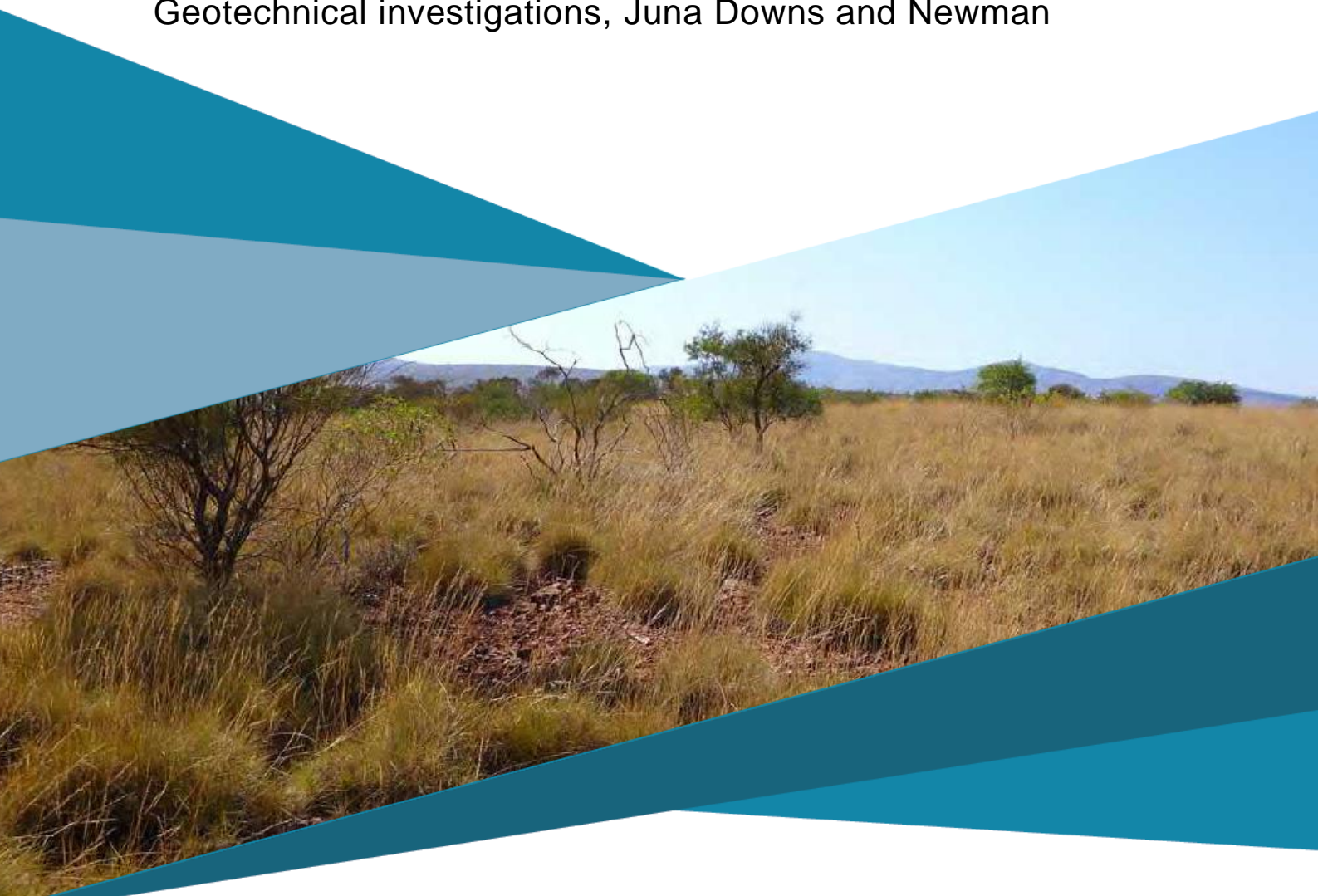




Government of Western Australia
Office of the **Appeals Convenor**
Environmental Protection Act 1986

