HUNTER VALLEY
OPERATIONS

EPBC 2016-7640
Annual Compliance Report

1 November 2018 to 31 October 2019

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Declaration of accuracy

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed 

Full name (please print) Michael Lloyd

Position (please print) Environmental & Community Coordinator

Organisation (please print including ABN/ACN if applicable)

HV Operations Pty Limited (ABN 76 606 478 399)

Date 31 January 2020

Cover Photo: Pond A at Crescent Head North in typical years.

Below: Pond A at Crescent Head North during 2019.

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1 Introduction

Hunter Valley Operations (HVO) became a jointly controlled operation between Glencore (49%) and Yancoal (51%) on the 1 September 2017. HVO operates under the Commonwealth approval, EPBC 2016/7640.

This annual compliance report has been prepared in accordance with the Annual Compliance Report Guidelines (Commonwealth of Australia 2014) and addresses compliance with the conditions of the EPBC 2016/7640 approval for the period 1 November 2018 to 31 October 2019 (the reporting period).

Additional information relating to the management and monitoring activities at the Condon View Biodiversity Area have been reported to the DoEE within the annual report for the Warkworth Mine EPBC 2002/629 Regional Offset Management Plan.

1.1 Background

Hunter Valley Operations is located at Lemington, approximately 24 kilometres northwest of Singleton in the Hunter Valley, NSW. The Commonwealth Minister for the Environment, under provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), issued approval EPBC 2016/7640 for the continuation of open cut coal mining operations, within the HVO mine complex, in areas that were previously approved by the State after the commencement of the EPBC Act 1999. Approval was granted on 10 October 2016 and the action commenced on 1 November 2016.

The EPBC 2016/7640 approval (last modified in August 2017), requires various offsets to be established as a result of the impacts upon Matters of National Environmental Significance (MNES). The offsets have been required to offset the following protected matters:

- Central Hunter Valley Eucalypt Forest (CHVEF) - **61ha**;
- Swift Parrot (*Lathamus discolor*) foraging habitat – **68.1ha**;
- Regent Honeyeater (*Anthochaera phrygia*) breeding and foraging habitat – **68.4ha**; and
- Green and Golden Bell Frog (*Litoria aurea*) breeding (**2.6ha**) and foraging habitat (**102.7ha**).

The Offset Strategy (Biodiversity Offset Strategy – State Approved Mining (EPBC2016/7640)), approved by the Minister on the 23 October 2017, details the offset areas that are to be secured and managed in relation to this approval. The offset areas are summarised below as the:

- **Wandewoi Biodiversity Area (BA)** – To offset approximately 63% of the action's impacts on Central Hunter Valley Eucalypt Forest (CHVEF) and 100% of the action's impacts on the Swift Parrot.
- **Mitchelhill BA** - To offset the residual 37% of the action's impacts on CHVEF and 53.9% of the Regent Honeyeater impacts.
- **Condon View BA** - To offset the remaining 46.1% of the Regent Honeyeater impacts.
- **Crescent Head BA** - To offset 99.25% of the action's impacts on the Green and Golden Bell Frog. The residual 0.75% offset for the Green and Golden Bell Frog will be provided through other compensatory measures, which are likely to comprise contribution to a research program.

In accordance with the approval, the Mitchelhill BA, Condon View BA and the Crescent Head BA offset sites are to be secured in perpetuity, with legally binding agreements in place by 23 October 2018. Additionally, the Wandewoi BA is required to be secured in perpetuity by 10 October 2019.

An approval variation request was submitted to the Department of the Environment and Energy (DoEE) on 27 September 2018 to extend the date by which the offsets had to be secured due to the ongoing dialogue with the various State and Commonwealth agencies. DoEE officers were in agreement with the request, however, given that HVO was also discussing the proposal to substitute a component of the Wandewoi BA for the Hook property, the DoEE asked that the variation be resubmitted to include all matters being discussed.

The second variation request was submitted on 18 October 2018 and had not been determined by the Minister during the reporting period.

This second variation request which proposed a modification to the Wandewoi BA required the revision of the Biodiversity Offset Strategy, the existing Biodiversity Areas Management Plans and the preparation of a management plan for the Hook Property. HVO's request is still being considered by the DOEE along with the final documents that includes the Hook property. As the Hook property is being managed according to the submitted Biodiversity Management Plan, this Annual Compliance Report includes works undertaken within the Hook property.

2 Condition of Compliance

2.1 EPBC 2016/7640

Condition Number	Condition	Compliance status	Evidence/Comments
1	The **person taking the action** must not clear more than 54.4 hectares of the Central Hunter Valley Eucalypt Forest and woodland (CHVEF) ecological community from the Riverview Pit and 6.6 ha of the CHVEF ecological community from within the West Pit and must limit all vegetation clearing to within the project disturbance boundaries defined at Schedule 1, Figures 1 - 4.	Compliant	Disturbance limited to within project disturbance boundaries through the HVO Ground Disturbance Permit process. From within the EPBC areas, HVO has, in total, cleared 27.79 ha of CHVEF from Riverview Pit and 1.41 ha of CHVEF from West Pit. All vegetation clearing was restricted to within the State and Commonwealth approved project boundaries.
2	The **person taking the action** must prepare and submit a Vegetation Clearance Plan (VCP) for the **Minister's** approval to mitigate impacts of the action on the CHVEF ecological community, the Regent Honeyeater (*Anthochaera phrygia*), Swift Parrot (*Lathamus discolor*) and the Green and Golden Bell Frog (*Litoria aurea*). The VCP must include:	Compliant	Vegetation Clearance Plan (VCP) was submitted to the Department of Environment and Energy (DoEE) and approved by the Acting Assistant Secretary 24 October 2016. The VCP was modified in 2019 to update the format to reflect the current ownership of HVO.
2a	Clear delineation of vegetation to be cleared, as per the disturbance boundary shown in Schedule 1 Figures 1 - 4, and vegetation that is to be retained.	Compliant	These areas are outlined within Section 2.1 and Chapter 3 of the VCP. The areas to be cleared are first identified and approved within the GDP. In the field, the areas to be cleared were delineated by a surveyor prior to clearing.
2b	Pre-clearance survey methods, which must include but not be limited to the following requirements:		
	i. A **qualified ecologist** must undertake a pre-clearance survey within 24 hours prior to the removal of potential foraging, nesting or breeding habitat for the Regent Honeyeater or foraging habitat for the Swift Parrot in areas identified in Schedule 2, Figures 1 - 5.	Compliant	Chapter 3 of the VCP. All pre-clearance surveys were undertaken by qualified ecologist within 24 hrs prior to the commencement of clearing activities. No species listed or nests were identified during the surveys.
	ii. If during pre-clearance surveys, Regent Honeyeater or Swift Parrot individuals are identified within the clearance area the VCP must specify the use of a two stage clearing protocol where **non-habitat trees** are cleared 24 hours prior to any **habitat trees** being cleared, to encourage fauna to move out of a habitat area.	Compliant	Section 3.2 and 3.3 of the VCP. No species listed or nests were identified during the surveys.

	iii.	In the event an **active Regent Honeyeater nest** is identified during pre- clearance surveys, vegetation clearing and overburden removal within 100 m of the active nest should be delayed up until the **Regent Honeyeater nest is no longer actively being used**.	Compliant	Section 3.3 of the VCP. No species listed or nests were identified during the surveys.
	iv.	A qualified ecologist must undertake pre-clearance surveys within a 2 week period prior to the removal of potential breeding habitat for the Green and Golden Bell Frog. Surveys are to be undertaken within all potential breeding habitat areas identified in Schedule 2, Figure 2 as well as a 200m buffer around each potential breeding habitat area.	Compliant	Section 3.3 of the VCP. During the reporting year, no breeding habitat was removed, hence no surveys were required to be undertaken. As a precaution, a qualified ecologist was utilised for a targeted survey for the GGBF in December 2018 as the disturbance area for proposed works encroached within the 200m buffer of the breeding area. No GGBFs were identified during the survey.
	v.	Pre-clearance survey methods for the Green and Golden Bell Frog must meet the survey effort requirements for the Green and Golden Bell Frog stipulated in the Survey Guidelines for Australia's threatened frog (2010) Commonwealth of Australia	Compliant	Section 3.3 of the VCP. During the reporting year, no breeding habitat was removed, hence no surveys were required to be undertaken. A qualified ecologist was utilised for a targeted survey for the GGBF in December 2018 as the disturbance area for proposed works encroached within the 200m buffer of the breeding area. The survey was undertaken in accordance with the survey effort requirements as required.
	vi.	In the event Green and Golden Bell Frog individuals, metamorphs or tadpoles are located during pre-clearance surveys, they are to be handled and translocated in accordance with the Hygiene protocols for the control of diseases in frogs (2008) Department of Environment and Climate Change (NSW).	Compliant	Section 3.3 of the VCP. No GGBF were observed or heard within the EPBC area during the reporting period. The applicable hygiene protocols were implemented during the pre-clearance surveys.
2c	Include measures to avoid, suppress and control the spread of plant pathogens (such as *Phytophthora cinnamomi*) and *chytrid* fungus that may degrade habitat for **protected matters**. The action must not commence until the Vegetation Clearance Plan, required by Condition 2, has been approved by the **Minister**.		Compliant	Chapter 4 of the VCP. The VCP includes hygiene protocols to manage the spread of potential pathogens. The VCP requires wash down facilities to be used to remove soil and mud from clearing machinery prior to leaving the HVO complex. The VCP also outlines measures to avoid the spread of Chytrid fungus from survey equipment, clearing machinery and during frog handling. HVO requires Ground Disturbance Permits (GDP) to be approved prior to any disturbance activities. Applicable GDPs prepared during the reporting year required proponents to comply with the veg clearance procedures required by HVO's EPBC 2016/7640 approval condition 2.

3	The approved Vegetation Clearance Plan must be implemented.	Compliant	Measures required by the VCP have been implemented for disturbance associated with Ground Disturbance Permits (GDP's) eg. GDP98, GDP100.
4	To compensate for residual impacts to **protected matters** the **person taking the action** must, under a **legally binding agreement**, secure in perpetuity 405.8 ha at the **Wandewoi Biodiversity Area**, described in 4(a)(b) and (c) within three (3) years from the date of this approval. The **Wandewoi Biodiversity Area** must include:	Compliant	Wandewoi Biodiversity Area was required to be secured in perpetuity by 10 October 2019. Due to the ongoing drought impacting the likelihood of success of the required rehabilitation of 230ha at Wandewoi, HVO proposed to substitute the grassland component of the Wandewoi BA for the CHVEF on the Hook property. This would require a revision of the boundaries of the Wandewoi BA on acceptance. Thus, a request for an extension to this date requiring Wandewoi to be secured was submitted to the DoEE on 27 September 2018 and 18 October 2018. Discussions with DoEE have continued throughout 2019 and no response to the request has been received as at the time of this report.
4a	405.8 hectares of the CHVEF ecological community;	Compliant	Section 3.1 of the Wandewoi Biodiversity Area (BA) Management Plan summarises the vegetation communities within the BA: 175.8ha of Grey Box Woodland (CHVEF CEEC) and 230ha of Grey Box Derived Native Grassland (DNG). The revised HVO Biodiversity Areas Management Plan that was submitted to the DoEE for approval on 18 October 2019 includes detail on the Hook property and (in line with the discussions to date with DOEE) proposes the Wandewoi BA to be 234.1 ha within the larger 406.3 ha property.
4b	175.8 hectares of foraging habitat for the Swift Parrot; and	Compliant	Section 3.1 of the Wandewoi Biodiversity Area (BA) Management Plan summarises the vegetation communities within the BA: 175.8ha of Grey Box Woodland (CHVEF CEEC). This woodland component at Wandewoi remains unchanged in the revised HVO Biodiversity Areas Management Plan that includes detail on the Hook property.
4c	40 ha of regenerating foraging habitat for the Swift Parrot.	Compliant	Section 3.1 of the Wandewoi Biodiversity Area (BA) Management Plan summarises the vegetation communities within the BA: 230ha of Grey Box Derived Native Grassland (DNG). The DNG areas at Wandewoi will be regenerated to CHVEF, including 40ha of foraging habitat for the Swift Parrot. The revised HVO Biodiversity Areas Management Plan proposes a larger regenerating foraging habitat area at Wandewoi as a result of the EPBC calculations with the Hook property swap.
5	To compensate for residual significant impacts to 22.7 ha of Class A condition CHVEF from the Riverview Pit extension area the **person taking the action** must identify a **direct offset site** that meets requirements of the **EPBC Act**	Compliant	Direct offset site at Mitchelhill detailed in Biodiversity Offset Strategy (Condition 10) was to be protected under a legally binding agreement by 23 October 2018. A conservation mechanism to secure the BAs was

	Offset Policy and secure the offset in perpetuity under a **legally binding agreement** within 12 months from the date of approval of the Offset Strategy at Condition 10.		discussed with the NSW Biodiversity Conservation Trust and the Office of Environment and Heritage. A suitable mechanism could not be agreed upon and the DoEE has agreed that a s305 conservation mechanism may be appropriate. A request for an extension to this date to allow the HVO BAs to be secured under a s305 was submitted to the DoEE on 27 September 2018 and 18 October 2018. Discussions are continuing and no formal response to the request has been received as at the time of this report. This is because a date extension requires an approval variation which the DOEE have asked to include the Wandewoi variation. Discussions have been ongoing with DOEE in relation to these matters.
6	To compensate for residual significant impacts to 68.4 ha of breeding and foraging habitat for the Regent Honeyeater the **person taking the action** must identify a **direct offset site** that meets requirements of the **EPBC Act Offset Policy** and secure the offset in perpetuity under a **legally binding agreement** within 12 months from the date of approval of the Offset Strategy at Condition 10.	Ongoing	Direct offset sites at Mitchelhill and Condon View detailed in Biodiversity Offset Strategy (Condition 10) is to be protected under a legally binding agreement by 23 October 2018. A conservation mechanism to secure the BAs was discussed with the NSW Biodiversity Conservation Trust and the Office of Environment and Heritage. A suitable mechanism could not be agreed upon and the DoEE has agreed that a s305 conservation mechanism may be appropriate. A request for an extension to this date to allow the HVO BAs to be secured under a s305 was submitted to the DoEE on 27 September 2018 and 18 October 2018. Discussions are continuing and no formal response to the request has been received as at the time of this report. This is because a date extension requires an approval variation which the DOEE have asked to include the Wandewoi variation. Discussions have been ongoing with DOEE in relation to these matters.

