



Warkworth Mining Limited

EPBC 2002/629 and EPBC 2009/5081

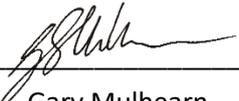
Annual Compliance Report 1 February 2022 to 31 January 2023

Date of Submission: 3 May 2023

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.

I declare that all the information presented in this compliance report is technically accurate.

Signed  _____
Full name Gary Mulhearn
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Organisation Warkworth Mining Limited (ABN 42 001 385 842)
Date 3 May 2023

Document Title	Version	Date effective	Comment
Annual Compliance Report (EPBC2002/629 and EPBC2009/5081)	1	3 May 2023	Submitted to DCCEEW

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List of Attachments

ATTACHMENT A: Regional Offset Management Plan Annual Report 2022

ATTACHMENT B: Local Offset Management Plan Annual Report 2022

ATTACHMENT C: EPBC 2009/5081 Compliance Register (Condition 17)

1. Introduction

1.1 Objective

This annual Compliance Report has been prepared in accordance with the *Annual Compliance Report Guidelines* (Commonwealth of Australia 2014) to satisfy Condition 4 of the EPBC 2002/629 Approval and Condition 15 of the EPBC 2009/5081 Approval, for the period 1 February 2022 to 31 January 2023 (reporting period). Both Approvals are held by Warkworth Mining Limited (WML) which is operated by Coal & Allied (NSW) Pty Ltd, a wholly owned subsidiary of Yancoal Australia Limited (YAL).

1.2 Background

WML holds development consent SSD-6464 to construct and operate an open cut coal mine, located approximately 15 kilometres southwest 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), has issued two approvals to WML to construct, operate and extend the open cut coal mine, the first in February 2004 (EPBC 2002/629) and the second in August 2012 (EPBC 2009/5081).

The EPBC 2002/629 approval (as varied) requires WML to offset the impact upon Matters of National Environmental Significance (MNES) by protecting and managing no less than 1,586 hectares (ha) of habitat for the Regent Honeyeater (*Anthochaera phrygia*) and Swift Parrot (*Lathamus discolor*).

The EPBC 2009/5081 approval (as varied) requires WML to offset the MNES by protecting and managing a total of no less than 2,626 ha, of habitat for the Regent Honeyeater (*Anthochaera phrygia*) and Swift Parrot (*Lathamus discolor*). There are also conditions relating to water management and rehabilitation on the mine site.

The Offset Areas for each of the EPBC approvals are presented in **Table 1**.

Table 1 Location and size of the EPBC Offset Areas

Locality	Biodiversity Area	Offset Area (ha)	EPBC2002/629	EPBC2009/5081 Phase 1	EPBC2009/5081 Phase 2
Local	Southern (Putty Road Offset Area)	94		94	
	Southern	892			892
	Southern Total	986		94	892
	Northern	341			341
Regional	North Rothbury	41			41
	Goulburn River	1,066	1,066		
	Bowditch	520	520		
	Bowditch	82			82
	Putty	383			383
	Seven Oaks	519			519
	Condon View	345			345
Total		4,282	1,586	94	2,602

2. Condition Compliance

2.1 EPBC 2002/629

EPBC2002/629 Condition Number	Condition	Compliance status	Evidence/Comments (Goulburn River BA, Bowditch BA)
1	<p>By no later than 31 July 2020, the person taking action must register the Biodiversity Management Areas identified in the map at Attachment A under a legally secured offset mechanism. The mechanism must provide enduring protection of no less than</p> <p>a) 1,586 ha of suitable habitat for <i>Anthochaera phrygia</i> (regent honeyeater) and <i>Lathamus discolor</i> (swift parrot).</p> <p>Evidence of registration must be provided to the Department within 30 days of registration of the legally binding covenant.</p>	Pending	<p>A request was sent to the Department of the Environment and Energy (DoEE) on 7 December 2017 to extend the due date for a legally binding conservation covenant over the biodiversity areas beyond 17 February 2018. The request was sought on the basis of aligning the timeframe with the NSW Project Approval SSD 6464. DoEE advised by email on 28 February 2018, that given the request was submitted well in advance of 17 February 2018, that no non-compliance would be recorded. After additional consultation and correspondence with DoEE and the NSW Office of Environment and Heritage (OEH), further information was sent to DoEE on 11 September 2018 which noted that WML has been working with the OEH to secure the offsets as Biodiversity Stewardship Agreement (BSA's) pursuant to the Biodiversity Conservation Act 2016. As this Act commenced in August 2017, many of the systems, processes and transitional arrangements were being developed by OEH and the newly created Biodiversity Conservation Trust (BCT). WML had consulted with OEH and developed a timeline to step through the process to register the BSA's, and an extension request was sent to DoEE based on the proposed timeline.</p> <p>Approval from DoEE was received on 14/10/2018, with reference to the 7 December 2017 extension request, for the variation to condition 1 to extend the timeframe by which legally binding covenants must be registered over the offset sites to 31 July 2020.</p> <p>Due to ongoing difficulties in reaching agreement with the NSW Biodiversity and Conservation Division (BCD) on whether the proposed offsets properties meet the species and ecosystem credit retirement requirements of the MTW State Approvals a further extension was sought. MTW sent a letter (dated 24 July 2020) to Department of Agriculture, Water and the Environment (DAWE) requesting an extension of the timeframe to secure the offset areas until 31 July 2021. DAWE responded on 3 August 2020 acknowledging that MTW had contacted DAWE to remedy the potential breach of conditions of approval and that due to the high volume of approval requests it would take some time to respond to this request. DAWE responded to MTW on 7 October 2020 that the proposed timeframe for completion of the legally binding conservation mechanism process was too short and recommended that MTW review</p>

EPBC2002/629 Condition Number	Condition	Compliance status	Evidence/Comments (Goulburn River BA, Bowditch BA)
2	<p>To offset the impacts to the regent honeyeater and swift parrot, the person taking the action must submit to the Minister for approval an Offset Management Plan (OMP) for all of the Biodiversity Management Areas by no later than 13 April 2014.</p> <p>The OMP must include, but not be limited to, the following information:</p>	Compliant	<p>the schedule for completion. This request is still being progressed as MTW has not been able to reach agreement with NSW Department of Planning and Environment (DPE) and BCD on the mechanism/timing for retiring credits and securing the offsets.</p> <p>MTW submitted an administrative modification to NSW development consent SSD-6464 on 29 April 2021 to clarify biodiversity offset requirements for the Warkworth Continuation Project and to facilitate in-perpetuity conservation of biodiversity offset land. The Department of Planning and Environment (DPE) requested additional information on 9 August 2021 and further information on 11 October 2021, MTW provided responses to these requests on 2 September 2021 and 20 December 2021, respectively. Through these interactions DPE has suggested MTW enter into a Biodiversity Stewardship Agreement (BSA) as a mechanism to retire “credits” and to provide “in perpetuity” security. MTW maintain opposition to entering into a BSA because the BCAM credits calculated in 2015 under the BBAM as modified by the Upper Hunter strategic Assessment do not translate to credits calculated under the new BAM, which would be required to satisfy a BSA. MTW is continuing to propose securing of the offset lands through the registering of positive and restrictive covenants on title. This is the only mechanism that MTW are aware of which provides security in perpetuity without requiring MTW to incur significant additional and unnecessary survey costs and without the need to fund a “total fund deposit”. Registering covenants on title has been accepted by DPE as being appropriate at several Yancoal mines to provide long term security of biodiversity offset land.</p> <p>Further to a meeting in June 2021 between representatives from Yancoal and Department of Agriculture, Water and the Environment (DAWE) and in light of the ongoing discussions with DPE, MTW formally requested a variation to Warkworth Mine approvals EPBC 2002/629 and EPBC 2009/5081 to allow for an extension of the timeframe to secure the Warkworth Mine’s offset areas until 31 July 2023. Background information and justification for MTW’s request was provided with the application in October 2021 to assist with the DAWE’s consideration of the variation request.</p> <p>Regional Offset Management Plan (ROMP) submitted to the Environment Assessment Branch of Department of Environment (DoE) for Minister approval 14 April 2014 (13 April 2014 was a Sunday). Regional OMP approved by Minister 06 August 2014.</p> <p>The Independent Audit completed in 2015 indicated that separate Offset Management Plans for Bowditch and Goulburn River BAs would be preferable. In addition, separate plans are required for the legally binding mechanism. Therefore, in February 2017 individual plans were submitted to the Department for approval. In</p>

EPBC2002/629 Condition Number	Condition	Compliance status	Evidence/Comments (Goulburn River BA, Bowditch BA)
			<p>response to comments received from the Department of Environment and Energy (DoEE), a further three versions of the individual plans were submitted during 2017. The final revision, submitted to DoEE in December 2017, was approved on 16 February 2018.</p>
			<p>The Goulburn River and Bowditch BA Management Plans were revised and submitted to DPE for approval in July 2022. The revisions were approved by DPE on 12 August 2022.</p>
2a	<p>a textual description and map to clearly define the location and boundaries of all of the Biodiversity Management Areas. This must be accompanied with the offset attributes and a shapefile</p>	Compliant	Section 2.1 MP Location and Description
2b	<p>details of management actions to protect and enhance the extent and condition of habitat values of the offset areas including but not limited to rehabilitation, weed control, fire management, erosion and sediment control, management of livestock and restrictions on access of no less than 1,586 hectares of habitat for the regent honeyeater and swift parrot</p>	Compliant	Section 3 Objectives, Key Performance Indicators and Completion Criteria and Section 4 Conservation Management Actions of the MP.
2c	<p>the timing, responsibilities and performance criteria for management actions</p>	Compliant	Section 4 Conservation Management Actions of the MP.
2d	<p>a monitoring plan including the undertaking of ecological surveys by a qualified ecologist to assess the success of the management actions against identified milestones and objectives</p>	Compliant	Section 5 Monitoring of the MP.
2e	<p>a process to report, to the department, the management actions undertaken in the offset areas and the outcome of those actions, including identifying any need for improved management</p>	Compliant	Section 1.3 Function of the MP.
2f	<p>a description of the potential risks to successful management and rehabilitation in the offset areas, and a description of the contingency measures that would be implemented to mitigate these risks</p>	Compliant	Section 4 Conservation Management Actions of the MP.
2g	<p>details of parties responsible for management, monitoring and implementing the plan, including their position or status as a separate contractor.</p>	Compliant	Section 1.3.2 Key Stakeholders and Roles.