Appeals Convenor's Report to the Minister for Environment

Appeal against conditions of clearing permit CPS 8953/1
Geotechnical investigations, Juna Downs and Newman



Appellant	Wildflower Society of Western Australia (Inc)
Applicant	BHP Billiton Iron Ore Pty Ltd
Authority	Department of Water and Environmental Regulation (DWER)
Appeal number	057 of 2020
Report date	August 2021

Office of the Appeals Convenor

08 6364 7990 or TTY 13 36 77 (National Relay Service)

admin@appealsconvenor.wa.gov.au

www.appealsconvenor.wa.gov.au

221 St Georges Terrace
Perth WA 6000

Appeals Convenor

Emma Gaunt

Investigating Officer

Carly Bishop

This report

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Cover image provided by the applicant - *Triodia* hummock grassland.

Please contact us if you need the report in a different format.

Acknowledgement of Country

The Office of the Appeals Convenor acknowledges the traditional custodians throughout Western Australia and their continuing connection to the land, waters and community.

We pay our respects to all members of the Aboriginal communities and their cultures, and to Elders both past, present and emerging.

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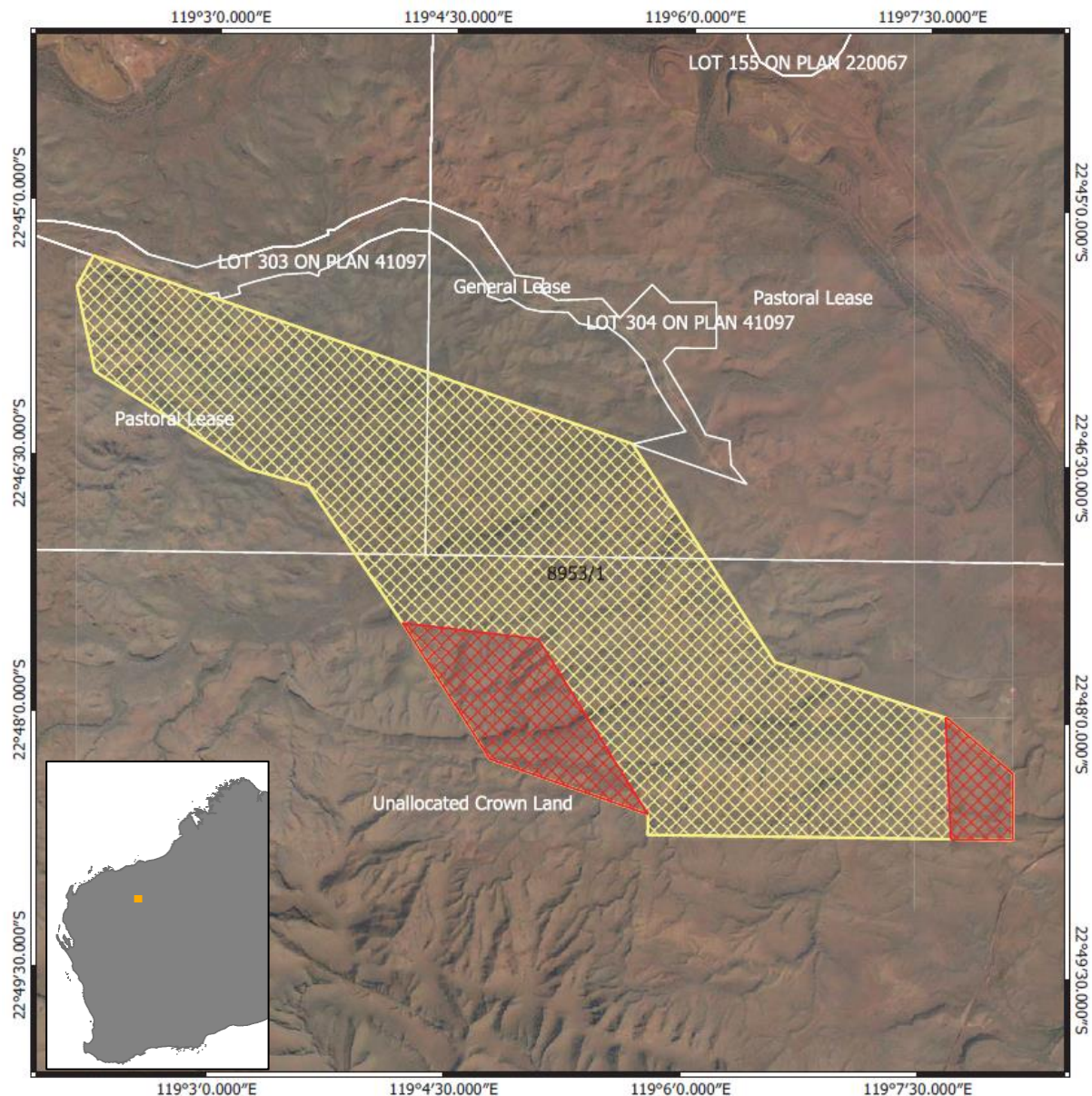
1 Executive summary