7	To compensate for residual significant impacts to 2.6 ha of breeding habitat and 102.7 ha of foraging habitat for the Green and Golden Bell Frog the person taking the action must identify an **offset package** that meets requirements of the **EPBC Act Offset Policy** and secure a **direct offset site** in perpetuity under a **legally binding agreement** within 12 months from the date of approval of the Offset Strategy at Condition 10	Ongoing	Direct offset sites at Crescent Head detailed in Biodiversity Offset Strategy (Condition 10) is to be protected under a legally binding agreement by 23 October 2018. A conservation mechanism to secure the BAs was discussed with the NSW Biodiversity Conservation Trust and the Office of Environment and Heritage. A suitable mechanism could not be agreed upon and the DoEE has agreed that a s305 conservation mechanism may be appropriate. A request for an extension to this date to allow the HVO BAs to be secured under a s305 was submitted to the DoEE on 27 September 2018 and 18 October 2018. Discussions are continuing and no formal response to the request has been received as at the time of this report. This is because a date extension requires an approval variation which the DOEE have asked to include the Wandewoi variation. Discussions have been ongoing with DOEE in relation to these matters.
8	Prior to securing the direct offsets required by Conditions 4, 5, 6 and 7 the **direct offset sites** and **legally binding agreements** must be agreed to by the **Minister**.	Compliant	Direct offset sites have been approved by the Assistant Secretary (DoEE) on 23 October 2017 through approval of the Biodiversity Offset Strategy – State Approved Mining (EPBC2016/7640) dated October 2017.
9	The action cannot continue for more than 12 months from the date of approval of the Offset Strategy at Condition 10, unless the **direct offset sites** required by Conditions 5, 6 and 7 have been secured in perpetuity under a **legally binding agreement** by the **person taking the action**.	Ongoing	Direct Offset Sites detailed in Biodiversity Offset Strategy (Condition 10) are to be protected under a legally binding agreement by 23 October 2018. The DoEE has agreed that a s305 conservation mechanism may be appropriate. To facilitate this, a change to the conditions of EPBC 2016/7640 is required and, hence, a variation to extend the date required to secure the BAs was submitted on 27 September 2018 and 18 October 2018. Discussions are ongoing and no formal response to the request has been received as at the time of this report.
10	Within six (6) months from the **commencement of the action** the **person taking the action** must prepare and submit an Offset Strategy for the **Minister's** approval. The Offset Strategy must specify the development of the offset package and how **direct offset sites** required by Conditions 5, 6 and 7 will be identified, secured and managed in perpetuity. The Offset Strategy must:	Compliant	Biodiversity Offset Strategy (BOS) – State Approved Mining (EPBC2016/7640) submitted to DoEE on 1 May 2017. Approved by the Assistant Secretary (DoEE) on 23 October 2017.
10a	Describe the development of the offset package and identify the proposed **direct offset sites** required by Conditions 5, 6 and 7, include a detailed description of the **direct offset sites** and demonstrate how the **direct offset sites** meet the **EPBC Act Offset Policy** and provide an adequate offset for the residual significant impacts to **protected matters**.	Compliant	Chapter 3, 4 and 5 of the BOS.

10b	Include proposed timeframes in which the **direct offset sites** will be secured by a **legal binding agreement** and a detailed description of how the **legally binding agreement** will secure the **direct offset sites** in perpetuity.	Compliant	Section 6.1 and 6.2 of the BOS. Note that discussions are continuing with the DoEE regarding implementing a s305 conservation mechanism to secure the sites in perpetuity.
10c	Proposed measures for the long term management of the **direct offset sites**.	Compliant	Section 6.3, 6.4 and 6.5 of the BOS.
	The Offset Strategy approved by the **Minister** must be implemented	Compliant	Biodiversity Offset Strategy (BOS) – State Approved Mining (EPBC2016/7640) approved by the Assistant Secretary (DoEE) on 23 October 2017. Direct Offset sites detailed in the BOS have been purchased and the management activities outlined in the BOS are being implemented at the BAs.
11	For the protection of the CHVEF as well as habitat for the Regent Honeyeater, Swift Parrot and Green and Golden Bell Frog the **person taking the action** must prepare and submit a Biodiversity Offset Management Plan (BOMP) for the **Minister's** approval within 12 months from the date of this approval. At a minimum, the BOMP must:	Compliant	Biodiversity Offset Management Plans were submitted to the DoEE for approval on the 10 October 2017 for the following: Wandewoi BA; Mitchelhill BA; Condon View BA; and Crescent Head BA. The DoEE's comments were incorporated into the BOMPs prior to resubmission. A revised BOMP that collates the various management plans into the one document was submitted to the DOEE on 31 October 2019.

11a	Clearly identify the **direct offset sites** described in Conditions 4, 5, 6 and 7. This must include **offset attributes, shapefiles**, textual descriptions and maps to clearly define the location and boundaries of the **direct offset sites**.	Compliant	Section 3.1 of the Wandewoi BA Management Plan (MP) describes the direct offset site for CHVEF and Swift Parrot relevant to Condition 4 of the approval. Section 3.1 of the Mitchelhill BA Management Plan (MP) describes the direct offset site for CHVEF and Regent Honeyeater relevant to Condition 4 and Condition 6 respectively of the approval. Section 3.1 of the Condon View BA Management Plan (MP) describes the direct offset site for Regent Honeyeater relevant to Condition 6 of the approval. Section 3.1 of the Crescent Head BA Management Plan (MP) describes the direct offset site for Green and Golden Bell Frog relevant to Condition 7 of the approval. The revised Biodiversity Area Management Plan submitted in 2019 addressed these matters in Section 3 for the respective BAs.
11b	Provide a description of the offset attributes for each **protected matter** and how the offset site meets the offset requirements under Conditions 4, 5, 6 and 7.	Compliant	Section 3.2 of the Wandewoi BA MP describes the offset attributes for the CHVEF and Swift Parrot relevant to Condition 4 of the approval. Section 3.2 of the Mitchelhill BA MP describes the offset attributes for the CHVEF and Regent Honeyeater relevant to Condition 4 and Condition 6 respectively of the approval. Section 3.2 of the Condon View BA MP describes the offset attributes for Regent Honeyeater relevant to Condition 6 of the approval. Section 3.2 of the Crescent Head BA MP describes the offset attributes for Green and Golden Bell Frog relevant to Condition 7 of the approval. The revised Biodiversity Area Management Plan submitted in 2019 addressed these matters in Section 3 for the respective BAs.

11c	Provide a survey and description of the current condition (prior to any management activities) of the **direct offset sites** identified in Conditions 4, 5, 6 and 7.	Compliant	Section 3.2 of the Wandewoi BA MP describes the current condition of the CHVEF and Swift Parrot habitat relevant to Condition 4 of the approval. Section 3.2 of the Mitchelhill BA MP describes the current condition of the CHVEF and Regent Honeyeater relevant to Condition 4 and Condition 6 respectively of the approval. Section 3.2 of the Condon View BA MP describes the current condition of the Regent Honeyeater relevant to Condition 6 of the approval. Section 3.2 of the Crescent Head BA MP describes the current condition of the Green and Golden Bell Frog relevant to Condition 7 of the approval
11d	Include detailed management actions, including regeneration and revegetation strategies to be undertaken at the **direct offset sites** to improve the ecological quality of these areas. The BOMP must also include: i. Management actions relating to improving habitat quality for **protected matters** including but not limited to: weed management, feral animal management, erosion and sediment control and fire management. ii. A description and timeframes that management measures would be implemented to improve the condition of CHVEF and habitat for the Regent Honeyeater, Swift Parrot and the Green and Golden Bell Frogs on the **direct offset sites**. iii. Performance and completion criteria for evaluating the management of the **direct offset sites**, and criteria for triggering remedial action. iv. A program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria. v. A description of potential risks to the successful implementation of the plan, a description of the measures that will be implemented to mitigate against these risks and a description of the contingency measures that will be implemented if defined triggers arise. vi. Details of who would be responsible for monitoring, reviewing, and implementing the plan.	Compliant	Chapter 5 of the Wandewoi BA MP describes the detailed management actions, timing, performance criteria and completion criteria relevant to the direct offset site for the CHVEF and Swift Parrot. Chapter 5 of the Mitchelhill BA MP describes the detailed management actions, timing, performance criteria and completion criteria relevant to the direct offset site for the CHVEF and Regent Honeyeater. Chapter 5 of the Condon View BA MP describes the detailed management actions, timing, performance criteria and completion criteria relevant to the direct offset site for the Regent Honeyeater. Chapter 5 of the Crescent Head BA MP describes the detailed management actions, timing, performance criteria and completion criteria relevant to the direct offset site for the Green and Golden Bell Frog Chapter 6 of the Wandewoi, Mitchelhill, Condon View and Crescent Head BA MP describes the monitoring program. Chapter 7 of the Wandewoi, Mitchelhill, Condon View and Crescent Head BA MP provides a description of potential risks and corrective actions. Section 2.4 of the Wandewoi, Mitchelhill, Condon View and Crescent Head BA MP provides responsibilities for the MP

12	The BOMP approved by the **Minister** must be implemented at the **direct offset sites** required to meet the requirements of Conditions 5, 6 and 7 within three (3) months from the date the offsets are secured under a **legally binding agreement**.	Not triggered	Direct Offset Sites required to meet Conditions 5, 6 and 7 are to be protected under a legally binding agreement by 23 Oct 2018. The DoEE has agreed that a s305 conservation mechanism may be appropriate. A request for an extension to this date to allow the HVO BAs to be secured under a s305 was submitted to the DoEE on 27 September 2018 and 18 October 2018. Discussions are continuing and no formal response to the request has been received as at the time of this report. Note that the direct offset sites are being managed in accordance with the DoEE-reviewed draft management plans.
13	To ensure timely compensation for significant impacts to **protected matters**, the approved BOMP must be implemented at the **Wandewoi Biodiversity Area** within one (1) month from the date the BOMP is approved, regardless if the **Wandewoi Biodiversity Area** has been secured under a **legally binding agreement**.	Not triggered	Wandewoi BA Management Plan was submitted to DoEE for review and approval on the 10 October 2017. Management activities outlined in the BOMP are being implemented including: cultural heritage surveys, fencing, removal of grazing activities, track management, weed spraying and vertebrate pest control.
14	The person taking the action may choose to revise a management plan approved by the **Minister** without submitting it for approval under Section 143A of **the EPBC Act**, if the taking of the action in accordance with the revised management plan would not be likely to have a **new or increased impact** on a **protected matter** under the conditions of this approval. If the **person taking the action** makes this choice, they must:	Not triggered	
14a	Notify the Department in writing that the approved management plan has been revised and provide the Department with an electronic copy of the revised management plan;	Not triggered	
14b	Implement the revised management plan from the date that it is submitted to the Department; and	Not triggered	
14c	For the life of this approval, maintain a record of the reasons the person taking the action considers that taking the action in accordance with the revised management plan would not be likely to have a new or increased impact on a protected matter under the conditions of this approval.	Not triggered	
15	The person taking the action may revoke its choice under Condition 14 at any time by notice to the **Department**. If the person taking the action revokes the choice to implement a revised management plan, without approval under Section 143A of the EPBC Act, the management plan approved by the **Minister** must be implemented	Not triggered	

16	Condition 14 does not apply if the revisions to the approved management plan include changes to offsets provided under the management plan in relation to a matter protected by a controlling provision for the action, unless otherwise agreed in writing by the **Minister**. This does not otherwise limit the circumstances in which the taking of the action in accordance with a revised management plan would, or would not, be likely to have **new or increased impacts**.	Not triggered	
17	If the **Minister** gives a notice to the **person taking the action** that the **Minister** is satisfied that the taking of the action in accordance with the revised management plan would be likely to have a **new or increased impact** on a **protected matter** by the conditions of this approval, then:	Not triggered	
17a	Condition 14 does not apply, or ceases to apply, in relation to the revised management plan; and	Not triggered	
17b	The person taking the action must implement the previous management plan most recently approved by the Minister	Not triggered	
	To avoid any doubt, this condition does not affect any operation of conditions 14, 15 and 16 in the period before the day the notice is given. At the time of giving the notice the **Minister** may also notify that for a specified period of time that Condition 14 does not apply for one or more specified plans required under the approval	Not triggered	
18	If, at any time after 5 years from the date of this approval, the person taking the action has not **substantially commenced** the action, then the person taking the action must not **substantially commence** the action without the written agreement of the Minister.	Compliant	The action has commenced as per the Commencement of Action (1 November 2016).
19	Within 30 days after the commencement of the action, the person taking the action must advise the **Department** in writing of the actual date of **commencement**.	Compliant	Department of Environment and Energy advised by letter dated 9 November 2016 that the action had commenced in accordance with the approved Vegetation Clearance Plan on the 1 November 2016.
20	Unless otherwise agreed to in writing by the **Minister**, the person taking the action must publish all management plans, referred to in these conditions of approval on their website. Each management plan must be published on the website within 1 month of being approved by the **Minister** or being submitted under Condition 14.a	Not triggered	Biodiversity Area Management Plans will be published when approved by the Minister.