EPBC2002/629 Condition Number	Condition	Compliance status	Evidence/Comments (Goulburn River BA, Bowditch BA)
	The approved OMP must be implemented. The person taking the action must publish the approved OMP on their website within 1 month of the OMP being approved by the Minister. The approved OMP must remain published until the expiry of the approval or until such time as agreed in writing by the Minister.	Compliant	<p>The <i>Regional Offset Management Plan Annual Report 2021 (Attachment A)</i> provides a summary of the management and monitoring activities completed in 2021.</p> <p>Approved Regional Offset Management Plan was originally published on Rio Tinto Coal Australia website on 5 September 2014 and is now published on the Yancoal Australia Insite website at the link below.</p> <p>https://insite.yancoal.com.au/asset/download/150/ff0efb/warkworth-regionaloffsetmanagementplan-062014-1.pdf</p> <p>The Regional Offset Management Plan has now been superseded by individual management plans for the relevant Biodiversity Areas. The current Offset Management Plans are published on the Yancoal MTW website at the link below:</p> <p>https://www.mtwcoal.com.au/page/environment/environmental-management-plans/</p>
	Note: For clarity, the Biodiversity Management Areas in condition 1 and identified on the map in Attachment A can accommodate offset requirements for more than one species habitat within the one area, if a qualified ecologist verifies that suitable habitat is present and includes specific habitat requirements for the relevant species.		
3	The Compliance Report (referred to in condition 4) due in 2015, and Compliance Reports due in each subsequent fifth year until the expiry of the approval, must be audited by an independent auditor. Prior to the commencement of each audit, the independent auditor and the audit criteria must be approved by the Department.	Complaint	<p>The 2015 Compliance Report was audited in 2015 by an independent auditor (Peter Horn), approved by DoE on 24 July 2015.</p> <p>The Independent Audit report was sent to DoE on 20 October 2015.</p> <p>The 2019 Compliance Report was audited by an independent auditor (Hansen Bailey), approved by DPE on 27 – 30 April 2020.</p> <p>The Independent Audit Report was sent to DoE on 17 July 2020.</p> <p>The next audit is due in 2023.</p>
4	Within three months of every 12 month anniversary of the Commencement of Construction, the person taking the action must publish a report (the Compliance Report) on their website addressing compliance with each of the conditions of this approval, including implementation of any 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	Compliant	This report. Commencement of Construction June 2004.

EPBC2002/629 Condition Number	Condition	Compliance status	Evidence/Comments (Goulburn River BA, Bowditch BA)
	<p>the Compliance Report is published. The person taking the action must also notify any non-compliance with this approval to the department in writing within 2 business days of becoming aware of the non-compliance. The person taking the action must continue to annually publish the Compliance Report until such time as agreed in writing by the Minister.</p>		
5	<p>If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans, as specified in the conditions, the person taking the action must submit to the department for the Minister's written approval a revised version of that plan. The varied activity shall not commence until the Minister has approved the revised plan in writing. If the Minister approves the revised plan that plan must be implemented in place of the plan originally approved.</p>	Compliant	<p>Individual management plans were submitted to the Department for approval in February 2017 and subsequent revisions were submitted in December 2017. The final revisions were approved on 16 February 2018.</p> <p>The Goulburn River and Bowditch BA Management Plans were revised and submitted to DPE for approval in July 2022. The revisions were approved by DPE on 12 August 2022.</p>
6	<p>If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and communities or listed migratory species to do so, the Minister may require that the person taking the action make specified revisions to a management plan specified in the conditions and submit the revised plan for the Minister's written approval.</p> <p>The revised approved plan must be implemented. Unless the Minister has approved the revised plan the person taking the action must continue to implement the originally approved plan, as specified in the conditions.</p>	Compliant	<p>Comments on the individual management plans were received from DoEE on 13/04/2017 and 22/06/2017. Agreed changes were made to the revised management plans submitted in December 2017.</p>

2.2 EPBC 2009/5081

EPBC2009/5081 Condition Number	Condition	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
1	<p>To offset the impact on the foraging habitat for <i>Anthochaera Phrygia</i> (regent honeyeater) and <i>Lathamus discolor</i> (swift parrot), the person taking the action must register a legally binding conservation mechanism over 94ha of land, as illustrated in the map at Attachment A as the Phase 1 Offset. The conservation mechanism must provide enduring protection for the Phase 1 Offset (Putty Road) and must be registered by 31 July 2020.</p> <p>Evidence of registration must be provided to the Department within 30 days of registration of the legally binding conservation mechanism.</p>	Pending	<p>A request was sent to DoEE on 7 December 2017 to extend the due date for a legally binding conservation covenant over the biodiversity areas beyond 17 February 2018. The request was sought on the basis of aligning the timeframe with the NSW Project Approval SSD 6464. DoEE advised by email on 28 February 2018, that given the request was submitted well in advance of 17 February 2018, that no non-compliance would be recorded. After additional consultation and correspondence with DoEE and the NSW Office of Environment and Heritage (OEH), further information was sent to DoEE on 11 September 2018 which noted that WML has been working with the OEH to secure the offsets as Biodiversity Stewardship Agreement (BSA's) pursuant to the Biodiversity Conservation Act 2016. As this Act commenced in August 2017, many of the systems, processes and transitional arrangements are being developed by OEH and the newly created Biodiversity Conservation Trust (BCT). WML had consulted with OEH and developed a timeline to step through the process to register the BSA's, and an extension request was sent to DoEE based on the proposed timeline.</p> <p>Approval from DoEE was received on 14/10/2018, with reference to the 7 December 2017 extension request, for the variation to condition 1 to extend the timeframe by which legally binding covenants must registered over the offset sites to 31 July 2020.</p> <p>Due to ongoing difficulties in reaching agreement with the NSW Biodiversity and Conservation Division (BCD) on whether the proposed offsets properties meet the species and ecosystem credit retirement requirements of the MTW State Approvals a further extension has been sought. MTW sent a letter (dated 24 July 2020) to Department of Agriculture, Water and the Environment (DAWE) requesting an extension of the timeframe to secure the offset areas until 31 July 2021. DAWE responded on 3 August 2020 acknowledging that MTW had contacted DAWE to remedy the potential breach of conditions of approval and that due to the high volume of approval requests it would take some time to respond to this request. DAWE responded to MTW on 7 October 2020 that the proposed timeframe for completion of the legally binding conservation mechanism process was too short and recommended that MTW review the schedule for completion. This request is still being progressed as MTW has not been able to reach agreement with NSW Department of Planning and Environment (DPE) and BCD on the mechanism/timing for retiring credits and securing the offsets.</p>