1.1 Decision under appeal

Clearing permit CPS 8953/1 was granted to BHP Billiton Iron Ore Pty Ltd (the applicant) for geotechnical investigations within Unallocated Crown land (PIN 11455504) Newman, Lot 1580 on DP 72910 Newman, and Lot 1563 on DP 67603 Juna Downs. The permit authorises the applicant to clear up to 30 hectares (ha) of native vegetation within a 2,363 ha application area (Figure 1)¹.

This appeal is against the conditions of clearing permit CPS 8953/1.

Figure 1: Application area (yellow) and unsurveyed areas (red)



¹ DWER decision report for clearing permit CPS 8953/1

1.2 Grounds of appeal and appellant concerns

The appellant is the Wildflower Society of Western Australia (Inc) which has submitted 5 grounds of appeal as summarised in Table 1.

Table 1 Grounds of appeal

Ground	Main concerns the appellant submitted
1 Adequacy of assessment	Survey effort was inadequate to determine the impacts to Priority flora. Pre-clearance surveys should be required.
2 Reporting impacts	The applicant should record and report its 'unavoidable' impacts to Priority flora and Western pebble-mound mouse mounds. Impact for Priority flora should be based on number of plants, given the variation in plant counts at each location.
3 Revegetation and weeds	A single wet season survey after initial revegetation/rehabilitation is insufficient to determine the trajectory of success. Weeds should be used as a revegetation success indicator and controlled.
4 Buffers and weeds	The 10m buffer will allow erosion run-off into watercourses and may cause significant disturbance to Priority fauna habitat. The buffer is insufficient to protect Priority flora from weeds e.g. buffel grass.
5 Missing species	Priority 1 flora <i>Hibiscus cf. campanulatus</i> should be included on the permit.

1.3 Key issues and conclusions

This report relates to an appeal against a number of the conditions applied to the permit. The key question for the appeal investigation to determine is, are the conditions adequate and appropriate, having regard to the potential risks and impacts from the activity? We summarise our conclusions for the appellant's 5 grounds of appeal below. Section 2 details our reasoning for the recommendations.

Was the survey effort adequate to determine impact?

DWER advised that the flora surveys are consistent with the EPA's Flora and Vegetation technical guidance².

Although the quadrats only surveyed ~8 ha of the 2,363 ha application area, in this case, survey effort was adequate due to the restricted habitat preferences of the Priority flora species.

Based on survey data and known habitat preferences, the Priority flora are generally associated with refugial habitats. In this case, Priority flora are generally restricted to vegetation associated with watercourses, rocky ridge habitat, semi-permanent waterholes and caves. The permit includes conditions that restricts clearing in these habitats across the application area which in turn provides protection for un-recorded Priority flora that may occur in un-surveyed areas.

² Environmental Protection Authority (2016) EPA Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment.

