregor Street intersection (BHP, 2020b). The clearing permit boundary has been extended to include the northern side of Wilson Street to allow for minor modifications in the road design, should the current designs be deemed impractical on-ground (BHP, 2020b). However, the current design involves all module deliveries traversing the southern side of Wilson Street to minimise disruptions to the existing road infrastructure, and it is unlikely that there will be any clearing required on the northern side of Wilson Street (BHP, 2020b).
- Dust mitigation measures during works will include the use of water carts to minimise dust generation (BHP, 2020b). The final design is for a sealed road, which will reduce dust generation on completion of the project (BHP, 2020b).
- The existing stormwater drainage system will remain in place (BHP, 2020b). If works should impact on the existing drainage system, new drainage will be installed to ensure ongoing management (BHP, 2020b).
- It is not anticipated that the project will significantly alter the established 'buffer zone', given the main disturbance will be immediately west of the current access road to allow straightening of the entry way (BHP, 2020b). Disturbed buffer areas will be restored, except for whether they are covered by the new sealed road and associated batters (BHP, 2020b).

Given the above, DWER was satisfied that BHP had suitably addressed the Town of Port Hedland's concerns regarding the proposed amendment of clearing permit CPS 8047/1, including employing sufficient efforts to avoid and minimise clearing, and mitigate land degradation through dust and stormwater management.

Several Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Appendix A. Additional information provided by applicant

| Summary of comments | Consideration of comment |
|---|--|
| The applicant provided additional information in response to the Town of Port Hedland's comments regarding clearing permit amendment application CPS 8047/2 (BHP, 2020b). | This additional information was considered and is outlined in relevant planning instruments and other matters (see Section 3.3) and was also considered the assessment against the clearing principles (see Appendix C). |

Appendix B. Site characteristics

B.1. Site characteristics

| Characteristic | Details |
|------------------------|--|
| Local context | <p>The area proposed to be cleared is part of an isolated strip of roadside native vegetation in the extensive land use zone of Western Australia. The amended area is a small, isolated remnant of native vegetation, adjacent to previously cleared road and railway infrastructure within the Port Hedland townsite.</p> <p>Spatial data indicates that the local area (50-kilometre radius from the centre of the area proposed to be cleared) retains approximately 97.53 per cent of the original native vegetation cover.</p> |
| Ecological linkage | <p>There are no mapped ecological linkages intersecting the area proposed to be cleared.</p> <p>The amended area forms part of a strip of roadside native vegetation; however, this area is isolated and surrounded by previously cleared road and railway infrastructure. Therefore, it is unlikely that the additional area under application forms a significant ecological linkage within the local area.</p> |
| Conservation areas | The closest conservation area is Eighty Mile Beach Marine Park, which occurs approximately 95 kilometres east of the proposed amended area. |
| Vegetation description | <p>A vegetation survey (ENV Australia Pty Ltd, 2011) indicates that the vegetation within the proposed clearing area consists of highly disturbed remnant mangrove vegetation and hummock grassland. This survey identified that the application area is solely comprised of areas covered by existing infrastructure or vegetation that has been previously disturbed by infrastructure (ENV Australia Pty Ltd, 2011). The full survey descriptions and maps are available in Appendix E.</p> <p>This is consistent with the mapped vegetation types:</p> <ul style="list-style-type: none"> • Beard vegetation association 43, which is described as "low forest; mangroves (Kimberley) or thicket; mangroves (Pilbara)" (Shepherd et al, 2001); and • Beard vegetation association 117, which is described as "hummock grasslands, grass steppe; soft spinifex" (Shepherd et al, 2001). |
| Vegetation condition | A vegetation survey (ENV Australia Pty Ltd, 2011) indicates that the vegetation within the amended area is in Completely Degraded (Trudgen, 1991) condition, described as areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs. |