EPBC2009/5081 Condition Number	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
		<p>MTW submitted an administrative modification to NSW development consent SSD-6464 on 29 April 2021 to clarify biodiversity offset requirements for the Warkworth Continuation Project and to facilitate in-perpetuity conservation of biodiversity offset land. The Department of Planning and Environment (DPE) requested additional information on 9 August 2021 and further information on 11 October 2021, MTW provided responses to these requests on 2 September 2021 and 20 December 2021, respectively. Through these interactions DPE has suggested MTW enter into a Biodiversity Stewardship Agreement (BSA) as a mechanism to retire “credits” and to provide “in perpetuity” security. MTW maintain opposition to entering into a BSA because the BCAM credits calculated in 2015 under the BBAM as modified by the Upper Hunter strategic Assessment do not translate to credits calculated under the new BAM, which would be required to satisfy a BSA. MTW is continuing to propose securing of the offset lands through the registering of positive and restrictive covenants on title. This is the only mechanism that MTW are aware of which provides security in perpetuity without requiring MTW to incur significant additional and unnecessary survey costs and without the need to fund a “total fund deposit”. Registering covenants on title has been accepted by DPE as being appropriate at several Yancoal mines to provide long term security of biodiversity offset land.</p> <p>Further to a meeting in June 2021 between representatives from Yancoal and Department of Agriculture, Water and the Environment (DAWE) and in light of the ongoing discussions with DPE, MTW formally requested a variation to Warkworth Mine approvals EPBC 2002/629 and EPBC 2009/5081 to allow for an extension of the timeframe to secure the Warkworth Mine’s offset areas until 31 July 2023. Background information and justification for MTW’s request was provided with the application in October 2021 to assist with the DAWE’s consideration of the variation request.</p>
<p>2 To offset the impacts on the foraging habitat of the regent honeyeater and swift parrot, the person taking the action must submit to the Minister for approval an Offset Management Plan (OMP) for the Phase 1 Offset identified in Attachment A by no later than 13 April 2014.</p> <p>The OMP must include, but not be limited to the following:</p>	Compliant	<p>Draft Putty Road Offset - Offset Management Plan (OMP) submitted to Department of Environment and Energy (DoEE) 14 April 2014 (13 April was a Sunday). DoEE approval of Putty Road Offset OMP dated 4 July 2014. In February 2017 a Southern BA Offset Management Plan was submitted to the Department for approval, as it contains the Phase 1 Offset (Putty Road Offset Area) and the Phase 2 Offset. This plan is to be used as part of the legally binding mechanism to secure both the Phase 1 and 2 Offsets. A revised version of the Southern BA Management Plan was submitted to DoEE in December 2017 to address comments provided by DoEE on the February 2017 version. The Southern BA Management Plan was approved by DoEE on 16 February 2018.</p> <p>The Southern BA Management Plan was reviewed and submitted in November 2020. The revisions were approved by DPE on 20 July 2021.</p>

EPBC2009/5081 Condition Condition Number	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
		The Southern BA Management Plan was reviewed and submitted in July 2022. The revisions were approved by DPE on 12 August 2022.
2a	Compliant	Section 2.1 Location and description of the MP
2b	Compliant	Section 3 Objectives, Key Performance Indicators and Completion Criteria and Section 4 Conservation Management Actions of the MP.
2c	Compliant	Section 4 Conservation Management Actions of the MP.
2d	Compliant	Section 5 Monitoring of the MP.
2e	Compliant	Section 1.3.2 Key Stakeholders and Roles.
2f	Compliant	Section 4 Conservation Management Actions and Section 6 Risk Assessment of the MP.
2g	Compliant	Section 1.3.2 Key Stakeholders and Roles.
	Compliant	Implementation of the conservation management strategies and monitoring as described in the Putty Road OMP and the broader Local OMP is supported by their Annual Reports. The Local OMP describes the management of the area surrounding the Putty Road Offset, this area is referred to as the Southern Biodiversity Area.
		The approved OMP must be implemented. Note: Offset areas can accommodate offset requirements for more than one species habitat within the one area, if a qualified ecologist verifies that suitable habitat is present and includes specific habitat requirements for the relevant species.

EPBC2009/5081 Condition Number	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
3	Compliant	<p>The <i>Local Offset Management Plan Annual Report 2022 (Attachment B)</i> provides a summary of the management and monitoring activities completed in 2022.</p> <p>Submission of the Phase 2 offsets details was on the 12 January 2016. Approval of Phase 2 offsets was 17 February 2016.</p>
4	Pending	<p>To offset the impacts on the foraging habitat of the Regent Honeyeater and Swift Parrot, the person taking the action must register a legally binding conservation mechanism on all Phase 2 offsets by 31 July 2020.</p> <p>Evidence of registration must be provided to the Department within 30 days of registration of the legally binding conservation mechanism.</p> <p>A request was sent to DoEE on 7 December 2017 to extend the due date for a legally binding conservation covenant over the biodiversity areas beyond 17 February 2018. The request was sought on the basis of aligning the timeframe with the NSW Project Approval SSD 6464. DoEE advised by email on 28 February 2018, that given the request was submitted well in advance of 17 February 2018, that no non-compliance would be recorded. After additional consultation and correspondence with DoEE and the NSW Office of Environment and Heritage (OEH), further information was sent to DoEE on 11 September 2018 which noted that WML has been working with the OEH to secure the offsets as Biodiversity Stewardship Agreement (BSA's) pursuant to the Biodiversity Conservation Act 2016. As this Act commenced in August 2017, many of the systems, processes and transitional arrangements are being developed by OEH and the newly created Biodiversity Conservation Trust (BCT). WML had consulted with OEH and developed a timeline to step through the process to register the BSA's, and an extension request was sent to DoEE based on the proposed timeline.</p> <p>Approval from DoEE was received on 14/10/2018, with reference to the 7 December 2017 extension request, for the variation to condition 4 to extend the timeframe by which legally binding covenants must be registered over the offset sites to 31 July 2020.</p>

EPBC2009/5081 Condition Condition Number	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
		<p>Due to ongoing difficulties in reaching agreement with the NSW Biodiversity and Conservation Division (BCD) on whether the proposed offsets properties meet the species and ecosystem credit retirement requirements of the MTW State Approvals a further extension has been sought. MTW sent a letter (dated 24 July 2020) to Department of Agriculture, Water and the Environment (DAWE) requesting an extension of the timeframe to secure the offset areas until 31 July 2021. DAWE responded on 3 August 2020 acknowledging that MTW had contacted DAWE to remedy the potential breach of conditions of approval and that due to the high volume of approval requests it would take some time to respond to this request. DAWE responded to MTW on 7 October 2020 that the proposed timeframe for completion of the legally binding conservation mechanism process was too short and recommended that MTW review the schedule for completion. This request is still being progressed as MTW has not been able to reach agreement with NSW Department of Planning and Environment (DPE) and BCD on the mechanism/timing for retiring credits and securing the offsets</p> <p>MTW submitted an administrative modification to NSW development consent SSD-6464 on 29 April 2021 to clarify biodiversity offset requirements for the Warkworth Continuation Project and to facilitate in-perpetuity conservation of biodiversity offset land. The Department of Planning and Environment (DPE) requested additional information on 9 August 2021 and further information on 11 October 2021, MTW provided responses to these requests on 2 September 2021 and 20 December 2021, respectively. Through these interactions DPE has suggested MTW enter into a Biodiversity Stewardship Agreement (BSA) as a mechanism to retire “credits” and to provide “in perpetuity” security. MTW maintain opposition to entering into a BSA because the BCAM credits calculated in 2015 under the BBAM as modified by the Upper Hunter strategic Assessment do not translate to credits calculated under the new BAM, which would be required to satisfy a BSA. MTW is continuing to propose securing of the offset lands through the registering of positive and restrictive covenants on title. This is the only mechanism that MTW are aware of which provides security in perpetuity without requiring MTW to incur significant additional and unnecessary survey costs and without the need to fund a “total fund deposit”. Registering covenants on title has been accepted by DPE as being appropriate at several Yancoal mines to provide long term security of biodiversity offset land.</p> <p>Further to a meeting in June 2021 between representatives from Yancoal and Department of Agriculture, Water and the Environment (DAWE) and in light of the ongoing discussions with DPE, MTW formally requested a variation to Warkworth</p>

EPBC2009/5081 Condition Number	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
5	Compliant	<p>Mine approvals EPBC 2002/629 and EPBC 2009/5081 to allow for an extension of the timeframe to secure the Warkworth Mine's offset areas until 31 July 2023. Background information and justification for MTW's request was provided with the application in October 2021 to assist with the DAWE's consideration of the variation request.</p> <p>The OMP is to be revised to include the approved Phase 2 offsets on or before 17 February 2017.</p> <p>Plans were submitted for approval on 15 February 2017 for the Southern, Northern, North Rothbury, Seven Oaks, Condon View and Putty BAs.</p> <p>The Southern and Northern BA Plans were reviewed and submitted November 2020. The revisions were approved by DPE on 20 July 2021.</p> <p>The Southern, Northern, North Rothbury, Seven Oaks, Condon View and Putty BA Management Plans were reviewed and submitted in July 2022. The revisions were approved by DPE on 12 August 2022.</p>
Re-establishment of Woodland in Biodiversity Management and Offset Areas		
6	Compliant	<p>Draft Putty Road Offset REP submitted to DoE 2 February 2015.</p> <p>Comments were received on the 18 July 2016.</p> <p>WML sought approval to address these comments in the Southern BA Management Plan, which was submitted on 15 February 2017. This plan includes a compliance table to show that all elements of this condition are met.</p> <p>The <i>Local Offset Management Plan Annual Report 2022 (Attachment B)</i> provides a summary of the management and monitoring activities completed in 2022.</p>

EPBC2009/5081 Condition Condition Number	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)	
<ul style="list-style-type: none"> b. documentation including mapping of current environmental values relevant to MNES of the re-establishment areas; c. where revegetation through planting seedlings and/or seeds is intended, details of appropriate species and ratios of species relevant to historically occurring listed migratory and listed threatened species' habitat; d. the source and provenance of the seeds and/or seedlings which will be used; e. measures to address threats to MNES including but not limited to grazing pressure and damage by livestock and adverse impacts from feral animals and weeds; f. measures to provide fire management regimes appropriate for the MNES; g. measures to manage the MNES in accordance with the recommendations of the approved recovery plan for the migratory and threatened species; h. monitoring measures including ecological surveys to measure the establishment and ongoing success of the revegetation based on a comparison with high quality habitat for the MNES; i. performance measures and reporting requirements against identified objectives, including trigger levels for contingency measures to be taken to ensure performance measures and objectives are met; and j. identify persons responsible and arrangements for implementing the REP and for reporting on performance. 			
<p>The approved REP must be implemented.</p>			
7	The approved REP, as described in condition 6, must be revised by the person taking the action to include at least those activities as	Compliant	The REP is to be revised to include the approved Phase 2 offsets on or before 16 February 2017.