Given the association of the Priority flora species with refugial habitats, in conjunction with the existing restriction of clearing in these habitats, pre-clearance surveys would add little value, and are not required.

Given the above, this ground of appeal should be dismissed.

Should impacts to Priority species be reported?

Notwithstanding the above, the applicant is not currently required to report the authorised impacts to Priority flora and fauna. In the case of Priority flora, determining impacts based on location alone fails to consider the variability in plant densities at different locations across the application area.

DWER advised that it agreed with the appellant, and that a condition should be required for the recording and reporting of impacts to Priority species. Furthermore to increase transparency and accountability, we consider that the reasons for the unavoidable impacts should also be reported.

Regarding the variation in Priority flora densities across the application area, it is recommended that the 20% impact be based on individual plant counts (for each species) which are already included in Schedule 4 of the clearing permit.

Furthermore for clarity it is recommended that Condition 11 be re-worded to state that 'not more than 20% of Western pebble-mound mouse mounds be cleared'.

Is the revegetation/rehabilitation condition adequate?

Regarding the adequacy of a single post wet-season survey to determine the likelihood of revegetation success, the existing permit condition does not limit the applicant to one monitoring survey. The revegetation condition provides an iterative process that requires an environmental specialist to determine if the revegetation is likely to result in a similar species composition, structure and density for the approval of DWER.

The consideration of weed cover and control is inherent in the existing permit condition through the requirement for revegetation to be similar in species composition, structure, and density to pre-disturbance vegetation types in the area. This includes both native and introduced species.

If any cleared areas have not been restored to an appropriate standard as determined by an environmental specialist, the permit holder or DWER may seek an extension to the permit.

Given the above, this ground of appeal should be dismissed.

Are 10m buffers around Priority flora and Priority fauna habitats adequate to protect against weeds and other edge effects?

In this case, 10m buffers are appropriate due to the applicant's internal avoidance and minimisation measures. In addition to the avoidance and minimisation measures noted in DWER's decision report, the applicant applies a 30m buffer around Priority flora, and a minimum 50m buffer around caves, when planning its on-ground activities. Disturbance may occur within these buffers if it is unable to be practicably avoided.

The applicant has committed to minimise the potential for erosion through the construction of windrows around geotechnical pads and tracks. Where tracks do cross drainage lines the natural surface flow will be maintained. The applicant has advised that the structural integrity of the caves will be maintained which is an appropriate level of protection, considering they are not maternal or day roosting sites.

As noted previously, the consideration of weeds is inherent within the existing revegetation condition.

This ground of appeal should be dismissed.

Should Priority 1 flora species *Hibiscus cf. campanulatus* be listed in Schedule 4 of the permit?

The above species is not required to be included in Schedule 4 of the clearing permit as it is not recorded within the application area. DWER clarified that *Hibiscus cf. campanulatus* was confirmed to be the morphologically similar species, *Hibiscus* sp. Mt Robinson (G. Byrne 3537)⁵ which has no conservation status. This was verified by the WA Herbarium in June 2018 with verification data provided in the applicant's response to the appeal. Due to an administrative error, the report with this update was not uploaded by DWER. This has since been corrected⁶.

This ground of appeal should be dismissed.

1.4 Recommendation to the Minister

We conclude that generally the conditions applied to the permit are adequate and appropriate, however we recommend the following conditions be amended to strengthen and clarify the intent as follows:

1. Condition 11 be clarified that "not more than 20% of Western pebble-mound mouse mounds be cleared".
2. Condition 14 be amended to permit clearing of no more than 20% of individual plants for each Priority flora species as listed in Schedule 4.
3. Additional recordkeeping and reporting condition to capture impacts and reasons for unavoidable impacts to Priority species.

Otherwise dismiss the appeal.