21	The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the VCP, Offset Strategy and Biodiversity Offset Management Plan required by this approval, and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.	Compliant	All disturbance-related activities received prior approval through HVO's GDP process. Records of activities and outcomes are maintained by site personnel and stored within the document management system. Activities have been undertaken in accordance with the applicable conditions of approval and HVO's approved policies, plans and strategies.
22	Within three months of every 12 month anniversary of the commencement of the action, the person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the **Department** at the same time as the compliance report is published. Reports must remain on the website for the period this approval has effect. The approval holder may cease preparing and publishing compliance reports required by this condition with written agreement of the **Minister** to do so.	Compliant	HVO has published on its website compliance reports for the 2017 and 2018 compliance reporting years. This compliance report outlines HVO's compliance with the approval conditions for 2019 (1 November 2018 – 31 October 2019).
23	Upon the direction of the **Minister**, the **person taking the action** must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.	Not triggered	

2.2 Vegetation Clearance Plan

Commitment	Compliance status	Evidence/Comments
1. A GDP will be completed and approved prior to any clearance in the extension areas.	Compliant	The GDP process is a mandatory process at HVO prior to any surface disturbance activities. All clearance activities that have occurred within the extension areas have gained prior conditional approval through HVO's GDP process.
2. Conduct pre-clearance surveys for CHVEF in accordance with Section 3.1.1	Compliant	Pre-clearance surveys have been undertaken prior to all clearance activities within the extension area.
3. Identify clearance limits on plans and on the ground.	Compliant	Prior to clearing, HVO surveyors peg and delineate the limit of the area to be cleared.
4. Conduct pre-clearance surveys for listed species in accordance with Section 3.3, 3.4 and 3.5.	Compliant	The pre-clearance surveys include targeted surveys for the listed species outlined (GGBF, Regent Honeyeater and Swift Parrot).
5. Manage listed species during vegetation clearance in accordance with Section 3.3.4, 3.4.4 and 3.5.4.	Compliant	None of the listed species have been identified as occurring within the area during the pre-clearance surveys or clearance activities.
6. All clearing machinery involved in vegetation and/or topsoil clearance in the extension areas will visit the wash-down facility for cleaning prior to exiting the HVO complex.	Compliant	Earthmoving contractors that conduct work within the extension area have a requirement in their contract to ensure machinery is washed down prior to leaving the HVO complex. As of 2020, a process improvement will be implemented to track and document this requirement.
7. Disinfection measures are implemented in accordance with Section 4.1.2.	Compliant	All equipment is disinfected prior, and following, the pre-clearance surveys. This process is outlined in the pre-clearance survey reports.

8. Records will be kept in accordance with Section 5.2.	Compliant	Actions occurring during the pre-clearance surveys have been documented in each pre-clearance survey report. Earthmoving contractors that conduct work within the extension area have a requirement in their contract to ensure machinery is washed down prior to leaving the HVO complex. As of 2020, a process improvement will be implemented to track and document this requirement.
9. Publish the annual compliance report on the proponent's website.	Compliant	This compliance report will be placed on the HVO public website prior to submission.

3 New Environmental Risks and Potential threats to Matters of National and State Environmental Significance

In March 2019, HVO received a notice from the Kempsey Shire Council that individuals of the Tropical Soda Apple (*Solanum viarum*) had been identified at the Crescent Head North BA during a targeted inspection for the species of properties in the area. The Biosecurity (Tropical Soda Apple) Control Order 2017 specifies control measures applicable to Tropical Soda Apple in NSW. The order is issued in pursuance of section 62 of the *Biosecurity Act 2015* (NSW).

HVO has entered into a Biosecurity Undertaking with the Kempsey Shire Council to ensure its removal and eradication from the BA and is actively controlling this species on the property. Appendix A confirms that the Council Weeds Officer considers that the actions undertaken to date to manage this species has been in accordance with the commitments within the Undertaking.

No additional environmental risks or threats to matters of national environmental significance have been identified during the reporting period.

4 Summary of Climatic Conditions

Figure 4.1 shows the monthly rainfall compared to the long term average for the BAs. The yearly rainfall received during 2019 across all sites was significantly below the annual average. The rainfall deficit received at Condon View, Crescent Head, Mitchelhill and Wandewoi are shown in Table 4.1 which represents a reduction in annual rainfall of between 30 to 60% across the sites.

Table 4.1. 2019 rainfall deficit against the average annual rainfall occurring at each of the BAs.

Site	Annual Rainfall Received (mm)	Annual Average (mm)	Deficit (mm)
Condon View	406	711.4	305.4
Crescent Head	564.6	1409.6	845
Mitchelhill	424.2	608.1	183.9
Wandewoi	315.4	637.1	321.7

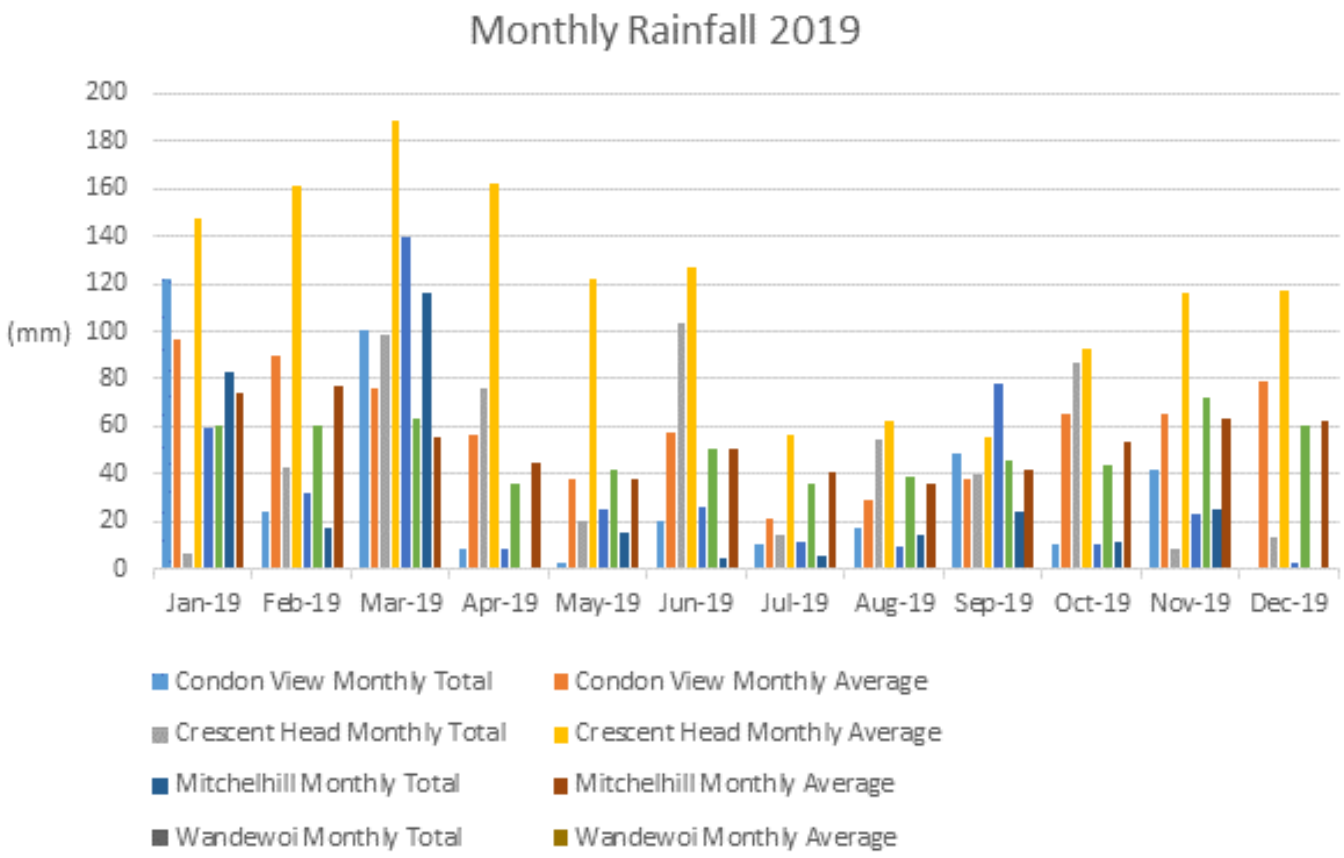


Figure 4.1. 2019 monthly and annual average rainfall at each of the BAs.

5 Summary of Activities - 2019

Various conservation, monitoring, management and maintenance activities were undertaken within the BAs throughout 2019. An overview of the various activities that occurred is presented in Table 5.1.

Table 5.1. Overview of activities undertaken within the HVO EPBC 2016/7640 BAs during the reporting period.

Site	Activities undertaken during the 2019 reporting period
Condon View	Property inspections, weed control, vertebrate pest management.
Crescent Head	Development of bushfire management plan, construction of boundary firebreaks, mulching internal access tracks, weed control, pig trapping, condition assessment monitoring, frog monitoring, mosquito fish monitoring, property inspections, signage installation and lock replacement. **Activities specific to the southern BA**: Entire boundary fence replacement and follow-up maintenance.
Hook	Development of bushfire management plan, condition assessment monitoring, bird assemblage monitoring, property inspections, weed control, vertebrate pest management, signage installation and lock replacement
Mitchelhill	Development of bushfire management plan and cultural heritage assessment of areas to be rehabilitated, seed collection, deep ripping in preparation for rehabilitation, condition assessment monitoring, bird assemblage monitoring, vertebrate pest management, signage installation and lock replacement. **Activities specific to the eastern BA**: Installation of water tank for rehabilitation watering and fire management, dry matter assessment, grazing management. **Activities specific to the western BA**: Tubestock planting, watering of rehabilitated areas, erosion control.
Wandewoi	Development of bushfire management plan, condition assessment monitoring, bird assemblage monitoring, weed control, vertebrate pest management, signage installation and lock replacement.

5.1 Property Inspections

Property inspections were undertaken regularly across all the BAs during the reporting period and provided critical advice regarding works that needed to be prioritised. A summary of the condition of each BA based on the property inspection reports is as follows:

Condon View

Condon View has few serious management issues and does not appear to have issues with illegal access or vertebrate pests. Despite being logged at some point many years ago, the site is well vegetated, has negligible weeds and recruitment of various native species has been observed. The site does have a small amount of metal waste and redundant fencelines that can be removed. Localised areas of erosion along the access tracks will require monitoring to ensure access is not impeded.

Crescent Head

The Crescent Head BAs have minimal waste and are well vegetated.

Crescent Head North is in good condition but does have some minor weed issues at the exposed edges of vegetation. As it is liable to flooding events, weed incursion and feral aquatic pests have been recorded within low lying areas and aquatic habitats. The weeds are being managed and the few existing internal fencelines will be retained to contain any stray cattle from adjacent properties. Management issues relate to ongoing weed management, track vegetation regrowth maintenance and fallen vegetation.

Crescent Head South is also in good condition but requires effective grass biomass management in areas to minimise bushfire risk. With a new boundary fence, management issues include maintaining integrity of the fenceline from fallen debris and slashing regrowth to maintain movement corridors for frogs.

Hook

The primary management issues within the Hook BA include fence maintenance to exclude neighbouring cattle and the removal of African Olive. With the exception of the African Olive, exotic grassland weeds are primarily concentrated within the grassland areas. A diverse suite of native species is recruiting across all areas of the site but active management of the exotic grasslands are required. Some metal waste is located along the entrance track but can be readily removed.

Mitchelhill

The Mitchelhill West BA is in good condition. With a history of grazing, logging and some quarrying, some metal waste remains and areas that contain mature, yet relatively young, regrowth will improve in condition as the vegetation ages. Tracks are in fair condition. Prickly pear is the major weed present within the BA and is being actively controlled through the weed programme. Active revegetation occurred during the compliance period with 24.1 ha planted with CHVEF species within the areas identified for rehabilitation. Redundant internal fences occur through the BA and are planned to be removed.

The Mitchelhill East BA is primarily steep country which is why it is predominately vegetated with few cleared areas. Redundant internal fences occur through the BA and are planned to be removed. Minimal weeds are present on the BA. Narrow leaf cotton bush and fireweed are sparsely scattered and are targeted through the weed programme. Natural regeneration is occurring within the BA and extending into the cleared grassland areas. Rip lines have been installed in advance of tubestock planting within the identified grassland areas, however, no planting of tubestock has occurred during the compliance period.

Wandewoi

The Wandewoi BA contains sparsely scattered prickly pear and galenia infestations within the open grasslands and are being targeted through the weed control programme. Some of the northern fencelines along the ridge have been identified as requiring maintenance as do areas where the track has eroded. Cultural heritage barriers are being progressively maintained and vertebrate pests (pigs) are routinely caught during trapping programmes along the Hunter River in the western portion of the BA. The woodland along the ridgeline is in good condition with recruitment occurring in areas.

5.2 Vertebrate Pest Management

Vertebrate pest management has been undertaken within all of HVOs EPBC biodiversity areas in conjunction with the Local land Services (LLS), NSW National Parks and Wildlife Services (NPWS) and surrounding landholders.

The programme occurred across the Mitchelhill (East and West), Hook (proposed offset at Lower Belford), Wandewoi and Condon View BAs. While no dog baiting programmes occurred at the Crescent Head BA, a pig trapping programme was undertaken during 2019 based on evidence of a small number of pigs traversing the property. While the property inspection reports at Crescent Head did not indicate a need to undertake wild dog control, a dingo was noted to loiter near the fencing contractors during the installation of the boundary fence at the southern BA. Discussions around regional dog baiting programmes have occurred with the Kempsey NPWS due to the Crescent Head BAs adjoining the Limeburners Creek and Hat Head National Parks. To date, NPWS officers have indicated a reluctance to bait for dingos due to a ‘pure’ population of dingos occurring within Limeburners Creek National Park (pers comm.).

1080 Baiting Programme

Wild dog baiting programmes within the BAs occurred during May and October 2019. The location of the baits within each BA and the frequency that the baits were taken for the spring 2019 programme are shown in figures 5.1 to 5.5.

The spring 2019 vertebrate pest management programme represented the fourth baiting programme undertaken at the Mitchelhill, Hook and Wandewoi BAs, and the sixth undertaken at the Condon View BA.

A summary of the baiting programmes undertaken at the BAs is outlined in Table 5.1. A comparison of the baiting results across all sites between 2018 and 2019 indicates that the baiting programme does not follow a linear decline in baiting results despite efforts and expenditure.

Table 5.1. Comparison of Results of all 1080 Vertebrate Pest Management Programmes for HVO Biodiversity Areas.