EPBC2009/5081 Condition Condition Number	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
		<p>The Management Plans submitted for the Southern, Northern, North Rothbury, Seven Oaks, Condon View and Putty BAs on 15 February 2017 for approval. These plans contained the requirements of the REP and include a compliance table to show that all elements of this condition are met.</p>
8	Compliant	<p>As a precautionary approach, the person taking the action must within 6 months of the date of this approval, or such other timeframe as specified in writing by the Minister, provide to the Minister any NSW Government approved water management plans which apply to the approved action.</p> <p>Water Management Plan (WMP) approved by NSW regulator 10 September 2014. A copy of the WMP was sent to DoEE on 15 September 2014. No request has been received by DoEE to provide further copies of the WMP.</p> <p>The Water Management Plan was revised and submitted to NSW Department of Planning and Environment (DPE) on 2/12/2015 following the WML and MTO Continuation Approvals. It was subsequently approved on 29/1/2016. A minor revision to update monitoring programmes was completed on 21/3/2016. A major revision was submitted to DPE on 16/5/2017, following the incorporation of stream and riparian health monitoring in Wollombi Brook and Loders Creek. The plan was approved 26 June 2017. The WMP was revised and submitted to DPE on 30 November 2017 to reflect the change to Yancoal ownership. The plan was approved 12 February 2018. The WMP was revised and submitted to DPE on 27 July 2018 following the Annual Review submission. Changes were made on 18 September 2018 in response to DP&E feedback and the revised plan was approved 20 September 2018.</p> <p>The WMP was reviewed and submitted to DPE on 30 April 2020 to include revised water management classifications following regulatory feedback and updates to HRSTS content. The revised plan was approved 13 May 2020.</p> <p>The WMP was reviewed and submitted to DPE on 28 July 2020 to include updated monitoring programmes revised triggers. An additional update was submitted on the 31 October 2021 and included the monitoring programmes revised triggers and surface water and groundwater monitoring location plans, and the incorporation of DPE feedback on rehabilitation runoff and water management infrastructure figures. Updates were also made to HRSTS licence discharge limits to align with current Environmental Protection Licences and change website references. The revised plan was approved 15 November 2021.</p> <p>The latest version of the WMP can be found at https://www.mtwcoal.com.au/page/environment/environmental-management-plans/</p>

EPBC2009/5081 Condition Number	Condition	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
9	<p>The person taking the action must within 6 months of the date of this approval, or such other timeframe as specified by the Minister, provide to the Minister a report on:</p> <ul style="list-style-type: none"> a. any updated modelling of surface and groundwater impacts that have been undertaken in preparing the water management plans b. how the water management plans have addressed groundwater and surface water impacts on nationally listed threatened species and ecological communities 	Compliant	These conditions are addressed in the WMP (refer Condition 8).
10	<p>If, after receiving the water management plans described in condition 8 and the report in condition 9, the Minister is not satisfied the water management plans adequately address impacts on listed threatened species and ecological communities, the Minister may require in writing that the person taking the action provide additional information within a specified timeframe.</p>	Not triggered	
11	<p>The person taking the action must, within 12 months of the Commencement of Construction of Phase 1, and within 12 months of the Commencement of Construction of Phase 2, submit to the Minister for approval a Mine Site Rehabilitation Plan (MSRP) for the progressive rehabilitation and revegetation of no less than 32ha woodland of mined areas for Phase 1 and 2,303ha of woodland habitat on mined areas for Phase 2.</p> <p>The MSRP must include, at a minimum, the following information:</p> <ul style="list-style-type: none"> a. the desired outcomes/objectives of implementing the MSRP b. details of the vegetation communities to be rehabilitated and the timing of progressive rehabilitation c. a process to progressively report to the department the rehabilitation management actions undertaken and the outcome of those actions, and the mechanisms to be used to identify the need for improved management d. a description of the potential risks to successful management and rehabilitation on the project site, and a description of the 	Compliant	<p>The Mine Site Rehabilitation Plan (MSRP) was contained within the Mining Operations Plans; a copy of which was submitted to DoEE 2 February 2015.</p> <p>Feedback was received from DoEE on the 18 July 2016.</p> <p>Approval was received to address these comments in the next revision of the Mining operations Plan. The revised Mining Operations Plan was submitted to DoEE for approval on 23 May 2019. Approval from DoEE was received on 11 March 2020.</p> <p>The revised Mining Operations Plan was submitted to DoEE on 18 November 2021. Approval from DoEE was received on 30 November 2021.</p> <p>Rehabilitation Management Plans are required to be prepared under the new standard rehabilitation conditions on mining leases. The Rehabilitation Management Plan was prepared on 28 July 2022. This document takes the place of the Mining Operations Plan.</p> <p>MTW is waiting for a response from Resources Regulator on the associated Rehabilitation Objectives Statement and Final Landform and Rehabilitation Plan. In response to this feedback, an updated Rehabilitation Management Plan will be prepared and submitted to Department of Climate Change, Energy, the Environment and Water (DCCEEW)..</p>

EPBC2009/5081 Condition Condition Number	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
<p>contingency measures that would be implemented to mitigate these risks</p> <p>e. details of parties responsible for reviewing and implementing the plan</p> <p>f. details of long term management and protection of the mine site</p> <p>The approved MSRP must be implemented.</p>		
<p>12 The person taking the action must submit to the Minister for approval a Mine Closure Plan (MCP) at least 6 months prior to the closure of the mine. The approved MCP must be implemented. Note: The person taking the action may develop a single mine rehabilitation plan to align with the requirements of this approval and those of the NSW Government.</p>	Not triggered	
<p>13 All survey data collected for the project must be collected and recorded so as to conform to data standards notified from time to time by the department. When requested by the department, the person taking the action must provide to the department all species and ecological survey data and related survey information from ecological surveys undertaken for MNES. This survey data must be provided within 30 business days of request, or in a timeframe agreed to by the department in writing. The department may use the survey data for other purposes.</p>	Compliant	<p>All survey data is retained by WML, the offset data is stored within the Biodiversity Offset Portal. Access to the portal was provided to DoEE in 2015.</p> <p>No requests for survey data have been received.</p>
<p>14 Within 14 days after the Commencement of Construction of Phases 1 and 2, the person taking the action must advise the department in writing of the actual date of Commencement of Construction.</p>	Compliant	<p>Phase 1 construction commenced on 3 February 2014 and WML notified DoEE in writing on 13 February 2014.</p> <p>Phase 2 construction commenced on 16 February 2016 and WML notified DoEE in writing on 16 February 2016.</p>
<p>15 Within 3 months of every 12 month anniversary of the Commencement of Construction of Phase 1, the person taking the action must publish a report (the Compliance Report) on their website addressing compliance with each of the conditions of this approval, including implementation of any plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of</p>	Compliant	<p>Compliance report due before 3 May each year (based on date of commencement of construction 3 February 2014).</p> <p>2022 Compliance Report published on Yancoal MTW website 3 May 2023.</p>

EPBC2009/5081 Condition Condition Number	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
		<p>this approval must be provided to the department at the same time as the Compliance Report is published. The person taking the action must also notify any non-compliance with this approval to the department in writing within 2 business days of becoming aware of the noncompliance.</p> <p>The person taking the action must continue to annually publish the Compliance Report until such time as agreed in writing by the Minister.</p>
16	Not triggered	<p>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.</p>
17	Compliant	<p>Where the conditions require the person taking the action to submit a plan for the Minister's approval, the person taking the action must maintain a register recording:</p> <ul style="list-style-type: none"> a. the date on which each plan was approved by the Minister b. if a plan has not been approved by the Minister, the date on which it was, or is expected to be, submitted to the Minister. c. the dates on which reports on the outcomes of reviews have been approved by the Minister d. the dates on which the subsequent reviews are due <p>The register must be submitted to the department at the time as the Compliance Report, as described at condition 15.</p>
18	Not triggered	<p>If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans, as specified in the</p>

EPBC2009/5081 Condition Condition Number	Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
	<p>conditions, the person taking the action must submit to the department for the Minister's written approval a revised version of that plan. The varied activity shall not commence until the Minister has approved the revised plan in writing. If the Minister approves the revised plan that plan must be implemented in place of the plan originally approved.</p>	
19	<p>If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and communities or listed migratory species to do so, the Minister may require that the person taking the action make specified revisions to a management plan specified in the conditions and submit the revised plan for the Minister's written approval.</p> <p>The revised approved plan must be implemented. Unless the Minister has approved the revised plan the person taking the action must continue to implement the originally approved plan, as specified in the conditions.</p>	<p>Not triggered</p>
20	<p>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.</p>	<p>Not triggered</p> <p>The action has commenced as per the Commencement of Construction (3 February 2014)</p>
21	<p>The person taking the action must maintain accurate records substantiating all activities and outcomes associated with or relevant to the above conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the department.</p> <p>Such records may be subject to audit by the department or an independent auditor appointed and/or approved by the department, and 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.</p>	<p>Compliant</p> <p>Records of activities and outcomes are maintained by WML.</p>

EPBC2009/5081 Condition Condition Number		Compliance status	Evidence/Comments (Southern BA, Northern BA, Putty BA, Condon View BA, Seven Oaks BA, Bowditch BA, North Rothbury BA)
22	Unless otherwise agreed to in writing by the Minister, the person taking the action must publish all plans referred to in these conditions of approval on their website. Each plan must be published on the website within 1 month of being approved. The person taking the action must notify the department within 5 business days of publishing the plan on their website and the plan must remain on the website for the period this approval has effect.	Compliant	All approved plans have been published on the Yancoal MTW website.