| Characteristic | Details |
|------------------------|--|
| | The full Trudgen (1991) condition rating scale is provided in Appendix D. The full condition mapping is available in Appendix E. |
| Climate and landform | The amended area occurs on flat topography. The average rainfall and evapotranspiration rate for the area is 400 millimetres. Annual mean maximum temperature is 33.3°C and annual mean minimum temperature is 19.5°C. |
| Soil description | The soil is mapped within the Littoral System (286Li) described as bare coastal mudflats (unvegetated), samphire flats, sandy islands, coastal dunes and beaches, supporting samphire low shrublands, sparse acacia shrublands and mangrove forests (DPIRD, 2019). |
| Land degradation risk | The Littoral System is considered to have a low risk of land degradation resulting from wind erosion, water erosion, salinity, subsurface acidification, or phosphorus export, but may have a high risk of waterlogging and flooding (Van Vreeswyk et al., 2004). Advice received from the Commissioner of Soil and Land Conservation (CSLC) indicates that the application area occurs in sandy plains and island land units, that may be susceptible to wind and water erosion, if a large extent of bare ground is left exposed for long periods (CSLC, 2018). The sandy soil type within the application area is not expected to be susceptible to land degradation resulting from salinity, flooding, waterlogging, subsurface acidification, or phosphorus export. |
| Waterbodies | The desktop assessment and aerial imagery indicated that the amended area does not occur within any mapped wetlands but occurs within 100 metres of East Creek, a saline coastal flat. East Creek is separated from the application area by previously cleared land, including road and railway infrastructure. |
| Hydrogeography | The amended area occurs within the Pilbara Surface Water Area and the Pilbara Groundwater Area, both proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (the RIWI Act). |
| Flora | The desktop assessment identified that a total of 16 threatened or priority flora species have been recorded within the local area, comprising two Priority 1 (P1) flora, one Priority 2 (P2) flora, nine Priority 3 (P3) flora, three Priority 4 (P4) flora, and one threatened flora (Western Australian Herbarium, 1998-). None of these existing records occur within the amended area, with the closest record being an occurrence of <i>Gymnanthera cunninghamii</i> (P3) approximately 740 metres south-west of the amended area, separated by rail infrastructure. With consideration for the site characteristics set out above, relevant datasets (see Appendix 0), biological survey information (ENV Australia Pty Ltd, 2011b), the current land use, the habitat preferences of the aforementioned species, and the distribution and extent of existing records, impacts to conservation significant flora species or significant habitat for these species were not considered likely to result from the proposed clearing and did not require further consideration. |
| Ecological communities | The desktop assessment identified no records of threatened or priority ecological communities within the local area. The closest record is an occurrence of the Themeda grasslands on cracking clays (Hamersley Station, Pilbara) threatened ecological community (TEC), approximately 240 kilometres south-west of the amended area. |

| Characteristic | Details |
|----------------|--|
| Fauna | <p>The desktop assessment identified that a total of 66 threatened or priority fauna species have been recorded within the local area, including 19 threatened fauna species, six priority fauna species, 39 fauna species protected under international agreement, and two other specially protected fauna species (DBCA, 2007-). None of these records occur within the application area, with the closest record being a barn swallow (<i>Hirundo rustica</i>) occurring approximately 80 metres from the amended area.</p> <p>A biological survey identified that the amended area comprises 4.74 hectares of existing infrastructure or vegetation that has been highly disturbed by adjacent infrastructure, and classed fauna habitat as “Disturbed / Infrastructure” (ENV Australia Pty Ltd, 2011a). The full fauna habitat mapping is available in Appendix E.</p> <p>With consideration for the site characteristics set out above, relevant datasets (see Appendix 0), biological survey information (ENV Australia Pty Ltd, 2011a), the current land use, and the habitat preferences of the aforementioned species, impacts to conservation significant fauna species or significant habitat for these species were not considered likely to result from the proposed clearing and did not require further consideration.</p> |

B.2. Vegetation extent

| | Pre-European extent (ha) | Current extent (ha) | Extent remaining (%) | Current extent in all DBCA managed land (ha) | Current proportion (%) of pre-European extent in all DBCA managed land |
|---|--------------------------|---------------------|----------------------|--|--|
| IBRA bioregion* | | | | | |
| Pilbara | 17,808,657.04 | 17,731,764.88 | 99.57 | 1,802,099.28 | 10.12 |
| Beard vegetation association* | | | | | |
| 43 | 193,260.12 | 175,894.19 | 91.01 | 64,383.95 | 33.31 |
| 117 | 897,107.77 | 883,704.60 | 98.51 | 129,205.67 | 14.4 |
| Beard vegetation association within IBRA bioregion* | | | | | |
| 43 | 17,053.31 | 14,708.68 | 86.25 | 2.53 | 0.01 |
| 117 | 82,705.78 | 78,096.64 | 94.43 | 17,600.29 | 21.28 |
| Local area | | | | | |
| 50km radius | 422,342.48 | 411,894.25 | 97.53 | - | - |

*Government of Western Australia (2019)