⁵ [Florabase - *Hibiscus* sp. Mt Robinson \(G. Byrne 3537\)](#)

⁶ Onshore Environmental (2018) [Final flora and vegetation report Ministers North to Yandi Corridor for BHP Iron Ore.](#)

2 Reasons for recommendation

2.1 Survey effort is adequate

Our conclusion is that DWER's assessment appropriately considered the flora surveys to be consistent with EPA technical guidance for flora and vegetation surveys 2016⁷. Despite the small area surveyed (~8 ha) comparative to the size of the application area (2,363 ha), surveys were adequate to determine the impacts to Priority flora due to known habitat preferences. We explain our reasoning below.

EPA technical guidance notes a minimum of three quadrats within each vegetation unit, with the number of quadrats dependent on a range of factors, including the size of the survey area. Specifically, the guidance notes that for widespread vegetation units, that quadrats be located throughout its geographic range with the number of quadrats required, being proportional to the area of the vegetation unit.

The guidance also notes that species accumulation curves will generally indicate if an area has been adequately sampled. However, species accumulation curves only apply to the presence or absence of a species and not to plant densities which are required to determine species impact.

We note that the applicant undertook:

- one single season detailed flora survey including 32 quadrats (50 metre by 50 metre) (~8ha of quadrats) and opportunistic traverses between the quadrats
- one single season targeted flora survey of unknown area
- relevé of unknown number which were used to increase the accuracy of vegetation mapping

DWER advised that the application area has 12 vegetation associations which have been classified into seven broad floristic formations. Six of the 12 vegetation associations constituted *Triodia* Hummock Grasslands thereby forming the seven broad floristic formations upon which quadrats were stratified.

Three species of Priority flora were recorded in the application area including *Sida* sp. Barlee Range (S. van Leeuwen 1642) (Priority 3), *Rostellularia adscendens* var. *latifolia* (Priority 3) and *Goodenia nuda* (Priority 4).

DWER advised that:

Sida sp. Barlee Range (S. van Leeuwen 1642) occurs in skeletal soils on steep slopes and rocky ridges, gullies, and drainage lines

...

Rostellularia adscendens var. *latifolia* occurs in a variety of soil types near creeks, gullies, floodplain, and rocky hills.

...

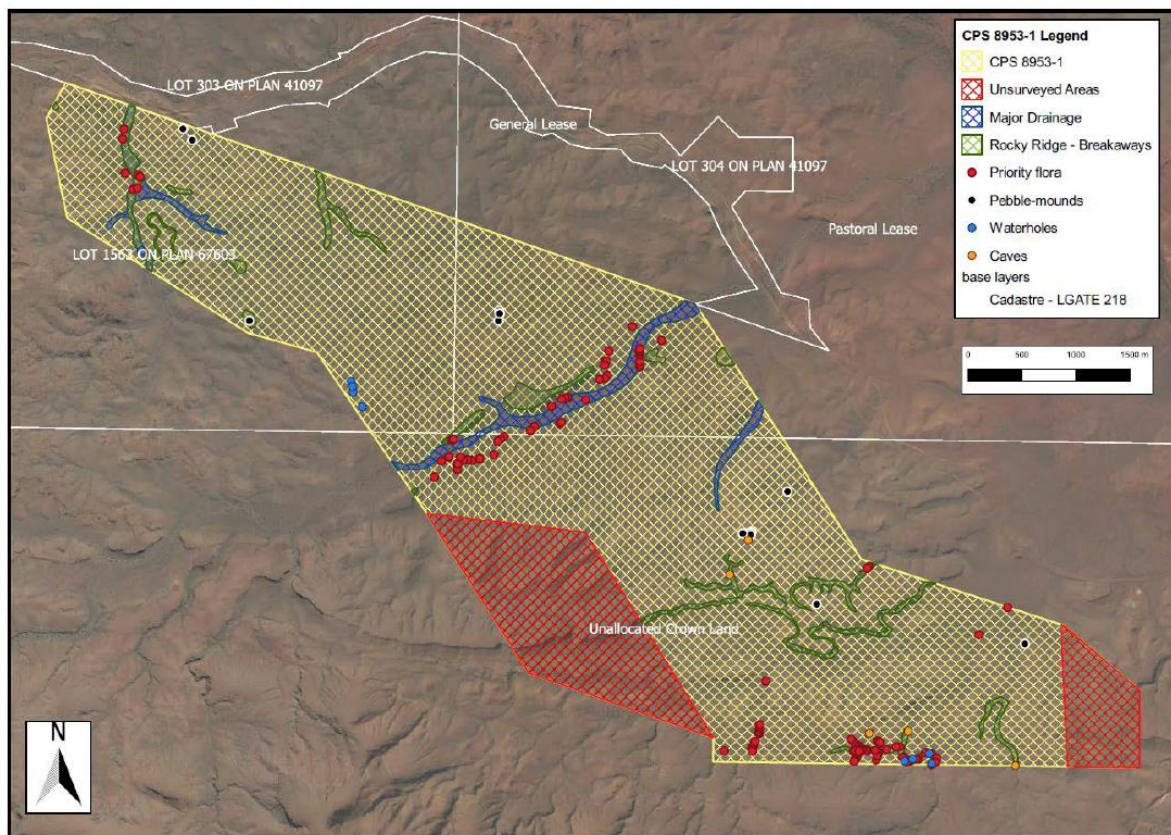
Goodenia nuda occurs on a variety of soil types in drainage lines, floodplains and alluvial plains.