3. New environmental risks and potential threats to Matters of National and State Environmental Significance

No new environmental risks have been identified during the reporting period.

ATTACHMENT A:

Regional Offset Management Plan

Annual Report 2022



Regional Biodiversity Areas

Annual Report 2022

Annual report for the period from January to December 2022, for activities described in the Management Plans for all regional Warkworth Mining Limited offsets including:

- Goulburn River Biodiversity Area
- Seven Oaks Biodiversity Area
- Bowditch Biodiversity Area
- Putty Biodiversity Area
- Condon View Biodiversity Area
- North Rothbury Biodiversity Area

Note that a portion of Condon View Biodiversity Area is an offset for Hunter Valley Operations to satisfy conditions of the Commonwealth approval EPBC 2016-760.

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Revision

Version No.	Version Details	Document Status	Date
1.0	Environment and Community Advisor	Final	28/04/2023

1 INTRODUCTION

This annual report is a requirement of the Management Plans for all regional Warkworth Mining Limited offsets for the 2022 reporting period from 1 January through to 31 December 2022.

The annual report provides a summary of the key management activities completed across the biodiversity offsets located within the Goulburn River, Seven Oaks, Bowditch, Putty, Condon View and North Rothbury Biodiversity Areas (BAs).

The management plans describe the conservation management strategies and monitoring to achieve, and measure improvement and protection of the offset's biodiversity values. It is a compliance requirement of the Commonwealth and NSW environmental approvals to implement the management plans.

The Regional Offset Management Plan (ROMP) was prepared to satisfy the consent requirements for the New South Wales (NSW) Hunter Valley Operations (HVO) South Project Approval (PA 06_0261) and the Warkworth Mine Commonwealth EPBC 2002/629 Approval. In November 2015, the NSW Warkworth Continuation Project Approval (SSD-6464) was granted providing both NSW and Commonwealth approval for the same disturbance area. Phase 2 of the EPBC2009/5081 action also commenced on 16 February 2016. In response to the granting of these new approvals, new Management Plans for the Bowditch and Goulburn River BA have been prepared to satisfy the Commonwealth approval EPBC2009/5081 and the NSW consent (SSD-6464), replacing the ROMP. On 10 October 2016 HVO was granted approval (EPBC2016/7604), The Condon View BA provides 168ha of suitable direct offset to be compliant with this approval. Management Plans have also been prepared and submitted for the new regional BAs: Seven Oaks, Putty, Condon View and North Rothbury.

The Biodiversity Offset Portal contains all the supporting documentation for this report, including photo point monitoring. Access to the portal is restricted, relevant regulators have been provided with login details; please contact Mount Thorley Warkworth should you require assistance.

2 LOCATION AND LANDHOLDER DETAILS

The locations of the regional BAs are shown in **Figure 1**, further details are provided in **Table 1**. The land is owned by Warkworth Mining Limited (WML). The Goulburn River and Condon View BAs are owned by Warkworth Mining Limited and have a portion of the total area designated as an offset for Hunter Valley Operations (HVO). Details of the Warkworth Offset and HVO Offset areas are in **Table 2 and Figure 1, 2 and 3**.

Table 1 Regional Biodiversity Areas

Biodiversity Area	Local Government Area	Land Owner	Area (ha)	Offset Area (ha)	Location
Goulburn River	Upper Hunter / Mid-Western	Warkworth Mining Limited	1,539	1,206	'The Rivers' 30km west of Merriwa, via Dulhunty Road, Comialla Road and Golden Hwy.
Bowditch	Muswellbrook	Warkworth Mining Limited	607	602	3km north of Sandy Hollow, 3450 Wybong Road, via Golden Hwy.
Seven Oaks	Mid-Western	Warkworth Mining Limited	521	519	35km west of Merriwa via Ulan Road, Summer Hill Road, Durridgerie Road and Smedes Road.
Condon View	Singleton	Warkworth Mining Limited	553	345	5km west of Putty via Box Tree Clearing Trail off Putty Valley Road.
Putty	Singleton	Warkworth Mining Limited	386	383	5km south of Putty via Box Gap Road.
North Rothbury	Cessnock	Warkworth Mining Limited	41	41	1km south of North Rothbury via Wine Country Drive.

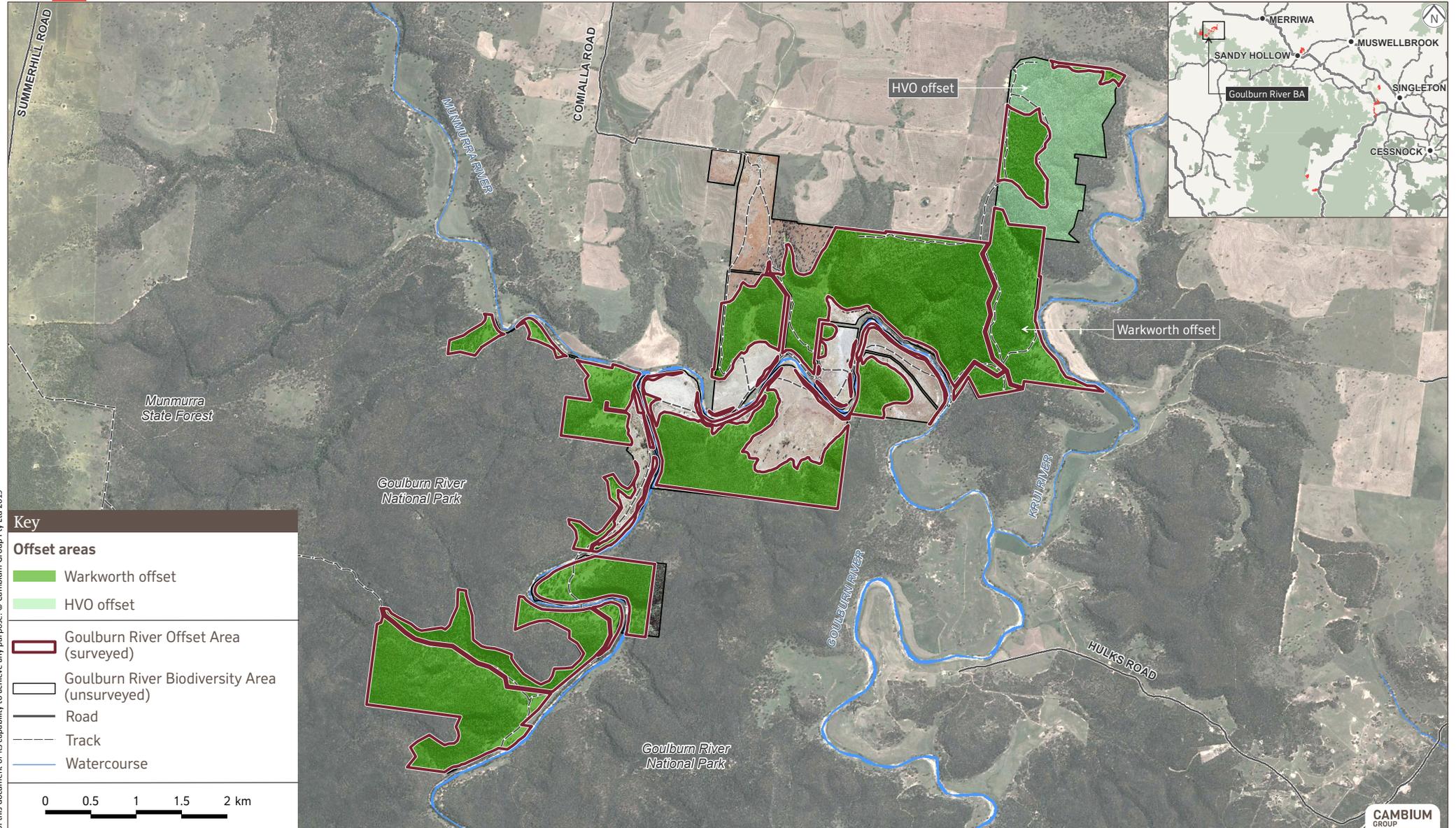
Table 2 Goulburn River and Condon View Biodiversity Areas