Appendix C. Assessment against the clearing principles

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|--|------------------------------------|
| Environmental value: biological values | | |
| <p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u> The amended area includes 4.74 hectares of highly disturbed vegetation in Completely Degraded (Trudgen, 1991) condition, surrounded by previously cleared areas and existing road and railway infrastructure. The proposed clearing area does not contain locally or regionally significant flora, fauna, habitats, ecological communities, or ecological linkages. Given the above, the proposed clearing area does not comprise a high level of biodiversity.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 8047/1)</p> | No |
| <p><u>Principle (b):</u> <i>“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.”</i></p> <p><u>Assessment:</u> The amended area comprises 4.74 hectares of heavily disturbed and degraded vegetation, surrounded by previously cleared areas and existing road and railway infrastructure. Desktop assessment and biological surveys (ENV Australia Pty Ltd, 2011a) identified no records of conservation significant fauna species within the proposed clearing area. Given the above, the area proposed to be cleared is not considered likely to contain significant habitat for conservation significant fauna.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 8047/1)</p> | No |
| <p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u> No records of threatened flora occur within the amended area and biological surveys have identified no threatened flora within the proposed clearing area (ENV Australia Pty Ltd, 2011b). Given the above, the extent of the proposed clearing, the highly disturbed land use, and the Completely Degraded (Trudgen, 1991) condition of the vegetation, the area proposed to be clearing is not considered to include, or be necessary for the continued existence of, threatened flora.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 8047/1)</p> | No |
| <p><u>Principle (d):</u> <i>“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.”</i></p> <p><u>Assessment:</u> Given the composition and condition of the vegetation within the amended area, the proposed clearing area is not likely to be consistent with any threatened ecological community (TEC) listed under the BC Act. Noting the above, and the distance and separation from the nearest TEC, the proposed clearing area is not considered to comprise the whole or a part of, or be necessary for the maintenance of, a TEC.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 8047/1)</p> | No |
| Environmental value: significant remnant vegetation and conservation areas | | |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|--|------------------------------------|
| <p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u> The extent of the mapped vegetation type and native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia (see Appendix B.2). The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area or to occur within an area that has been extensively cleared.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 8047/1)</p> | <p>No</p> |
| <p><u>Principle (h):</u> <i>“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.”</i></p> <p><u>Assessment:</u> Given the distance to the nearest conservation area and separation by previously cleared areas and infrastructure, the proposed clearing is not likely to have an impact on the environmental values of adjacent or nearby conservation areas.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 8047/1)</p> | <p>No</p> |
| Environmental value: land and water resources | | |
| <p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u> No wetlands are recorded within 12 kilometres of the amended area, and the closest watercourse is separated from the amended area by previously cleared land and railway infrastructure. Given the above and noting the extent of the proposed clearing and the condition of the vegetation, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 8047/1)</p> | <p>No</p> |
| <p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u> The mapped soils within the amended area are moderately susceptible to wind and water erosion if left exposed for long periods. Noting the extent of the proposed clearing, the condition of the vegetation, that dust mitigation measures will be in place (BHP, 2020b) and that the cleared areas will be developed into sealed road infrastructure following clearing activities, the proposed clearing is not likely to have an appreciable impact on land degradation. This is consistent with previous advice received from the Commissioner of Soil and Land Conservation (CSLC, 2018).</p> | <p>Not likely to be at variance</p> <p>(as per CPS 8047/1)</p> | <p>No</p> |
| <p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u> The amended area is mapped within a proclaimed surface and groundwater area. However, the proposed clearing will remove up to 1.37 hectares of native vegetation within a 4.74-hectare area of highly disturbed vegetation in Completely Degraded (Trudgen, 1991) condition. Given the extent of the proposed clearing and the condition of the vegetation to be cleared, the proposed clearing is unlikely to result in impacts to surface or ground water quality.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 8047/1)</p> | <p>No</p> |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|--|------------------------------------|
| <p><u>Principle (j)</u>: “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p>Assessment: The sandy soils and topographic contours present do not indicate that the amended area is likely to be susceptible to flooding or waterlogging. Noting this, the distance and separation from the nearest watercourse, the extent of the proposed clearing, the condition of the vegetation, and that existing stormwater drainage will be maintained (BHP, 2020b), it is not considered likely that the proposed clearing will cause, or exacerbate, the incidence or intensity of flooding or contribute to waterlogging.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 8047/1)</p> | No |

Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

| Condition | Description |
|---------------------|--|
| Excellent | Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement. |
| Very good | Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks. |
| Good | More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds. |
| Poor | Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds. |
| Very poor | Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species. |
| Completely degraded | Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs. |

Appendix E. Biological survey information excerpts

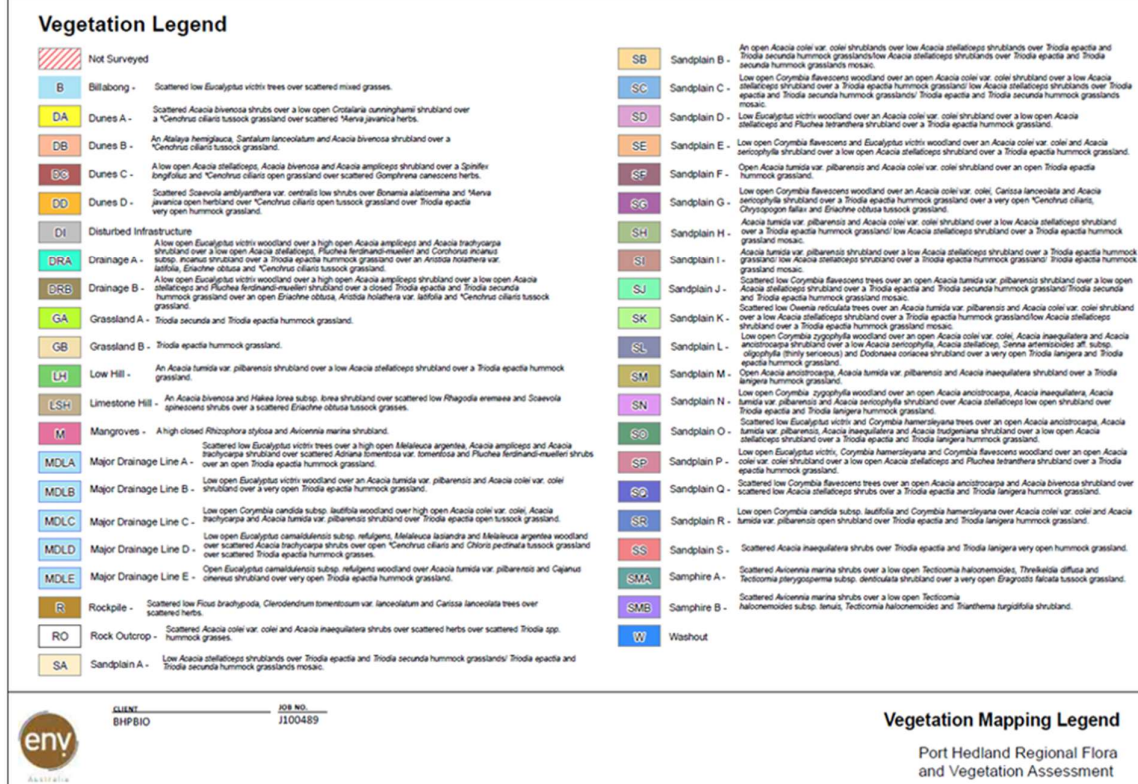
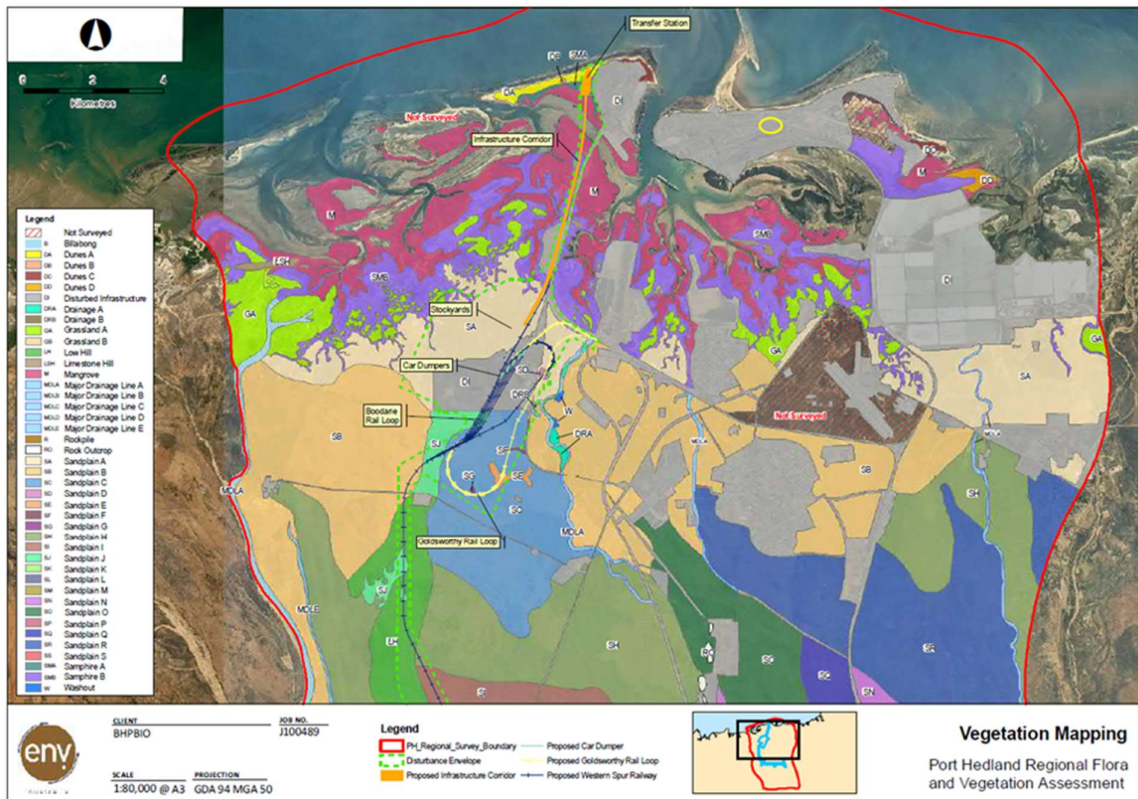