Baiting Program	No. of Baiting Sites	Baiting opportunities	Baits taken by Dogs	Dog (%)	Baits taken by Foxes	Fox (%)	Baits taken by other (non-target) species	Other (%)	Total No. of Baits Taken	No. Sites where baits taken at least once	Represented as Percentage (%)	No. sites with baits taken on all occasions	No. sites with no baits taken	No. baits Disturbed Not Taken	No. baits taken alternatively by Dog or Fox	Baiting Efficiency %	Baiting efficiency (excl 'other')
Jun 18 LBEL	11	22	7	88%	1	13%	0	0%	8	8	73%	0	3	1	0	36%	36%
Sep 18 LBEL	11	22	7	100%	0	0%	0	0%	7	5	45%	2	6	3	0	32%	32%
May 19 LBEL	11	21	2	67%	1	33%	0	0%	3	3	27%	0	8	0	0	14%	14%
Oct 19 LBEL	11	22	13	65%	5	25%	2	0%	20	9	82%	7	2	0	5	91%	82%
Jun 18 MITE	6	12	2	50%	2	50%	0	0%	4	4	67%	0	2	0	0	33%	33%
Sep 18 MITE	6	11	1	50%	1	50%	0	0%	2	1	17%	1	5	1	1	18%	18%
May 19 MITE	6	12	2	100%	0	0%	0	0%	2	2	33%	0	4	0	0	17%	17%
Oct 19 MITE	6	12	0	0%	2	100%	0	0%	2	2	33%	0	4	5	0	17%	17%
Jun 18 MITW	11	22	7	78%	2	22%	0	0%	9	6	55%	3	5	0	0	41%	41%
Sep 18 MITW	11	22	9	64%	1	7%	4	29%	14	9	82%	5	2	0	1	64%	45%

Baiting Program	No. of Baiting Sites	Baiting opportunities	Baits taken by Dogs	Dog (%)	Baits taken by Foxes	Fox (%)	Baits taken by other (non-target) species	Other (%)	Total No. of Baits Taken	No. Sites where baits taken at least once	Represented as Percentage (%)	No. sites with baits taken on all occasions	No. sites with no baits taken	No. baits Disturbed Not Taken	No. baits taken alternatively by Dog or Fox	Baiting Efficiency %	Baiting efficiency (excl 'other')
May 19 MITW	11	22	8	67%	4	33%	0	0%	**12**	9	82%	3	2	3	1	55%	55%
Oct 19 MITW	**11**	22	15	75%	4	20%	1	5%	**20**	11	100%	9	0	1	2	91%	86%
Jun 18 WAN	**6**	12	7	88%	1	12%	0	0%	**8**	6	67%	1	2	2	1	67%	67%
Sep 18 WAN	**6**	12	9	100%	0	0%	0	0%	**9**	6	100%	3	0	0	0	75%	75%
May 19 WAN	**6**	12	5	83%	1	17%	0	0%	**6**	4	67%	2	2	0	1	50%	50%
Oct 19 WAN	**6**	12	7	88%	0	0%	1	13%	**8**	5	83%	3	1	2	0	67%	67%
May 2017 CON	**11**	22	11	100%	0	0%	0	0%	**11**	8	73%	3	3	1	0	50%	50%
Sep 2017 CON	**11**	22	10	56%	1	5%	7	39%	**18**	11	100%	7	0	0	0	81%	50%
Jun 2018 CON	**11**	22	8	89%	1	11%	0	0%	**9**	8	73%	1	3	0	0	41%	41%
Sep 18 CON	**11**	21	9	56%	1	6%	6	38%	**16**	8	73%	8	3	0	1	76%	48%
May 19 CON	**11**	21	5	71%	2	29%	0	0%	**7**	4	36%	3	7	1	2	33%	33%

Baiting Program	No. of Baiting Sites	Baiting opportunities	Baits taken by Dogs	Dog (%)	Baits taken by Foxes	Fox (%)	Baits taken by other (non-target) species	Other (%)	Total No. of Baits Taken	No. Sites where baits taken at least once	Represented as Percentage (%)	No. sites with baits taken on all occasions	No. sites with no baits taken	No. baits Disturbed Not Taken	No. baits taken alternatively by Dog or Fox	Baiting Efficiency %	Baiting efficiency (excl 'other')
Oct 19 CON	12	24	13	65%	5	25%	2	10%	20	10	83%	10	2	1	4	83%	75%
Totals Oct 19	87	174	59		25		30		114	Average Baiting Efficiency (Oct 2019)						67%	62%

Note:

LBEL = Lower Belford (Hook)

MITE = Mitchelhill East BA

MITW = Mitchelhill West BA

WAN = Wandewoi BA

CON = Condon View BA

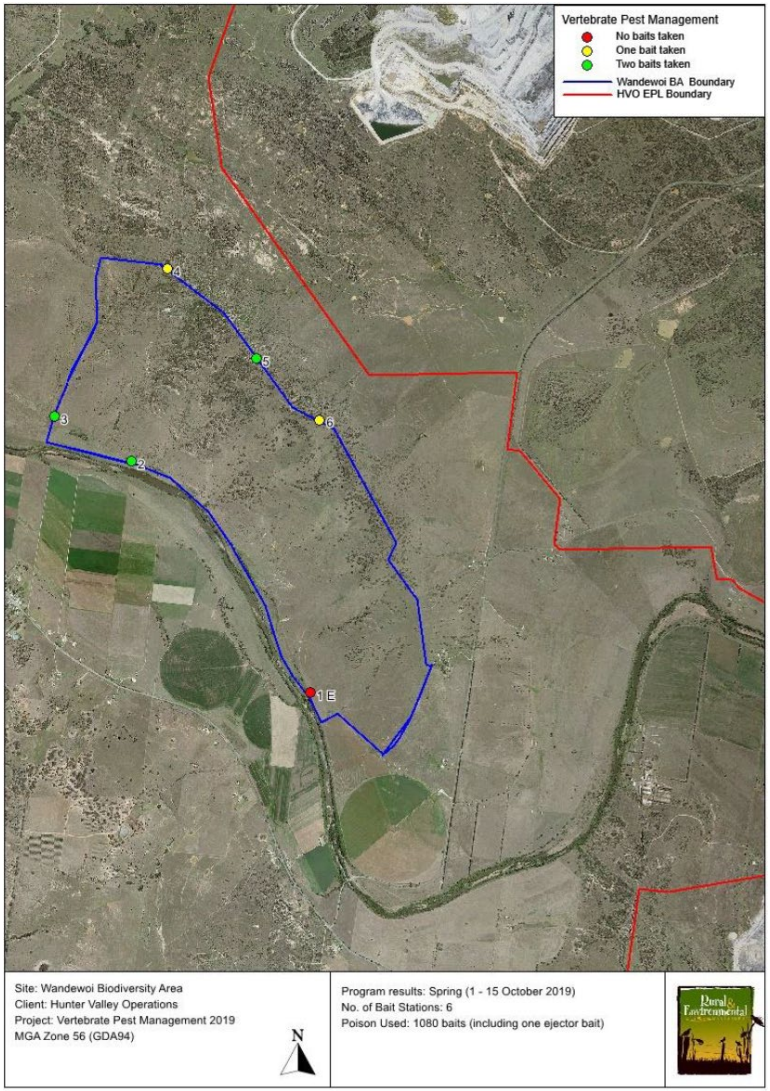


Figure 5.1. Wandewoi BA vertebrate pest management results for the Spring 2019 Program.

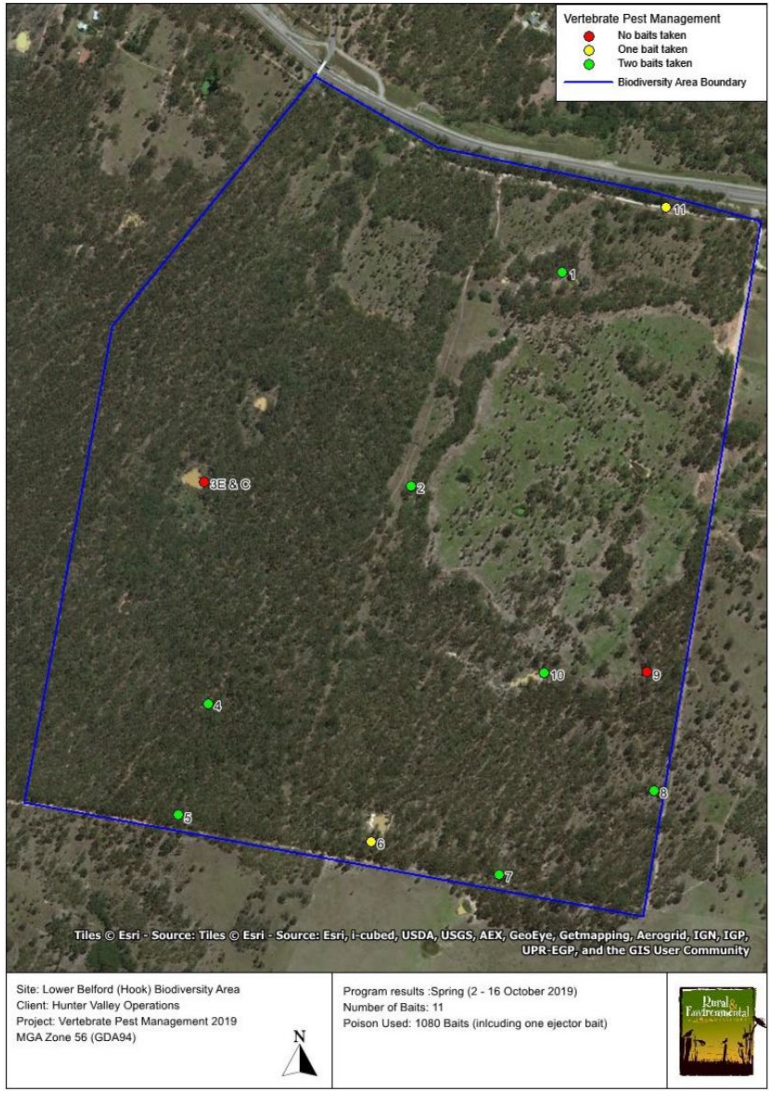


Figure 5.2. Hook BA vertebrate pest management results for the Spring 2019 Program.

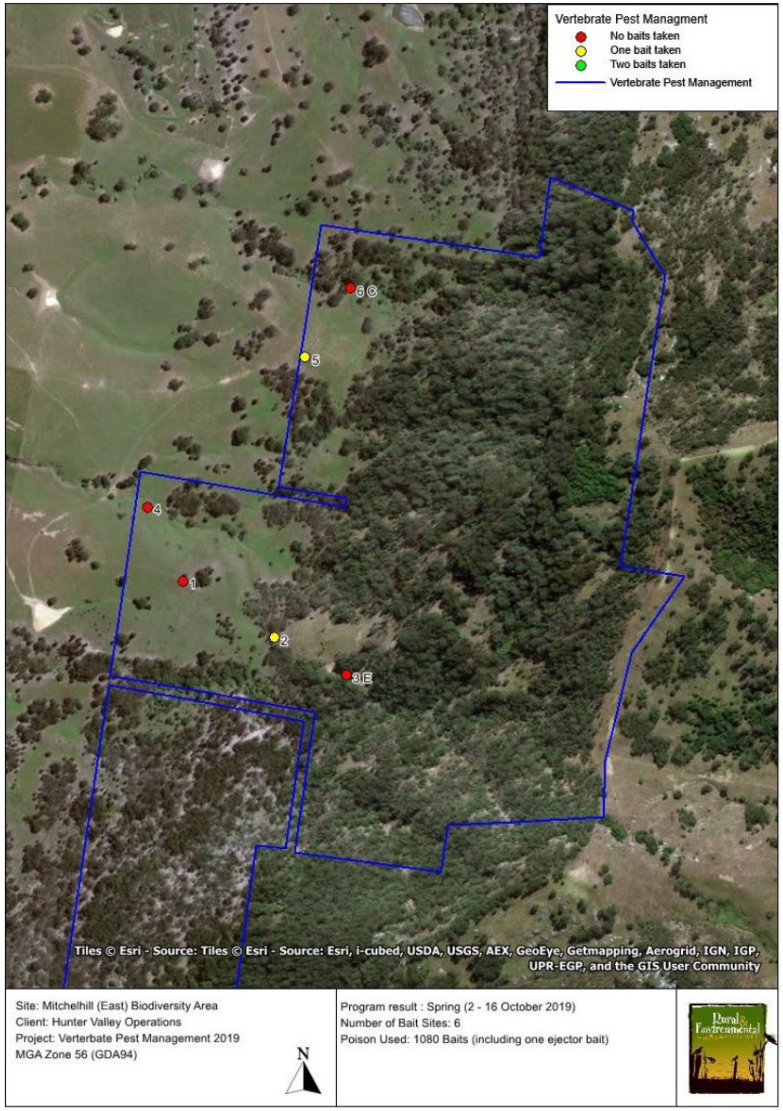


Figure 5.3. Mitchelhill East BA vertebrate pest management results for the Spring 2019 Program.