⁷ EPA (2019). EPA Technical Report: Carnaby's Cockatoo in Environmental Impact Assessment in the Perth and Peel Region. Environmental Protection Authority, Western Australia.

Given the EPA guidance requires a minimum of 3 quadrats per vegetation unit, the measurement of 32 quadrats across the seven broad floristic formations is appropriate in this case. Although the quadrats surveyed only ~8 ha of the 2 363 ha application area, survey effort was adequate due to the habitat preferences of the Priority flora species recorded (Figure 2). Given the stratification of quadrats across the geographical extent of vegetation types within the application area, the restriction of Priority flora in refugial habitats is expected.

Despite the low survey coverage, the Priority flora identified are generally restricted to refugial habitats including vegetation associated with watercourses, rocky ridge habitat, semi-permanent waterholes and caves. These features are already conditioned in the permit due to their significance as fauna habitat. Refugial habitats offer stable and buffered areas that species can persist in under changing environmental conditions.

Figure 2 Mapped environmental values associated with conditions on permit CPS 8953/1



While in this case the surveys were adequate to determine impacts, DWER’s decision report and appeal response substantially overstate survey effort.

In response to the appeal DWER advised:

Over 88.5 % of the Application Area has been surveyed (2,090 hectares) (Figure 1), with multi-seasonal surveys undertaken in conformance with relevant Environmental Protection Authority (EPA) Guidance.

...

Priority flora locations had been identified and demarcated over 88.5% of the application area and will be avoided wherever feasible (condition 14),...

DWER's statement that 88.5% of the application area was surveyed is misleading. More accurately, approximately 8 ha of surveys were undertaken in a survey footprint that covers 88.5% of the application area.

Despite the overstating of survey effort, in this case, actual survey effort is adequate to determine impacts to Priority flora. Given the association of the Priority flora species with refugial habitats, in conjunction with existing restriction of clearing in these habitats, pre-clearance surveys are not required.

Given the above, this ground of appeal should be dismissed.

2.2 Impacts to Priority species should be reported

Our conclusion is that the applicant should report the impacts to Priority species and why such impacts were unavoidable. We explain further below.

The appellant submitted that the applicant should be required to report the authorised impacts to Priority species. An amended condition was sought to better prevent avoidable environmental impacts and support transparent reporting of impacts that do occur. It was submitted that such a condition should be standard on all similar permits.

Furthermore, concern was raised that by permitting the impact of up to 20% of Priority flora species by location alone, this fails to consider the variation in plant counts at different locations. It was submitted:

...eliminating some populations (or large numbers of individuals) could result in a large reduction in total population size (much greater than 20% of the total population).