Biodiversity Area	Land Owner	Area (ha)	Warkworth Offset Area (ha)	HVO Offset Area (ha)
Goulburn River	Warkworth Mining Limited	1,539	1,066	140
Condon View	Warkworth Mining Limited	553	345	168

Offset areas at the Goulburn River Biodiversity Area

Annual Compliance Report

Figure 2

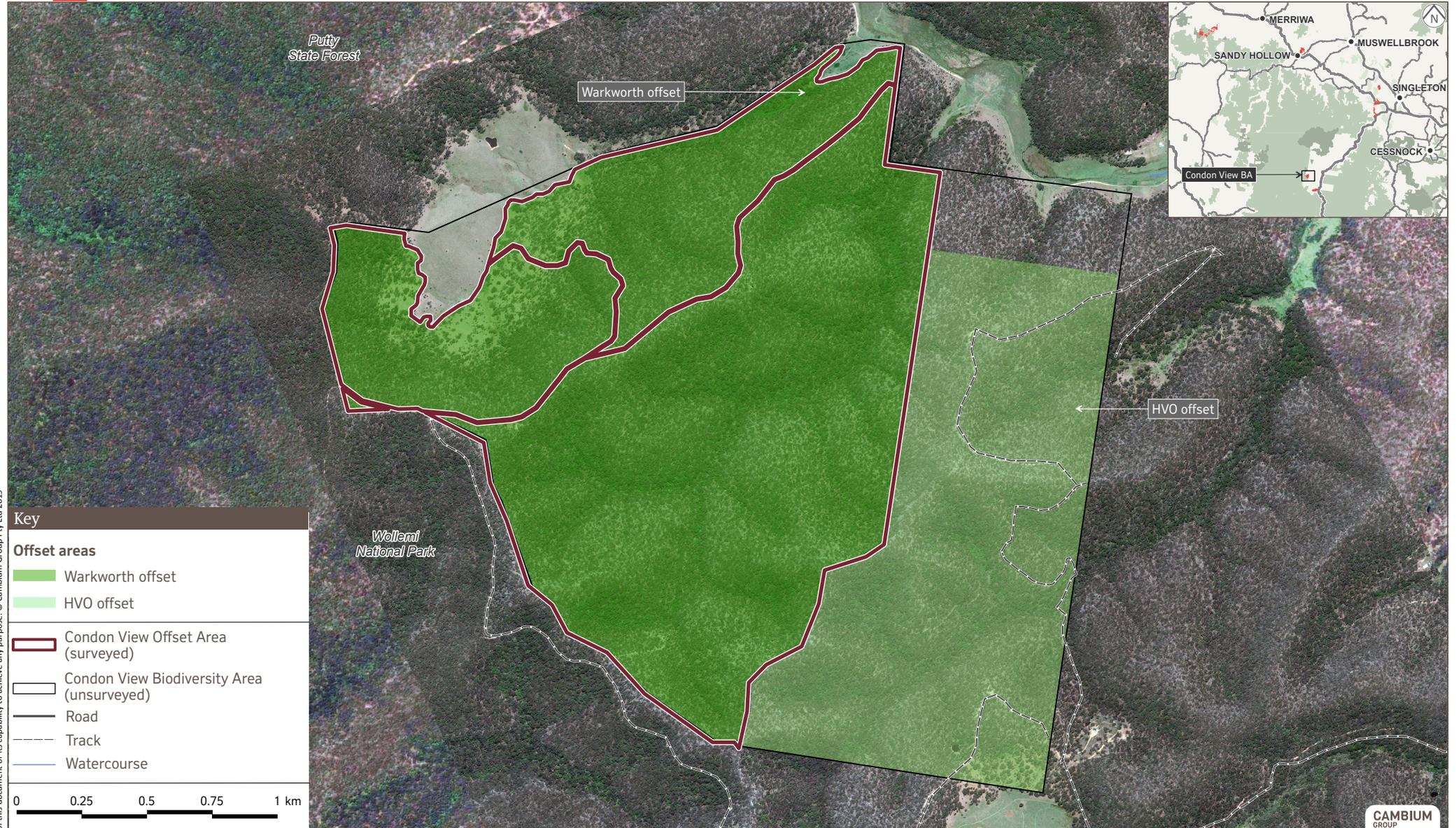


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Offset areas at the Condon View Biodiversity Area

Annual Compliance Report

Figure 3



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3 SUMMARY OF ACTIVITIES – 2022

Table 3 provides a summary of the activities undertaken during the reporting period (Year 6) and the progress in attaining the Performance Criteria for the key Conservation Management Strategies in the management plans.

3.1 Summary of climatic conditions

Figure 4 shows the monthly actual rainfall compared to the long-term average for the regional Biodiversity Areas for the reporting period. In 2022, rainfall was well above average in March, July, September and October. The Putty region received 1,321mm which was 722mm above the long-term average. North Rothbury received 1,301mm, 683mm above the long-term average. Sandy Hollow received 928mm which was 506mm above the long-term average and the Merriwa region received 862mm, 383mm above the long-term average.

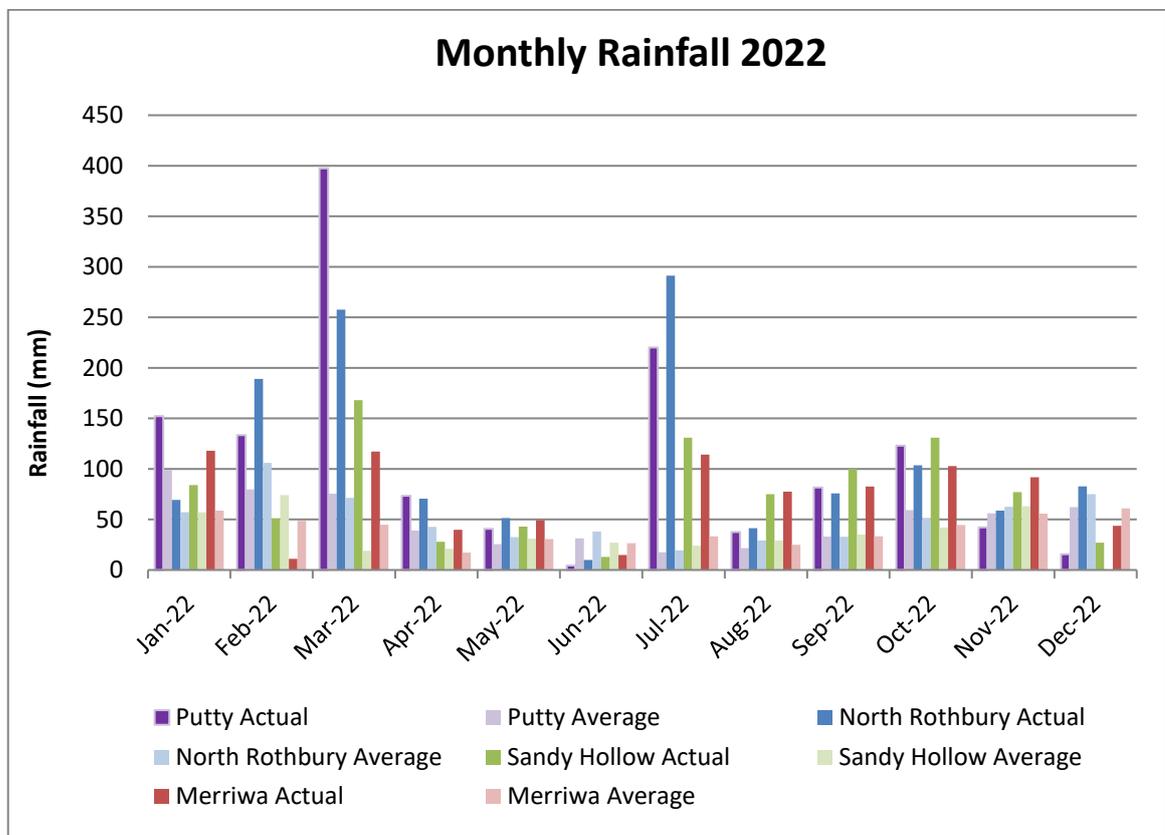


FIGURE 4 MONTHLY RAINFALL - 2022

Table 3 Summary of progress against Performance Criteria

Conservation Actions	Year 1 to Year 4	Year 5 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
ACTIVE RESTORATION				
Goulburn River BA Yellow Box – Grey Box – Red Gum grassy woodland (21.5ha) and River Oak riparian woodland (24.2ha)				
<i>Performance Criteria</i>	<i>Collection of seed. Plant propagation. Tubestock planted.</i>		<i>Planting achieves above 70% survival.</i>	
	<i>Completed survival assessment.</i>			
Activity / Progress	<p>Seed collection was undertaken at the Goulburn River BA in 2021.</p> <p>In 2019 17,000 tube stock was planted into 21.5ha of Yellow Box-Red Gum grassy woodland and 24.2ha of River Oak riparian woodland.</p> <p>The site preparation for these sites included ripping by dozer and weed control. To mimic nature the tree species were planted at a spacing of 5 -30m. All plants were watered, fertilised and protected with a tree guard.</p> <p>In 2020 maintenance of planting areas was undertaken and included infill planting of 12,000 tubestock.</p> <p>Survival assessments undertaken.</p>	<p>In 2021 maintenance of planting areas was undertaken and included infill planting of 12,000 tubestock into areas that could be accessed.</p> <p>In 2022 planting of 10,000 tube stock was delayed due access issues crossing the Goulburn River.</p> <p>2022 planting work has been delayed to autumn 2023.</p>		<p>Collect seed and propagate plants.</p> <p>Undertake survival assessments.</p> <p>Undertake infill planting of 21.5ha of Yellow Box – Grey Box – Red Gum grassy woodland and 24.2ha of River Oak riparian woodland in the Goulburn River BA.</p>
All Regional BAs				
<i>Performance Criteria</i>	<i>Review monitoring data to identify areas that require re-planting.</i>			
	<i>If re-planting is identified, develop a re-establishment plan and implement within 12 months</i>			
Activity / Progress	<p>Ecological monitoring results have identified infill planting requirements in the River Oak riparian areas of the Goulburn River BA.</p> <p>Infill planting of these areas is scheduled for 2023.</p>			