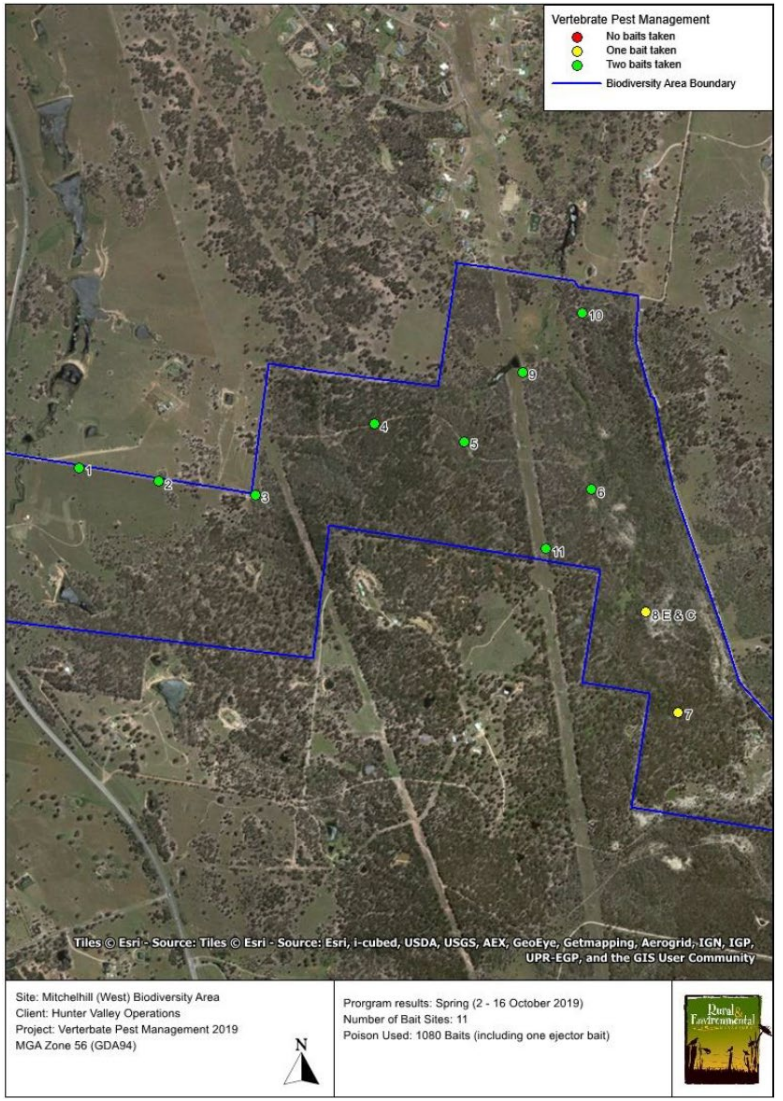


Figure 5.4. Mitchelhill West BA vertebrate pest management results for the Spring 2019 Program.

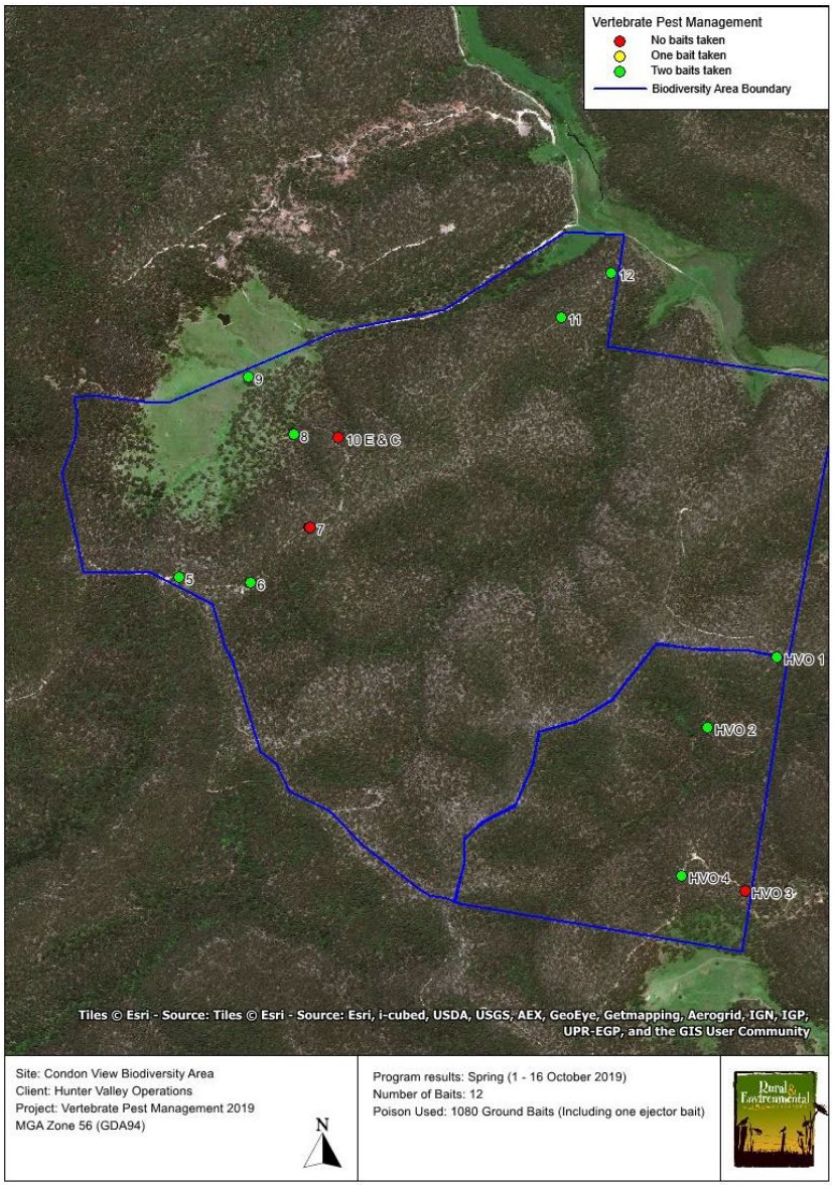


Figure 5.5. Condon View BA vertebrate pest management results for the Spring 2019 Program.

Note: this figures illustrates the entire Condon View property which also includes the adjoining State offset for Yancoal's Mount Thorley Warkworth mine. The area applicable to EPBC 2016/7640 include the four bait stations along the eastern boundary.

2019 Pig Trapping Programme

During 2019, HVO engaged contractors to undertake pig monitoring and trapping programmes across HVO and the Crescent Head BA. The programme was in response to monitoring results and observations that reported pigs traversing along the Hunter River and accessing the water bodies at the Crescent Head BA during the drought.

Baiting and traps were established at various locations along the Hunter River, including two sites within the Wandewoi BA, and four locations at the Crescent Head BAs (Fig 5.7 to 5.9).

Each trap was baited with 20kg of cracked corn and molasses inside and outside the trap and monitored with either a live stream HogEye Camera trap system or standard motion sensor camera system. This

system allows for remote activation of the trap and aligns with the Code of Practise and Standard Operation Procedures.

Each station was checked daily using the live web based system and visited if required to restock food or access the trap.

The Wandewoi BA traps received a total of 20 trapping days across the two sites with three pigs caught during this time (Table 5.2).

At the Crescent Head BAs, two sites showed no signs of pig visitation and were withdrawn. The remaining two sites had a total of 28 trapping days and, while a small number of pigs were recorded on camera (Fig 5.6), they did not return to the traps during the programme.

Pig trapping occurs twice a year at HVO which will include the Wandewoi BA in 2020. A repeat trapping programme will occur at the Crescent Head BAs during 2020 should monitoring results indicate that the pigs still traverse the area.

Figure 5.6. Boar photographed at pig trap 4 at the Crescent Head North BA during free feeding which did not return during the trapping programme.

Table 5.2. HVO 2019 Pig Trapping Summary and Results.

Trap Reference	Free Feeding Notes 16/09/2019	Free Feeding Notes 20/09/2019	Trapping Days 23/10/2019-17/10/2019	Pigs Trapped
Pest Trap 1	20kg cracked corn and camera added	No sign – site abandoned	0	0
Pest Trap 2	20kg cracked corn and camera added	No sign – site abandoned	0	0
Pest Trap 3	20kg cracked corn and camera added	Camera stolen – site abandoned	0	0
Pest Trap 4	20kg cracked corn and camera added	5kg eaten - site refed and trap set	7	0
Pest Trap 5	20kg cracked corn and camera added	15kg eaten - site refed and trap set	7	2
Pest Trap 6	20kg cracked corn and camera added	20kg eaten - site refed and trap set	18	1
Pest Trap 7	20kg cracked corn and camera added	No sign – site abandoned	0	0
Pest Trap 8	20kg cracked corn and camera added	5kg eaten - site refed and trap set	7	4
Pest Trap 9	20kg cracked corn and camera added	20kg eaten - site refed and trap set	11	14
Pest Trap 10	20kg cracked corn and camera added	No sign – site abandoned	0	0
Pest Trap 11	20kg cracked corn and camera added	5kg eaten - site refed and trap set	11	0
Pest Trap 12	20kg cracked corn and camera added	5kg eaten - site refed and trap set	9	3

Note: Pest Traps 11 and 12 are located within the Wandewoi BA.

Figure 5.7. Pig trap locations along the Hunter River and Wollemi Brook at HVO during the spring 2019 programme.

Note: Pest Traps 11 and 12 are located within the Wandewoi BA.

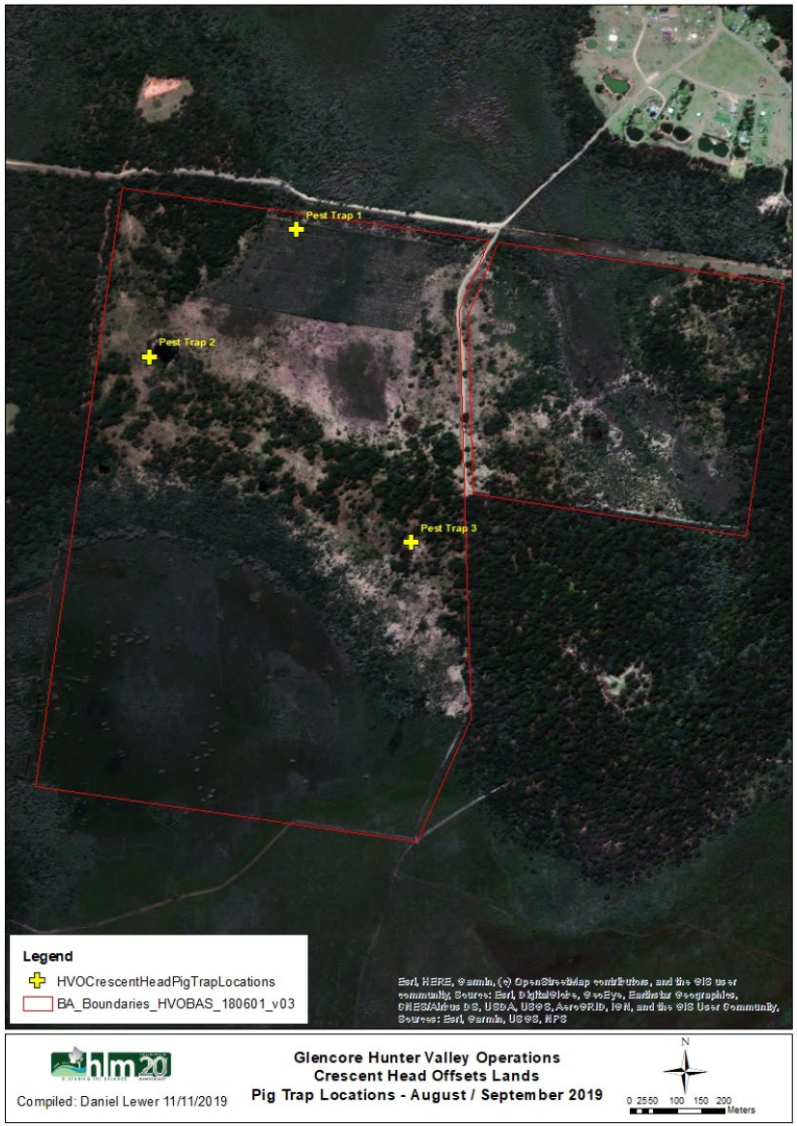


Figure 5.8. Pig trap locations 1, 2 and 3 at Crescent Head South BA during the spring 2019 programme.

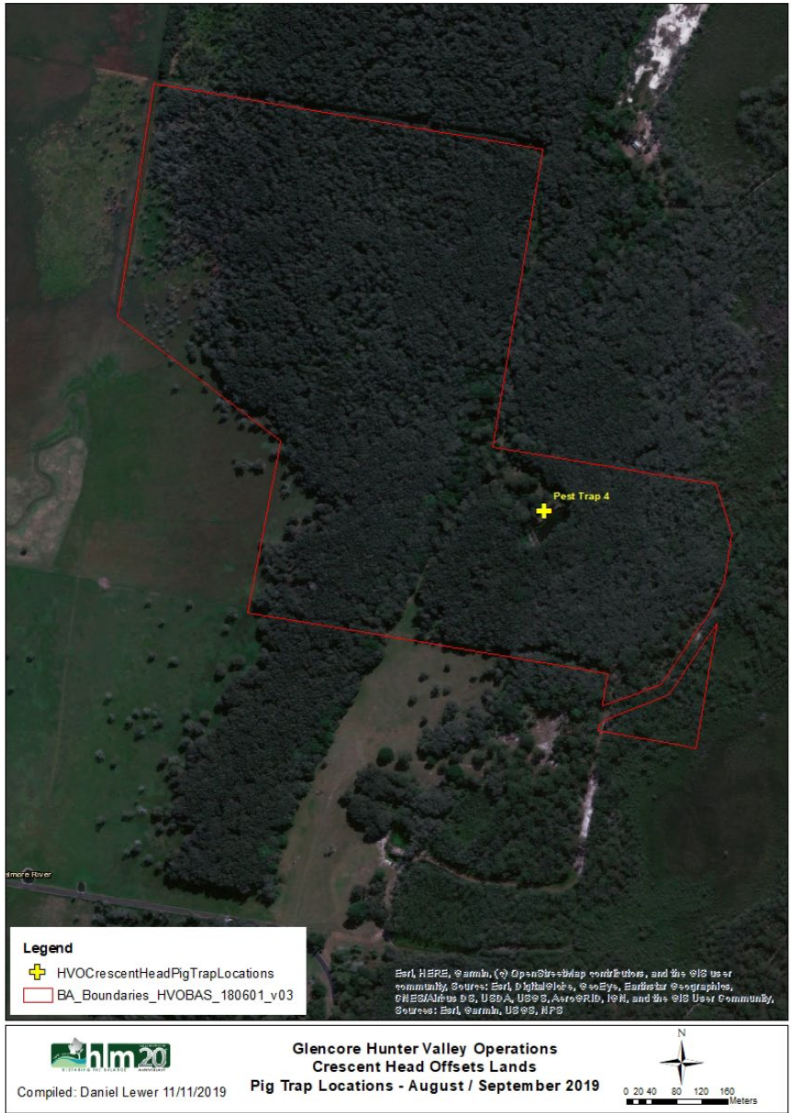


Figure 5.9. Pig trap location 4 at the waterhole within the Crescent Head North BA during the spring 2019 programme.