Schedule 4 of the permit lists individual plant counts at each location based on the flora surveys. To demonstrate the natural variation in counts between locations, a total of ~280 plants were counted for *Rostellularia adscendens* var. *latifolia*. These were found at 19 locations across the application area with each location having between 1 to 70 plants. For *Sida* sp. Barlee Range (S. van Leeuwen 1642), a total of 1000+ plants were counted across 70 locations within the application area. For this species, plants occurred predominantly in groups of up to 10 plants, but there was an outlier of 600 plants counted at one location. Given the large variations in individual plant counts at each location, the impact of up to 20% by location alone, may misconstrue actual impact.

If the number of plants counted at each location was similar, then the use of locations to quantify impact would be considered appropriate. Due to the wide (natural) variability in plant counts across the application area, it is more accurate to base the authorised 20% impact on individual plant counts.

Given the above, we recommend that this ground of appeal be allowed to the extent that for Priority flora, the 20% 'unavoidable' impact be determined based on individual plant counts as listed in Schedule 4 of the permit. Furthermore, for consistency we recommend, that an additional recordkeeping, and reporting condition is added to the permit to capture the authorised impacts to conservation significant species (including Western pebble-mound mouse mounds) and the reasons why they were unavoidable.

2.3 The revegetation condition is adequate

Our conclusion is that the revegetation condition is adequate. We explain our reasoning below.

The appellant submitted that a single post wet-season survey may not be adequate to determine the trajectory of revegetation. While this may be the case, it should be noted that the permit doesn't request or limit the applicant to only one survey. Condition 15 (d) through (g), provides an iterative process to ensure the revegetation is likely to succeed, as determined by an environmental specialist and for approval by DWER.

Regarding weed cover and control, although not explicated stated in the permit condition, consideration of such is inherent within the existing condition that defines the revegetation requirements. Revegetation is required to result in a similar species composition, structure and density consistent with pre-disturbance vegetation types in that area, which includes both native and introduced species. Given this, weed cover is required to be considered by the environmental specialist when forming their determination of the trajectory of revegetation success.

We note that if the cleared areas have not been restored as required towards the end of the permit, the permit holder or DWER may seek an extension to the permit.

Given the above, we recommend that this ground of appeal be dismissed.

2.4 Ten metre buffers are appropriate in this case

Our conclusion is that, in this case, 10 metre (m) buffers are appropriate to protect Priority flora and fauna habitat from edge effects due to the applicant's internal avoidance and minimisation measures. We explain our reasoning below.

The applicant has proposed a range of avoidance and minimisation measures including:

- disturbance to semi-permanent waterbodies will be avoided
- disturbance to major drainage lines will only be for the purpose of access tracks. Where crossings are required, clearing will be kept to a minimum with crossings constructed flat and level to the surface.
- disturbance to rocky ridge (gorge-gully and breakaway-cliff) habitat will be avoided and only for the purpose of access tracks, if required.

Given the above, DWER noted that:

...A 10 metre buffer combined with the Permit Holder's avoidance and minimisation commitments will effectively protect caves and semi-permanent waterbodies within the vicinity of clearing activities and minimise erosional runoff into waterways.

During our investigation, the applicant⁹ provided further avoidance and minimisation measures which form part of their internal planning process. An internal environmental exclusion layer has been developed by the applicant which places 30m buffers around Priority flora and a minimum of 50m around caves. These buffers are used as a 'first pass' to avoid and minimise impacts. If disturbance cannot be practicably avoided, then disturbance will occur within these buffers and down to the minimum of 10m as authorised.

Regarding weed encroachment, the consideration of weed cover is inherent within the existing permit condition through the requirement for revegetation to result in a similar species composition, structure and density.

Given the above, we recommend that this ground of appeal be dismissed.

⁹ BHP to OAC further advice 18 June 2021

2.5 *Hibiscus cf. campanulatus* was verified to be another species

Our conclusion is that *Hibiscus cf. campanulatus* (Priority 1) is not required to be listed on the permit. Our reasoning is explained below.