Figure 2. Regional vegetation mapping and descriptions from the Port Hedland Regional Flora and Vegetation Assessment (ENV Australia Pty Ltd, 2011b). Yellow circle indicates the approximate location of CPS 8047/2.

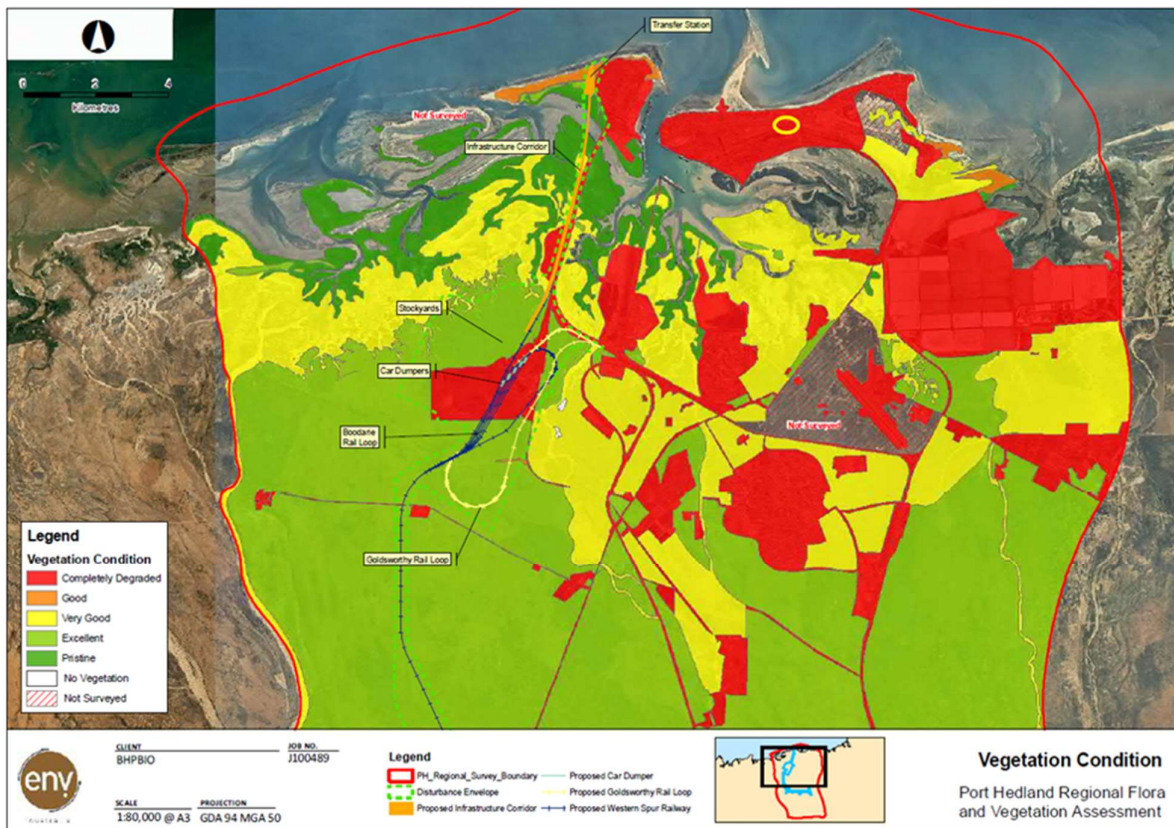


Figure 3. Regional vegetation condition mapping from the Port Hedland Regional Flora and Vegetation Assessment (ENV Australia Pty Ltd, 2011b). Yellow circle indicates the approximate location of CPS 8047/2.

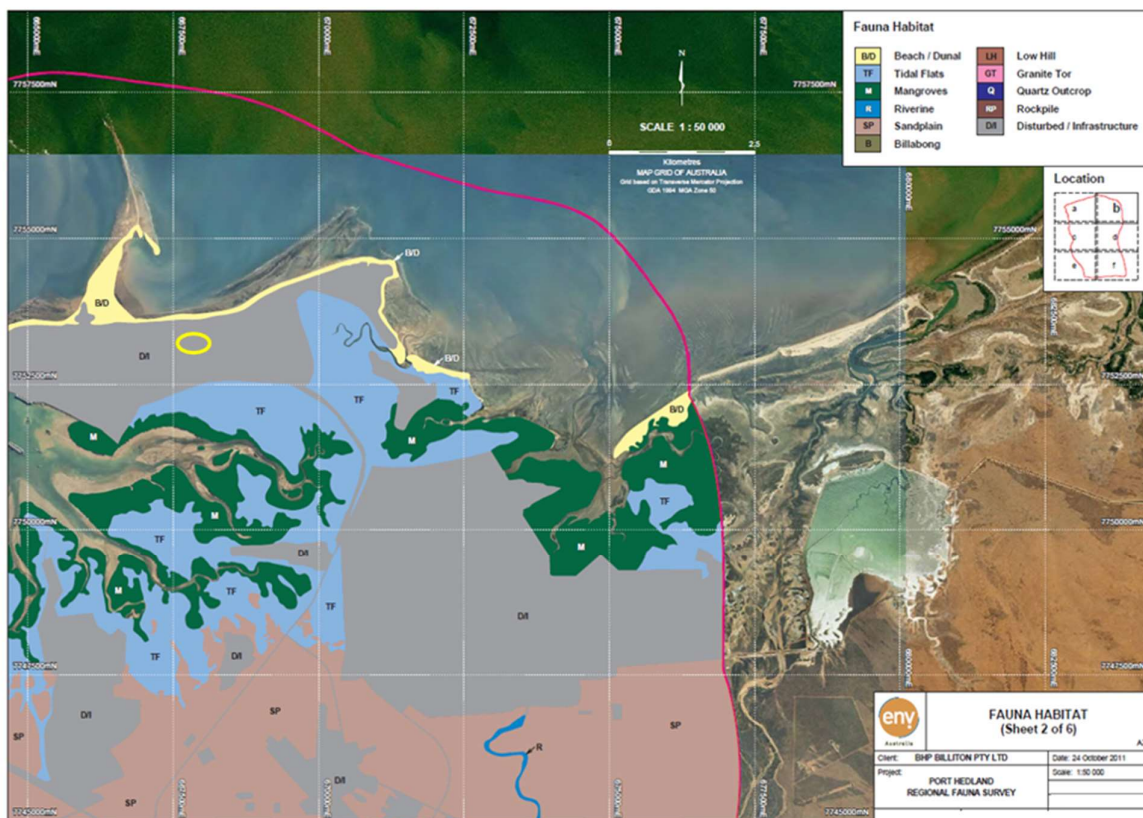


Figure 4. Regional fauna habitat mapping from the Port Hedland Regional Fauna Assessment (ENV Australia Pty Ltd, 2011a). Yellow circle indicates the approximate location of CPS 8047/2.

Appendix F. Sources of information

F.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- DBCA Statewide Vegetation Statistics
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Native Vegetation Extent (DPIRD-005)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

F.2. References

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