5.3 Monitoring

The monitoring programme is designed to assess the changes in the habitat of the offsets at three different scales:

- Landscape monitoring (long-term 10-15 years):
  - Hunter Valley BAs – to assess vegetation changes and habitat connectivity at the landscape scale in the long-term (10-15 years).
- Ecological monitoring (short to medium-term):
  - Hunter Valley BAs – condition assessment monitoring to assess habitat condition by quantifying changes in vegetation structure.
  - Hunter Valley BAs – bird assemblage monitoring to assess changes in bird assemblages.
  - Crescent Head BA – threatened species monitoring to determine if the habitat management, Mosquito Fish management and construction of offline ponds have resulted in Green and Golden Bell Frog use of the BA.
  - Crescent Head BA – habitat monitoring to assess improvements in breeding, foraging and movement habitat structure by quantifying changes in vegetation structure.
- Management monitoring (short-term):
  - All BAs – rapid condition assessments and property inspections to assess woodland and habitat condition and identify emerging threats.
  - Hunter Valley BAs – survival assessment to assess the success of re-establishment actions.
  - Crescent Head BA – Mosquito Fish monitoring to assess the presence and abundance of Mosquito Fish in the ponds.

The landscape monitoring requires an interpretation of aerial photo images of the BAs over time and is not considered in this compliance report. This report provides a summary of investigations around both the ecological and management monitoring activities.

5.3.1 Management monitoring

5.3.1.1 Rapid Condition Assessments

Rapid condition assessments commenced during 2019 and will be the baseline data against which future assessments will be examined.

5.3.1.2 Survival Assessments

CHVEF reestablishment through the planting of tubestock occurred in 2019 at the Mitchelhill BA. Initial survival assessments have not been undertaken, however, despite extensive watering and the use of water crystals placed beneath the tubestock, preliminary examinations indicate that with the extreme heat and environmental conditions faced during the reporting period, it is not anticipated that significant numbers will have survived. Repeat plantings will occur during more favourable reestablishment periods.

5.3.1.3 Mosquito Fish Monitoring

Detail regarding the results of the mosquito fish monitoring are presented within the Crescent Head section of Section 5.3.2.

5.3.2 Ecological monitoring

The following table provides a summary of the ecological monitoring activities undertaken across the various BAs as outlined in the management plans. As stated previously, the Hook property has been proposed as an alternative offset to the grassland at Wandewoi. While the Hook property is not an accepted BA as yet, it is being managed according to the applicable requirements within the management plans for the other sites and has been included in the final Biodiversity Area Management Plan that has been submitted to the DoEE for approval.

Table 5.3. Ecological monitoring activities completed during the reporting year.

Monitoring event	Site	Months	Completed by
Condition assessment	Condon View	None planned for 2019	
	Hook, Mitchelhill, Wandewoi	November 2018	Cambium Group and EcoPlanning
	Crescent Head	October 2019	Cambium Group and EcoPlanning
Bird assemblage	Condon View	None planned for 2019	
	Hook, Mitchelhill, Wandewoi	November 2018 August 2019	Cambium Group and EcoPlanning
Rapid condition assessment	Condon View	Completed	MTW Advisor Land Management
	Crescent Head Hook Mitchelhill Wandewoi		HVO E&C Coordinator
Property inspections	Wandewoi	March, April, June, July, September, October 2019	Rural Environmental Management
	Mitchelhill	November, December 2018, February, March April, June, July, September, October 2019	
	Hook	November 2018, February, March, April, June, July, September, October 2019	
	Condon View	January, March, June, July, October 2019	
	Crescent Head	November 2018, April, August, October 2019	

5.3.2.1 Condition Assessment

Hunter Valley BAs

Condition assessment monitoring was undertaken in November 2018 and repeated in 2019. The data collected during this reporting period (baseline 2018 data) is presented below comparing the relative condition of the plots to benchmark data.

Monitoring surveyed 14 woodland lots and 13 grassland plots across the Mitchelhill, Wandewoi and Hook offset areas. The locations of the monitoring plots are shown in Figures 5.10 to 5.13 below.

Table 5.6 to 5.10 provides a summary of the plot data and relative condition against the relevant Plant Community Type (PCT) benchmark values. The BAM benchmark values for each of the PCTs monitored is outlined in Table 5.4. An explanation of the colour coding is provided in Table 5.5.

In brief, the assessment determined that all woodland plots satisfied the Class A condition threshold under the listing advice. Grassland plots at Hook (G1, G3 and G4) and Mitchelhill West (G4) had sufficient canopy cover and native understorey species diversity to satisfy the condition thresholds. However, Hook G3 had a high cover of exotic perennial grass that prevented it from being considered part of the EPBC Act listed community.

It is noted that for PCT 1601 the sum of benchmark data for the ground strata (i.e. grass and grass like, forbs, ferns, other) and litter is 162%, making it impossible to achieve benchmark condition in all these attributes at one time. For this reason, it may be pertinent to develop local benchmark values for these attributes or place greater emphasis on certain attributes so that the objective of attaining benchmark condition can be achieved.

Similarly, the benchmark for tree foliage cover (%), while based on average data, is high for a woodland or forest community. The listing advice (DOE 2015) describes CHVEF as a woodland to open forest. Specht (1970) describes a "woodland" as a community with a foliage cover of 10-30%, while "open forest" has foliage cover of 30-70%. More appropriate local benchmarks should be considered for tree foliage.

An assessment of the key performance criteria and completion criteria relating to the conservation objectives and specific management actions will be discussed in the next compliance report when the Nov 2019 data will be presented and examined against the baseline data outlined below.

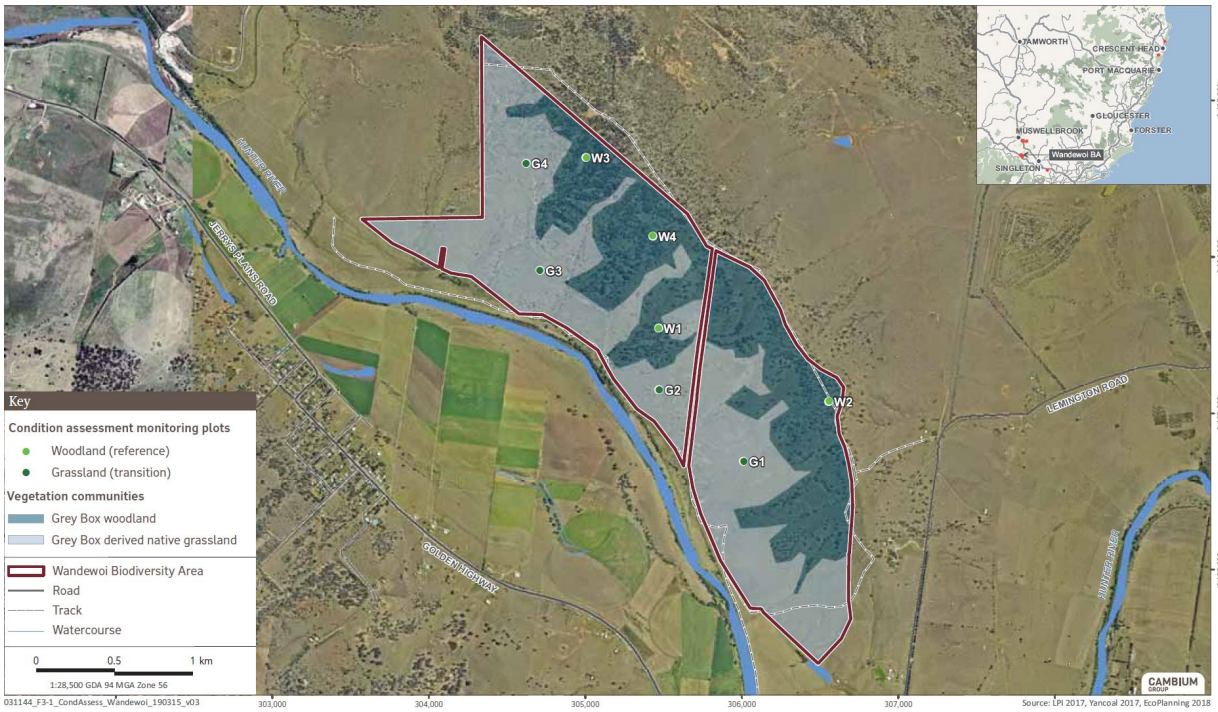


Figure 5.10. Condition assessment monitoring plots at the Wandewoi Biodiversity Area.

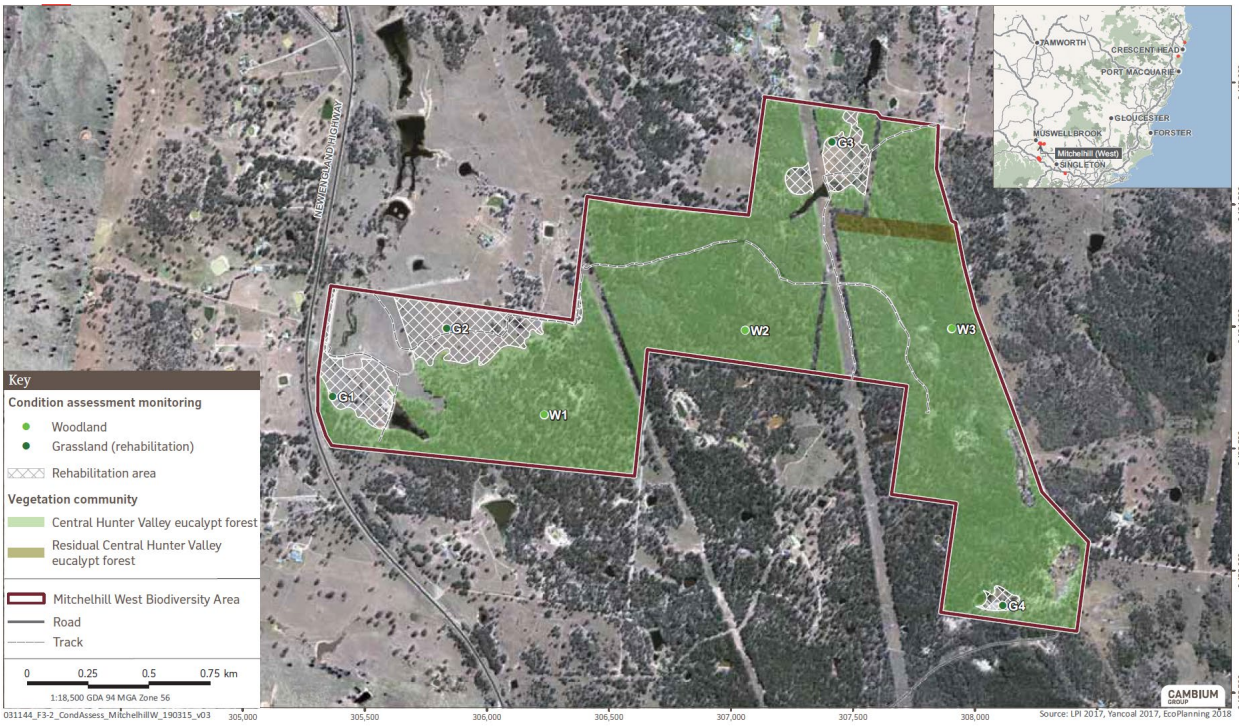


Figure 5.11. Condition assessment monitoring plots at the Mitchelhill West Biodiversity Area.

Figure 5.12. Condition assessment monitoring plots at the Mitchelhill East Biodiversity Area.

Figure 5.13. Condition assessment monitoring plots at the Hook Biodiversity Area.

Table 5.4. BAM benchmark values for PCTs monitored in the offset areas.

Attributes	PCT Benchmark Values		
	PCT 1601	PCT 1691	PCT 1604
Tree richness	5	5	5
Shrub richness	12	8	8
Grass and grass like richness	11	12	12
Forb richness	11	15	15
Fern richness	2	2	2
Other richness	5	5	5
Tree cover	60	52	52
Shrub cover	37	18	18
Grass and grass like cover	68	61	61
Forb cover	9	10	10
Fern cover	1	1	1
Other cover	5	5	5
Total length of fallen logs	45	40	40
Litter cover	70	35	35
Number of large trees	3	3	3

Table 5.5. Biometric site attributes scored for each monitoring plot to infer relative condition, derived from BBAM (2014).

Site attribute	Condition relative to benchmark values			
	Very low	Low	Moderate	High
Tree richness	0-10%	>10-<50% of benchmark	50-<100% of benchmark	≥ benchmark
Shrub richness				
Grass and grass like richness				
Forb richness				
Fern richness				
Other richness				
Tree cover	0-10% or >200% of benchmark	>10-<35% or >165-200% of benchmark	35-<75% or >125-165% of benchmark	75-125% of benchmark
Shrub cover				
Grass and grass like cover				
Forb cover				
Fern cover				
Other cover				
Total length of fallen logs	0-10%	>10-<50% of benchmark	50-<100% of benchmark	≥ benchmark
Litter cover	0-10% or >200% of benchmark	>10-<35% or >165-200% of benchmark	35-<75% or >125-165% of benchmark	75-125% of benchmark
Number of large trees	0-10%	>10-<50% of benchmark	50-<100% of benchmark	≥ benchmark

Note: BBAM (2014) does not include Litter cover or Number of large trees as site attributes.

Table 5.6. Summary of plot data collected at Mitchelhill East and an assessment of relative condition in comparison to benchmark data.

Community benchmarks	PCT 1604 Benchmark	Mitchelhill East			
		W4	W5	W6	G5
Native Species Richness					
Tree richness	5	4	5	3	0
Shrub richness	8	11	8	5	0
Grass and grass like richness	12	10	11	11	12
Forb richness	15	5	15	18	10
Fern richness	2	1	2	1	1
Other richness	5	3	5	4	1
Native Foliage Cover (%)					
Tree cover	52	32.6	23.1	12.8	0
Shrub cover	18	16.3	12.8	7.7	0
Grass and grass like cover	61	11.6	32.5	67.2	72.8
Forb cover	10	0.6	2.1	5.6	1.4
Fern cover	1	0.1	0.4	0.1	0.1
Other cover	5	0.3	0.7	0.8	0.1
Other					
Total length of fallen logs	40	58	4.5	8.5	0
Litter cover	35	94	21.25	1.5	11.25
Number of large trees	3	4	0	0	0

Table 5.7. Summary of plot data collected at Mitchelhill West and an assessment of relative condition in comparison to benchmark data.