The appellant submitted that *Hibiscus cf. campanulatus* should be conditioned on the permit as it was recorded in the application area.

Upon review of the documentation provided by DWER and the applicant, the *Hibiscus cf. campanulatus* records were verified to be a different but morphologically similar species - *Hibiscus* sp. Mt Robinson (G. Byrne 3537). This species has no conservation listing and is therefore not required to be included on the permit.

During the investigation, the applicant¹² provided the verification data from the WA Herbarium which updated the species details (Table 2).

Table 2 WA Herbarium verification data for *Hibiscus* sp. Mt Robinson (G. Byrne 3537).

Field identification (Biologic 2017)	Voucher number	WA Herbarium id	Date verified by WA Herbarium
<i>Hibiscus cf. campanulatus</i>	MNY10.01	<i>Hibiscus</i> sp. Mt Robinson (G. Byrne 3537).	05 June 2018
<i>Hibiscus cf. campanulatus</i>	MNY10.02	<i>Hibiscus</i> sp. Mt Robinson (G. Byrne 3537).	05 June 2018

It should be noted that this was not a species misidentification. Botanists and similar often use the abbreviation “cf”¹³ in a scientific name where a species appears similar to another species, but some uncertainty exists. In this case the field specimen appeared most similar to *Hibiscus campanulatus* (Priority 1) but upon comparison to herbarium records was verified to be *Hibiscus* sp. Mt Robinson (G. Byrne 3537).

Due to an administrative error, the verification of the flora records as another species was not publicly available. The final flora report produced by Onshore Environmental 2018, includes the verified *Hibiscus* sp. Mt Robinson (G. Byrne 3537). It was the 2018 report that was not uploaded, and this error has since been corrected by DWER.

Given it has been confirmed that *Hibiscus cf. campanulatus* is absent from the application area, we recommend that this ground of appeal be dismissed.

¹² BHP response to appeal 057/20 14 December 2020.

¹³ “cf” originates from the Latin word *conferre* which means to “compare to” or “confer” and is applied where further verification is required.

3 Appeal process

The Minister assesses the merits of a decision

Environmental appeals follow a merits-based process. This means the Minister can consider all the relevant facts, legislation and policy aspects of the decision and decide whether it was correct and preferable.

For clearing permits, the Minister can overturn the original decision to grant the permit if this was the basis of the original appeal submission. Alternatively, if the appeal submission was against the conditions of the permit, the Minister may modify the conditions only.

The appeal investigation will consider the extent to which conditions can address the issues raised, as well as any new information that may not have been available at the time of the original decision.

While process issues can be raised in an appeal, the focus of investigations will be on the substantive environmental matters relevant to DWER's conditions.

Appeals Convenor and DWER report to the Minister

To decide an appeal outcome, the Minister for Environment must have a report from both:

- the Appeals Convenor [see section 109(3) of the EP Act], and
- the authority that originally made the decision under appeal [see section 106(1)].

To properly advise the Minister in the report, the investigation included:

- reviewing DWER's decision and appeal reports
- reviewing responses from both the appellant and the applicant
- meeting with the appellant and the applicant
- reviewing other advice from DWER
- reviewing other information, policy and guidance as needed.

Table 3 lists documents considered in the appeals investigation.

Table 3 Documents reviewed in the appeals investigation

Document	Date
EPA Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment	December 2016
Biologic Ministers North to Yandi Corridor Single Phase Level 2 Fauna & Detailed Flora/Vegetation Survey BHP Pty Ltd.	December 2017
Onshore Environmental Final flora and vegetation report Ministers North to Yandi Corridor for BHP Iron Ore.	December 2018
DWER Clearing Permit Decision report for CPS 8953/1	November 2020
DWER Clearing Permit CPS 8953/1	November 2020
Wildflower Society of WA appeal submission	November 2020
BHP response to appeal	December 2020
DWER Response to Appeal 057/20	February 2021