Conservation Actions	Year 1 to Year 4	Year 5 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
PASSIVE RESTORATION				
Weed control and monitoring				
<i>Performance Criteria</i>	<p>At least two weed control events each year for species listed in Table 14 of Management Plans and other weeds recorded from monitoring activities.</p> <p>Complete Ecological Monitoring, Rapid Condition Assessments and Property Inspections.</p>	<p>At least one weed control event each year for species listed in Table 14 of Management Plans and other weeds recorded from monitoring activities.</p> <p>Complete Ecological Monitoring, Rapid Condition Assessments and Property Inspections.</p>	<p>Ecological monitoring data indicates a trajectory for reduction in exotic plant cover over three consecutive assessments.</p>	
Activity / Progress		<p>Weed contractor engaged to undertake weed control activities across all Regional BAs throughout the year to control noxious species and stop weeds spreading into previously un-infested areas.</p> <p>In 2022 weed control targeted the following species African lovegrass (<i>Eragrostis curvulva</i>), Bathurst Burr (<i>Xanthium spinosum</i>), Blackberry (<i>Rubus fruticosus</i>), Blue heliotrope (<i>Heliotropium amplexicaule</i>), Briar (<i>Rosa rubiginosa</i>), Bridal creeper (<i>Asparagus asparagoides</i>), Cats claw creeper (<i>Macfadyena unguis-cati</i>), Common Thorn-Apple (<i>Datura stramonium</i>), Farmers friends (<i>Bidens pilosa</i>), Fireweed (<i>Scenecio madagascariensis</i>), Fleabane (<i>Erigeron bonariensis</i>), Giant Parramatta grass (<i>Sporobolus fertilis</i>), Green cestrum (<i>Cestrum parqui</i>), Ink weed (<i>Phytolacca octandra</i>), Lantana (<i>Lantana camara</i>), Moth vine (<i>Araujia sericifera</i>), Noogoora burr (<i>Xanthium occidentale</i>), Paddy's lucene (<i>Sida rhombifolia</i>), Prickly pear (<i>Opuntia stricta</i>), Purple top (<i>Verbena bonariensis</i>), Scotch thistle (<i>Onopordum acanthium</i>), St John's wort (<i>Hypericum perforatum</i>), Stinking roger (<i>Tangetes minuta</i>), Tree of heaven (<i>Ailanthus altissima</i>), Variegated thistle (<i>Silybum marianum</i>) and Willows (<i>Salix</i> sp).</p> <p>Ecological monitoring, Rapid Condition Assessments and Property Inspections were completed in 2022.</p>		<p>Control noxious species and stop weeds spreading into previously un-infested areas.</p> <p>Undertake Rapid Condition Assessments.</p> <p>Undertake Property Inspections.</p>

Conservation Actions	Year 1 to Year 4	Year 5 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
Pest control and monitoring				
<i>Performance Criteria</i>	<p><i>At least two control events each year for species listed in Management Plans, and any other species recorded from monitoring activities.</i></p> <p><i>All actions recorded in the Annual Report.</i></p> <p><i>Active participation in programme coordinated by Hunter Local Land Service (HLLS), this may include local control actions.</i></p> <p><i>Complete Rapid Condition Assessments and Property Inspections.</i></p>	<p><i>At least one control event each year for species listed in Management Plans, and any other species recorded from monitoring activities.</i></p> <p><i>All actions recorded in the Annual Report.</i></p> <p><i>Active participation in programme coordinated by HLLS, this may include local control actions.</i></p> <p><i>Complete Rapid Condition Assessments and Property Inspections.</i></p>	<p><i>No observed vertebrate pest or damage.</i></p> <p><i>Ecological monitoring demonstrates a trajectory to benchmark values for all attributes measured over three consecutive assessments (the average of all plots).</i></p>	
Activity / Progress		<p>In 2022 vertebrate pest contractors were engaged to undertake programmes across all Regional BAs.</p> <p>Two 1080 ground baiting programmes targeting wild dogs and foxes were undertaken in autumn and spring in conjunction with neighbouring landholders and HLLS.</p> <p>Ground shooting programs were undertaken at the Goulburn River BA in April and August controlling 47 feral pigs, one goat, and one wild dog.</p> <p>Noisy Miner ground shoots were undertaken at the Goulburn River BA in August and the Bowditch BA in December under a Licence to Harm Protected Animals (Biodiversity Conservation Act 2016). The programmes aim to assist the survivability of the Regent Honeyeater. The Goulburn River BA programme which is in its sixth consecutive year resulted in the control of 251 Noisy Miners over seven days. This is the longest running and most successful noisy miner management programme in the country. The Bowditch BA programme resulted in the control of 262 Noisy Miners over four days. This is the first Noisy Miner programme undertaken on this offset and will continue in 2023.</p> <p>A feral pig 1080 baiting and ground shooting programme was undertaken at the Goulburn River BA in November controlling 89 feral pigs, one deer, two goats, three rabbits and two cats.</p> <p>Opportunistic shooting of other vertebrate pests included one feral pig, one cat, one rabbit and two hares.</p> <p>Aerial shoot conducted by NPWS at the Goulburn River and Seven Oaks Bas in December controlled 121 feral pigs, three deer and one fox.</p>		<p>Participate in HLLS and NPWS Aerial Baiting/shooting programmes.</p> <p>Undertake shooting, baiting and trapping programmes.</p> <p>Undertake a control programme for noisy miners in the Regent Honeyeater breeding area at GRBA.</p> <p>Undertake a control programme for noisy miners at the Bowditch BA.</p> <p>Undertake Rapid Condition Assessments.</p> <p>Undertake Property Inspections.</p>

Conservation Actions	Year 1 to Year 4	Year 5 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
Activity / Progress		Participation in HLLS Wild Dog Association programme. Ecological monitoring, Rapid Condition Assessments and Property Inspections were completed in 2022.		
Grazing				
<i>Performance Criteria</i>	<i>Grazing is conducted in accordance with the Management Plan. Boundary fences maintained. Complete Rapid Condition Assessment and Property Inspections.</i>			
Activity / Progress	Cattle excluded from all BAs. Rapid Condition Assessment and Property Inspections were completed in 2022. Boundary fences repaired at North Rothbury, Putty and Bowditch BA in 2022.			Undertake Rapid Condition Assessments. Undertake Property Inspections. Maintenance of boundary fences.
Regional BA Bushfire Management Plan (BFMP) and monitoring				
<i>Performance Criteria</i>	<i>Actions implemented. Review and revise if required. Complete Rapid Condition Assessments and Property Inspections</i>	<i>Actions implemented. Review and revise if required. Complete Rapid Condition Assessments and Property Inspections. Completed ecological fire management plan.</i>	<i>All required actions of BFMP have been implemented. BFMP has been reviewed annually and revised if required.</i>	
Activity / Progress		BFMP reviewed. Fuel load assessments were undertaken on Putty, Condon View, North Rothbury and Seven Oaks BAS in 2022. Assessments on Goulburn River and Bowditch BA were postponed to 2023 due to access issues. Hazard Reduction Burns for North Rothbury and Seven Oaks BAs were approved however weather conditions were outside the prescribed limits, so burns have been rescheduled for 2023. Slashing of fire breaks was undertaken at North Rothbury, Goulburn River and Seven Oaks BAs. Ecological monitoring, Rapid Condition Assessments and Property Inspections were completed in 2022.		Review BFMP. Implement a bushfire fuel hazard reduction programme. Undertake annual fuel load assessments on all Regional BAs. Undertake the Hazard Reduction Burn at North Rothbury and Seven Oaks BAs. Undertake Rapid Condition Assessments. Undertake Property Inspections.