Community benchmarks	PCT 1601	Mitchelhill West						
		W1	W2	W3	G1	G2	G3	G4
Native Species Richness								
Tree richness	5	5	5	5	0	0	0	3
Shrub richness	12	2	7	3	1	2	0	7
Grass and grass like richness	11	14	14	9	8	9	11	6
Forb richness	11	13	12	14	3	9	6	8
Fern richness	2	1	1	1	0	1	1	1
Other richness	5	2	1	2	0	1	0	1
Native Foliage Cover (%)								
Tree cover	60	20.6	17.6	26.5	0	0	0	10.5
Shrub cover	37	0.6	1.2	1.1	0.1	0.4	0	1.7
Grass and grass like cover	68	11.1	16.7	11.9	11.3	33.2	42.5	1.8
Forb cover	9	1.3	6.1	3.3	0.3	5.3	0.6	0.8
Fern cover	1	0.1	0.1	0.1	0	0.1	0.1	0.1
Other cover	5	0.2	0.1	0.2	0	0.1	0	0.1
Other								
Total length of fallen logs	45	6	30	20	0	0	0	0
Litter cover	70	81.25	81.25	75	39.75	17	30	2
Number of large trees	3	2	3	0	0	0	0	0

Table 5.8. Summary of plot data collected at Wandewoi and an assessment of relative condition in comparison to benchmark data.

Community benchmarks	PCT 1691	Wandewoi							
		W1	W2	W3	W4	G1	G2	G3	G4
Native Species Richness									
Tree richness	5	2	2	2	4	0	1	0	0
Shrub richness	8	4	7	5	4	0	2	2	1
Grass and grass like richness	12	13	14	8	12	9	16	9	16
Forb richness	15	14	19	15	20	7	11	8	16
Fern richness	2	2	1	1	2	0	0	1	1
Other richness	5	1	3	4	4	3	4	2	3
Native Foliage Cover (%)									
Tree cover	52	15.5	20.1	22	32	0	2	0	0
Shrub cover	18	0.8	2.7	6.3	0.6	0	1.1	0.2	0.1
Grass and grass like cover	61	31.6	26.6	5.7	12	52.2	75.4	33.4	25.3
Forb cover	10	1.7	2.6	2.4	3.7	10.7	1.6	3.1	2
Fern cover	1	0.2	0.1	0.5	0.2	0	0	0.2	0.1
Other cover	5	0.1	0.3	0.8	0.4	0.3	0.6	0.2	0.3
Other									
Total length of fallen logs	40	21	3	1	68	0	0	15	0
Litter cover	35	31.25	23.3	40	50	7.5	15	0	13.75
Number of large trees	3	2	2	0	7	0	0	0	0

Table 5.9. Summary of plot data collected at Hook and an assessment of relative condition in comparison to benchmark data.

Community benchmarks	PCT 1601 Benchmark	Hook							
		W1	W2	W3	W4	G1	G2	G3	G4
Native Species Richness									
Trees	5	5	3	2	4	3	1	3	2
Shrubs	12	10	8	3	9	3	3	2	3
Grass and grass like	11	15	11	12	13	9	8	13	9
Forbs	11	13	14	15	16	7	13	10	14
Ferns	2	1	1	1	2	1	1	0	0
Other	5	5	4	3	4	2	2	1	3
Native Foliage Cover (%)									
Tree cover	60	26.2	26	25	25	7.3	5	10.2	12
Shrub cover	37	2.9	1.4	1.2	4.7	1.7	2.2	0.3	0.7
Grass and grass like cover	68	10.7	12	14.2	14.9	42.8	32.3	8.7	20.4
Forb cover	9	2.2	4.8	3.9	11.7	3	2.2	1	2.4
Fern cover	1	0.1	0.1	0.1	0.3	0.2	0.1	0	0
Other cover	5	0.5	0.4	0.4	0.4	0.2	0.2	0.1	0.3
Other									
Total length of fallen logs	45	17	32	25	12	0	0	0	2
Litter cover	70	87.5	62.25	88	68.75	33.75	31.3	20	47.75
Number of large trees	3	2	0	1	3	0	0	0	0

Table 5.10. Comparison of monitoring data at the Condon View BA with benchmark values.

BVT HU578: Rough-barked Apple - red gum grassy woodland of the MacDonald River Valley on the Central Coast, Sydney Basin Bioregion										
		NPSR	NOS	NMS	NGCG	NGCS	NGCO	EPC	Logs (m)	Hollows
Benchmark	min	31	31.5	20.0	29.75	0.0	29.75	0.0	50.0	0
	max		46.5	40.0	37.75	10.0	37.75			
C M1 (2018)		25	42.8	5.8	17.5	0.8	1	0	58	0
C M2 (2018)		19	9	0.5	87.5	0.3	1.3	1	120	0
C M3 (2018)		29	26.8	0	73.8	0.3	1.3	0.3	86	0
C M4 (2018)		26	26.8	0	60	0	1.8	0.3	17	0
C M5 (2018)		23	13.5	4.3	57.5	0	32.5	0.8	39	0
Average		*24.4*	*23.8*	*2.1*	*59.3*	*0.3*	*7.6*	*0.5*	*64*	*0*
C M1 (2016)		31	17.0	5.5	65	2.0	2.0	0.0	54.0	0.0
C M2 (2016)		18	2.0	0.0	96.5	0.25	1.75	2.0	55.0	0.0
C M3 (2016)		18	13.0	0.0	98	0.0	7.0	9.5	40.0	0.0
C M4 (2016)		20	20.0	0.0	99	0.0	2.5	2.0	15.0	1.0
C M5 (2016)		19	7.0	6.25	86.25	3.5	5.0	20.0	17.0	0.0
Average		*21.2*	*11.8*	*2.35*	*88.95*	*1.15*	*3.65*	*6.7*	*36.2*	*0.2*

0-10% or >200% of benchmark (>66% cover for EPC)
10-50% or 150-200% of benchmark (33-66% cover for EPC)
50-100% or 100-150% of benchmark (5-33% cover for EPC)
within benchmark or > benchmark for NPSR, Hollows and Logs (0-5% cover for EPC)

NPSR	Native plant species richness
NOS	Native overstorey % cover
NMS	Native midstorey % cover
NGCG	Native ground cover (grass) % cover
NGCS	Native ground cover (shrubs) % cover
NGCO	Native ground cover (other) % cover
EPC	Exotic plant cover % cover
Logs (m)	Length of logs (m)
Hollows	No. trees with hollows

Note. This data was sourced from the annual report for the Warkworth Mine EPBC 2002/629 Regional Biodiversity Area Annual Report 2018. The points applicable to the HVO EPBC 2016/7640 offset are CM4 and CM5.

Crescent Head BA

The Crescent Head BA was established to offset the impact to the Green and Golden Bell Frog (GGBF) and its habitat. The key performance measures to achieve this criteria measure:

- reduction in the exotic Mosquito Fish population in the ponds where possible,
- provision of suitable supplementary breeding habitat,
- maintenance of existing foraging habitat, and
- maintenance of connectivity between GGBF habitat components.

To achieve compliance with these measures, a number of investigations and monitoring events occurred during this reporting period.

1. Green and Golden Bell Frog Surveys

GGBF surveys occurred for the second time in 2019. GGBF was not recorded during the October 2018 surveys at the offset sites nor at the reference site.

GGBF was observed during the March 2019 surveys at Pond A in Crescent Head North. Two individuals were found in separate *Philydrum lanuginosum* (Woolly Waterlily) that were growing on the southern margin of the pond within a few metres of each other (Figure 5.13).

The frogs appeared to be sub-adult males and are possibly the product of the previous seasons breeding event in the area. Reference sites near Crescent Head North and Crescent Head South (the basalt quarry) were both dry during March 2019 and no GGBF were detected in either of them.

Figure 5.13. Green and Golden Bell Frog captured at Pond A in Crescent Head North BA.

2. Drainage Investigations

A drainage survey report was completed in December 2018 which examined drainage patterns and recharge of ponds at the northern and southern BAs (Table 5.11). It also discussed how Mosquito Fish may invade ponds with the view to how Mosquito Fish populations may be managed / removed from each pond.

The assessment identified that Ponds A, B and C at Crescent Head North are likely to become connected to downstream environments during flood events. Due to the low lying terrain, the only Mosquito Fish-free option is likely to be the construction of offline ponds within the limited elevated area. Careful water management of offline ponds needs to be considered to ensure sufficient water supplies to maintain permanent pools during extended dry periods.

At Crescent Head South, it appears likely that the existing ponds will maintain sufficient water levels due to capture of rainfall runoff, with limited opportunities for Mosquitofish to invade. Restricting opportunities for the Mosquito Fish to expand into the existing ponds during flood events may require some minor engineering which is summarised in Table 5.12.

Table 5.11. Crescent Head pond water source survey results.

Pond	Status	Area	Rainfall runoff from pond catchment	Inundation from external catchment	Groundwater inflow	Direct rainfall only
A	Existing	North		✓	✓	
B	Existing	North	✓	✓	✓	
C	Existing	North			✓	
D	Offline	North				✓
E	Offline	North				✓
F	Existing	South	✓			
G	Existing	South	✓			
H	Existing	South	✓			
J	Offline	South	✓			
K	Offline	South	✓			

3. Habitat Assessment

The GGBF habitat was monitored for the second time at the Crescent Head BA and compared to the baseline information from monitoring in 2018. Due to the drought conditions and the subsequent decrease in the groundwater table, Ponds B and C at Crescent Head North were dry and data was not able to be collected. The offline ponds also had not been constructed.

Vegetation cover was lower in all ponds than the 2018 values (decrease of 11.5% for Pond A, 7% for Pond F and 50% for Pond G - c.f. figures 5.14 and 5.15) but increased in Pond H (23%) due to the contracting surface water area. As such, Pond H was the only pond that had less than 20% open water as required by the Best Practice Guidelines for the GGBF (DECC 2008). The maintenance of open water within fluctuating ephemeral habitats was acknowledged within the management plan and, as such, the need for management action will be considered if the percentage of open water remains low in subsequent monitoring events.

The diversity of plants providing cover in the open water areas of the ponds was lower in 2019 than 2018 which is likely to be the result of the reduction in water levels and continued dry conditions. Species diversity is likely to remain low should the water continue to recede.

Action has been undertaken during the reporting period to control weeds and slash dispersal corridors. Vegetation regrowth was noted within these areas and ongoing maintenance will be required to maintain an effective corridor. As much of the regrowth was very low growing, it is unlikely to inhibit the dispersal of the GGBF.

Table 5.12. Crescent Head pond drainage survey results to develop Mosquito Fish-free frog ponds.

Pond	Status	Area	Pond water source	Invasion frequency	Mosquitofish Management Options	Anticipated effort required to develop into GGBF habitat
A	Existing	North	✓✓ Permanent water available	✓ Overland flow connection approximately every 2 years could be managed via engineered spillway drop	× No gravity drainage options × Permanent connection with groundwater, so no poison, and not possible to dry out ~ Electrofishing ~ Seine netting	~
B	Existing	North	✓✓ Frequent runoff available to top up pond water level	× Overland flow connection multiple times per year ✓ Could be reconstructed as an offline pond	× No gravity drainage options × Permanent connection with groundwater, so no poison, and not possible to dry out ~ Electrofishing ~ Seine netting	~
C	Existing	North	× Groundwater source, potentially impermanent, poor quality ✓ Feasible to construct sufficient catchment	✓✓Unlikely to be inundated for modelled rainfall runoff events	× No gravity drainage options × Permanent connection with groundwater, so no poison, and not possible to dry out ~ Electrofishing ✓ Mosquitofish currently not present	✓
D	Offline	North	✓ Feasible to construct sufficient catchment	✓✓Not inundated for modelled rainfall runoff events	✓✓Gravity drainage towards Pond A ✓ Lined, poison use possible ~ Electrofishing	✓
E	Offline	North	✓ Feasible to construct sufficient catchment	✓✓Not inundated for modelled rainfall runoff events	× Limited gravity drainage options ✓ Lined, poison use possible ~ Electrofishing	✓
F	Existing	South	✓✓ Existing catchment sufficient to maintain water levels	✓✓No link to downstream flood plain for modelled rainfall runoff events	✓✓ Drainage through dam wall (retrofit) ~ Electrofishing	✓✓
G	Existing	South	✓✓ Existing catchment sufficient to maintain pond water levels	✓Link to downstream flood plain could be broken via engineered spillway drop	✓✓ Drainage through dam wall (retrofit) ~ Electrofishing	✓✓
H	Existing	South	✓✓ Existing catchment sufficient to maintain pond water levels	✓✓No link to downstream flood plain for modelled rainfall runoff events	✓✓ Drainage through dam wall (retrofit) ~ Electrofishing	✓✓

J	Offline	South	✓ Feasible to construct sufficient catchment	✓✓Not inundated for modelled rainfall runoff events	✓✓Gravity drainage towards pond F ✓ Lined, poison use possible ~ Electrofishing	✓
K	Offline	South	✓ Feasible to construct sufficient catchment	✓✓Not inundated for modelled rainfall runoff events	✓ Limited gravity drainage options ✓ Lined, poison use possible ~ Electrofishing	✓

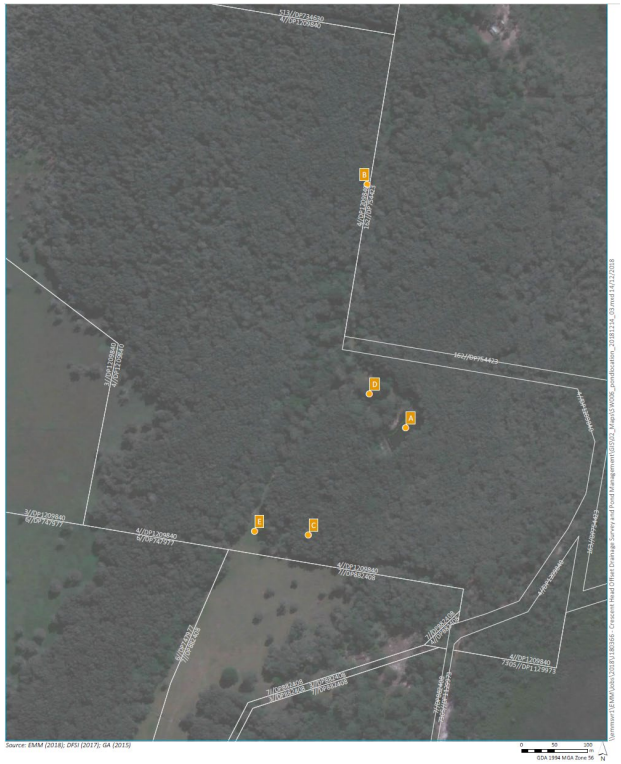


Figure 5.14. Actual and potential pond locations at Crescent Head North BA.

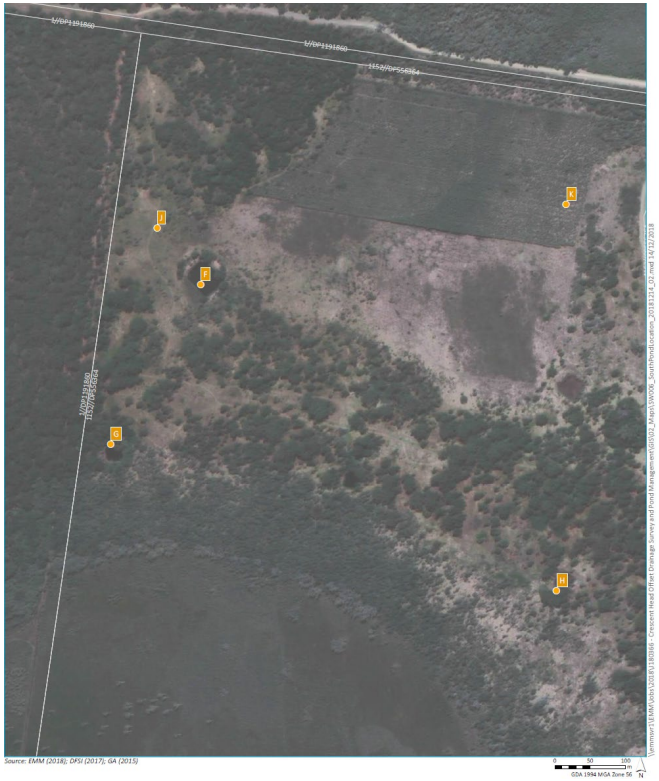


Figure 5.15. Actual and potential pond locations at Crescent Head South BA.

5.3.2.2 Bird assemblage monitoring

Hook, Mitchelhill and Wandewoi

Monitoring surveyed 14 woodland sites and 13 grassland sites across the Hook, Mitchelhill and Wandewoi BAs. The bird assemblage monitoring in 2018 was undertaken in spring (November) while the 2019 data was collected in winter (August). As the optimal survey period for the Swift Parrot and Regent Honeyeater is during winter, future survey efforts will occur during the winter survey period. The outcome of this error is that this compliance report is able to present the results of a second monitoring event noting that a comparison of data across the seasons should be undertaken with caution.

No Regent Honeyeater or Swift Parrots were recorded during either the 2018 or 2019 surveys. The non-detection of these species within the BAs does not necessarily indicate the species does not use the sites. All BAs were considered to provide potential foraging habitat when favoured species are in flower or lerp infestations are present.

At the time of the survey during 2019, Regent Honeyeaters were also present in low numbers across the Central Coast of NSW (B.Mullins pers. obs.) and Birdlines NSW (www.eremaea.com) did not list any observations of Swift Parrot. While the ongoing drought may have had an influence on the lack of presence of these species within the BAs, this has not been tested in this programme and no inference can be made.

Five species listed as vulnerable under the NSW *Biodiversity Conservation Act 2016* were recorded within the BAs (Table 5.13).

Table 5.13. Records of threatened and migratory species recorded during the 2019 survey.

Species	Conservation Status	Mitchelhill			Wandewoi	Hook	Incidental
		R3	R4	R5	W3	W1	
Varied Sittella *Daphoenositta chrysoptera*	Vulnerable			X			Hook
Little Lorikeet *Glossopsitta pusilla*	Vulnerable					X	
Scarlet Robin *Petroica boodang*	Vulnerable		X				Hook
Grey-crowned Babbler *Pomatostomus temporalis temporalis*	Vulnerable	X					
Speckled Warbler *Pyrrholaemus sagittata*	Vulnerable		X		X		

A comparison of average data for woodland and grassland sites within each BA is tabled below. Given the seasonality variation, a more accurate assessment will arise following the 2020 surveys.

Of the 62 bird species identified, six had a habitat preference for grassland areas, 11 were generalists, 42 were woodland species, and three were wetland specialists.

Thirteen species were recorded during the winter 2019 survey that were not recorded in the spring 2018 surveys.

Table 5.14. Average data compared between the two bird assemblage monitoring events.

Average data	Birds recorded within the survey area				Total birds recorded outside survey area
	Total birds	Woodland birds	Grassland birds	Generalist birds	
Wandewoi					
2018 Avg Woodland	9	6.25	0.75	2	2.5
2019 Avg Woodland	9.25	7	1	1.25	6.25
2018 Avg Grassland	2	0.5	0.5	1	9.5
2019 Avg Grassland	1.5	0.25	0.75	0.5	7.25
Mitchelhill					
2018 Avg Woodland	11.2	9.8	0	1.3	6.2
2019 Avg Woodland	5.67	5	0	0.67	9.67
2018 Avg Grassland	5.8	4.4	0.2	1	6.6
2019 Avg Grassland	6.6	5.2	0.4	1	9.2
Hook					
2018 Avg Woodland	7.5	5.75	0	1.75	6
2019 Avg Woodland	2	2	0	0	3
2018 Avg Grassland	6.25	4	0	2.25	5.75
2019 Avg Grassland	2.25	2	0	0.25	4.5

Condon View

Bird surveys at Condon View have also been undertaken. As with the other BAs, no Swift Parrots or Regent Honeyeaters were detected. The Bionet Atlas of NSW Wildlife (OEH 2016) hold significant historical records of Regent Honeyeater in close proximity to the Condon View BA, although there was a lack of nectar at the time of these surveys. Only *Eucalyptus elata* was noted to be flowering and this is not generally a recognised food tree. A supplementary investigation of the known sites in the Putty area failed to locate any Regent Honeyeaters.

Other significant species were recorded within the Condon View BA as outlined in Table 5.15.

Table 5.15. Locations where threatened species were observed and numbers of individuals recorded at Condon View BA.

Species	CMZA1	CMZA2	CMZA3	CMZA4	CMZB4
Gang-gang Cockatoo *Callocephalon fimbriatum*				Nearby	
Little Lorikeet *Glossopsitta pusilla*	Nearby		Nearby		Nearby
Speckled Warbler *Chthonicola sagittata*				1	
Varied Sittella *Daphoenositta chrysoptera*		Nearby		4	
Dusky Woodswallow *Artamus cyanopterus*				2	

Note. This data was sourced from the annual report for the Warkworth Mine EPBC 2002/629 Regional Biodiversity Area Annual Report 2018. The monitoring point applicable to the HVO EPBC 2016/7640 offset is CMZA4.

6 Vegetation Clearance Plan

The Vegetation Clearance Plan (VCP) was implemented following the Minister's approval of the Plan on 24 October 2016. The VCP provides for the effective implementation of measures to manage CHVEF, Regent Honeyeater, Swift Parrot and Green and Golden Bell Frog during the vegetation clearance for the approved action and was prepared to meet conditions 1, 2, 21 and 22 of EPBC 2016-7640.

Condition 1 of EPBC 2016/7640 states that HVO must not clear more than 54.4 ha of CHVEF from within the Riverview Pit EPBC boundary and 6.6 ha of CHVEF from within the West Pit EPBC boundary.

HVO has, in total, cleared 27.79 ha of CHVEF from Riverview Pit and 1.41 ha of CHVEF from West Pit. All vegetation clearing was restricted to within the State and Commonwealth approved project boundaries.

The VCP is initially managed through HVO's Ground Disturbance Permit process whereby pre-clearance checks and conditions are applied prior to any disturbance or on-ground works. Conditional approvals are applied to each permit which include specific requirements to comply with the surveys and processes outlined in the VCP.

No surveys have recorded the Regent Honeyeater, Swift Parrot or the Green and Golden Bell Frog (adults, metamorphs or tadpoles) as residing or traversing across the EPBC area.

More details are outlined in the compliance table in Section 2.

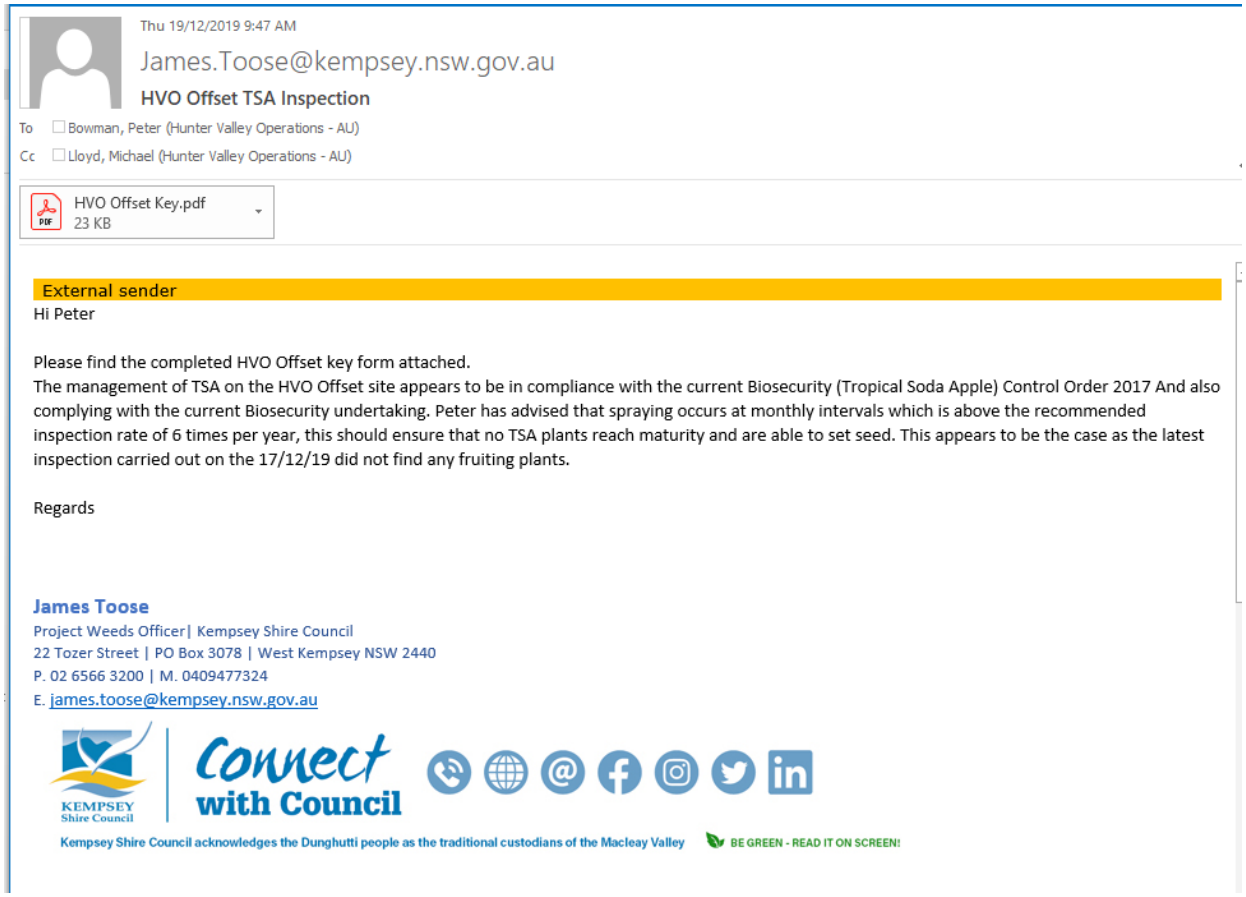
7 References

Department of Environment and Climate Change (DECC) (2008), *Best practice guidelines for the Green and Golden Bell Frog*, Department of Environment and Climate Change MSW, Sydney.

Department of the Environment (2015) Approved Conservation Advice (including the listing advice) for the Central Hunter Valley eucalypt forest and woodland ecological community. Canberra Department of the Environment. Accessed at http://www.environment.gov.au/biodiversity/threatened/communities/pubs/130-conservationadvice.

Appendix A - Tropical Soda Apple Management

Although out of scope of this compliance report, the email below was received from Kempsey Council Weeds Officer following an inspection of the Crescent Head North BA to assess the management of the Tropical Soda Apple population that was identified within the BA.



Thu 19/12/2019 9:47 AM

James.Toose@kempsey.nsw.gov.au

HVO Offset TSA Inspection

To Bowman, Peter (Hunter Valley Operations - AU)

Cc Lloyd, Michael (Hunter Valley Operations - AU)

HVO Offset Key.pdf
23 KB

External sender

Hi Peter

Please find the completed HVO Offset key form attached.
The management of TSA on the HVO Offset site appears to be in compliance with the current Biosecurity (Tropical Soda Apple) Control Order 2017 And also complying with the current Biosecurity undertaking. Peter has advised that spraying occurs at monthly intervals which is above the recommended inspection rate of 6 times per year, this should ensure that no TSA plants reach maturity and are able to set seed. This appears to be the case as the latest inspection carried out on the 17/12/19 did not find any fruiting plants.

Regards

James Toose
Project Weeds Officer| Kempsey Shire Council
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P. 02 6566 3200 | M. 0409477324
E. james.toose@kempsey.nsw.gov.au

KEMPSEY Shire Council | Connect with Council

Kempsey Shire Council acknowledges the Dunghutti people as the traditional custodians of the Macleay Valley

BE GREEN - READ IT ON SCREEN!