Conservation Actions	Year 1 to Year 4	Year 5 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
Erosion monitoring inspections and reports				
<i>Performance Criteria</i>	<i>Complete Rapid Condition Assessment and Property Inspections</i>			
Activity / Progress	No significant erosion issues identified during monitoring. Rapid Condition Assessment and Property Inspections were completed in 2022.			Undertake Rapid Condition Assessment. Undertake Property Inspections.
Dam conversion and rehabilitation and monitoring				
<i>Performance Criteria</i>	<i>Prepare dam conversion plan.</i> <i>Dam conversion complete and rehabilitation has stabilised the site.</i> Property inspections.	<i>Observed natural flow regime and no erosion.</i> Property inspections.	<i>All works completed.</i>	
Activity / Progress		Property inspections undertaken in 2022. A dam conversion plan was prepared in 2021.		Implement the dam conversion plan. Undertake Property Inspections.
Natural Regeneration and monitoring				
<i>Performance Criteria</i>	<i>Annual weed control, vertebrate pest and fire management actions implemented as per management plans.</i> <i>Complete Rapid Condition Assessment and Property Inspections.</i>		<i>Ecological monitoring demonstrates a trajectory to benchmark values for all attributes measured over three consecutive assessments (the average of all plots).</i>	
Activity / Progress	Rapid Condition Assessment and Property Inspections undertaken in 2022. Actions implemented as per management plans – see above.			Implement actions as per Management plans. Undertake Rapid Condition Assessment. Undertake Property Inspections.

Conservation Actions	Year 1 to Year 4	Year 5 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
Controlled Activities				
<i>Performance Criteria</i>	<p><i>No reported incidents of prohibited actions undertaken Yancoal, contractors, consultants or other agents of Yancoal.</i></p> <p><i>Any clearing of vegetation reported in Annual Report.</i></p> <p><i>Signage and locks (where required) maintained.</i></p> <p><i>Complete risk assessment for any recreation activities.</i></p> <p><i>All occupants of residents compliant with requirements of the MP.</i></p> <p><i>No Cultural Heritage sites knowingly disturbed and any protective barricading maintained.</i></p> <p><i>Damaged and unwanted fences removed.</i></p> <p><i>All Property Inspections completed.</i></p>			
Activity / Progress	<p>No reported incidents of prohibited actions undertaken in 2022.</p> <p>Risk assessment and access agreement completed for recreational orienteering event at the Goulburn River BA in 2022.</p> <p>Cultural Heritage sites are barricaded.</p> <p>Signage and locks are maintained.</p> <p>Regular property inspections were undertaken in 2022.</p>			Undertake Property Inspections.

4 MONITORING ACTIVITIES

The following table provides a summary of the monitoring activities undertaken as detailed in the management plans. Monitoring reports and results are available on the Biodiversity Offset Portal.

Table 4 Monitoring Activity Summary

Monitoring	2022	Date/s	Completed by
Bird Assemblage	X	July – October 2022, next due July – October 2024	ANU Enterprise
Habitat Restoration	X	September – November 2022, next due September – November 2024	Mosaic Ecology and Cumberland Plain Seeds
Rapid Condition Assessment	X	September – December 2022 next due September – November 2023	Environment Advisor
Property Inspection	X	April/November 2022, next due April/November 2023	Rural and Environmental Management

4.1 Bird assemblages monitoring

Bird assemblage monitoring is undertaken every two years as part of the ecological monitoring requirements to assess changes in the condition and extent of the woodland habitats within the BAs and the ongoing usage of these habitats by woodland birds, including the critically endangered regent honeyeater and swift parrot.

Previous bird monitoring methodology (2014 – 2018) included two-hectare, 20-minute area searches with one visit to each monitoring site during winter and early spring. In 2020 the bird monitoring methodology changed to increase site visits so that each site was visited three times between July and October, to cover the period when swift parrots and regent honeyeaters are most likely to be present. The maximum count of all bird species detected visually or audibly during the survey period and within the boundaries of each survey site were recorded. Data from the 2020 monitoring program demonstrated that three visits to each monitoring site is sufficient to record most bird species regularly occupying the monitoring sites. In 2022 eighteen new monitoring sites were added to the monitoring programme to help increase the likelihood of detecting regent honeyeaters or swift parrots occupying the BAs.

A total 113 species of birds were recorded throughout the eight Biodiversity Areas in 2022 representing a decrease of nine species compare to 2020 data. The decline is likely due to wet weather and lack of eucalypt blossom. A total of 11 threatened bird species were detected during surveys and some species detected for the first time included water birds occupying ephemeral wetlands within the BAs.

No regent honeyeaters or swift parrots were detected occupying any of the BAs in 2022. The wet weather and a lack of eucalypt and mistletoe blossom within the Biodiversity Areas may mean regent honeyeaters and swift parrots are occupying different habitats to where they typically occupy during this monitoring period.

The following are the recommendations and discussion summaries for the Regional Biodiversity Areas.

Seven Oaks BA

After three visits a total of 54 bird species were detected during standardised surveys representing a decrease of seven species on the 2020 data. Threatened species detected included the speckled warbler *Chthonicola sagittata* and varied sittella *Daphoenositta chrysoptera*. There was low abundance of blossom and lerp across the property and less evidence of feral pigs around the monitoring sites compared to 2020. Management

recommendations include small-scale restoration plantings of regent honeyeater feed trees.

Goulburn River BA

In 2022 an additional seven monitoring sites were added into known areas of high avian species richness on the riparian zone as recommended by the previous monitoring report. After three visits a total of 77 bird species were detected during standardised surveys representing an increase of six species on the 2020 data. Threatened species detected included the speckled warbler, brown treecreeper *Climacteris picumnus*, varied sittella, wedge-tailed eagle *Aquila audax*, dusky woodswallow *Artamus cyanopterus* and little lorikeet *Glossopsitta pusilla*. Blossom was restricted to isolated patches and Yellow box was not flowering this season. The Needle-leaf mistletoe *Amyema cambagei* was flowering lightly in some sections of the river, however in other areas it has suffered substantial mortality. Ongoing noisy miner (*Manorina melanocephala*) management continues to suppress noisy miner numbers with no noisy miners detected occupying regent honeyeater breeding areas within the BA. Management recommendations include replanting the riparian zone including considering needle -leaf mistletoe seeding, and pest management for feral pigs and noisy miners.

Putty

In 2022 an additional five monitoring sites were added into known areas of high avian species richness on the riparian zone as recommended by the previous monitoring report. After three visits a total of 56 bird species were detected during standardised surveys representing a decrease of two species on the 2020 data. Threatened species detected included little lorikeet, speckled warbler, varied sittella and glossy black cockatoo *Calyptorhynchus lathami*. Some sections of the riparian zone suffered extensive flood damage which may have impacted numbers of small insectivores occupying the understorey vegetation. There was minimal evidence of feral/pest species present. Management recommendations include small-scale restoration plantings of regent honeyeater feed trees.

Condon View

In 2022 an additional three monitoring sites were added to capture areas potentially utilised by regent honeyeaters and swift parrots as recommended by the previous monitoring report. After three visits a total of 55 bird species were detected during standardised surveys representing an increase of five species on the 2020 data. Threatened species detected included little lorikeet, grey-crowned babbler *Pomatostomus temporalis*, varied sittella, dusky woodswallow, glossy black cockatoo and gang-gang cockatoo *Callocephalon fimbriatum*. There was minimal evidence of feral/pest species present. Management recommendations include consideration of noisy miner management on lower slopes and river flats.

North Rothbury

After three visits a total of 43 bird species were detected during standardised surveys representing an increase of eight species on the 2020 data. Threatened species detected included speckled warbler, grey-crowned babbler and varied sittella. There was no blossom in spotted gum *Corymbia maculata* and broad-leaved ironbark *E. fibrosa* during the survey period. Noisy miner numbers appear to have increased considerably in the eastern section of the BA. There was minimal evidence of feral/pest species present. Management recommendations include monitoring the impact of the hazard reduction burn on noisy miner and small woodland bird abundance.

Bowditch

After three visits a total of 52 bird species were detected during standardised surveys representing a decrease of four species on the 2020 data. Threatened species detected included the speckled warbler and varied sittella. Management recommendations include vertebrate pest management including the removal of feral cattle, and small-scale restoration plantings of regent honeyeater feed trees.

4.2 Habitat restoration monitoring

This habitat restoration study completes the fifth monitoring event and fourth post baseline for Goulburn River and Bowditch BAs and the fourth monitoring event and third post baseline for all the other Regional BAs. The habitat restoration monitoring programme assesses the changes in key attributes within the BA through time as grassland communities are restored to woodland.

Monitoring was undertaken across all BAs in Spring 2022. The years leading up to the 2022 monitoring event experienced higher than average rainfall and improved growing conditions after a prolonged and severe drought. This should be considered when comparing 2022 data with previous years.

The following are the recommendations and discussion summaries for the Regional Biodiversity Areas.

Seven Oaks BA

2022 monitoring results indicate that vegetation is regenerating naturally in some plots and not in others. Some sites are achieving 3 or 4 attribute scores within or above the Benchmark Range however canopy cover is still below the Benchmark minimum for all plots. Logs on the ground and tree hollows are also low across the monitoring plots. Native plant species richness was highest in the ground layer, particularly in the Native Ground layer – Other category. The low native shrub cover results partly from Sifton bush stands being mulched to prepare for planting. Vegetation that has very little canopy species recruitment will require planting to achieve Benchmark scores. There was evidence of feral pigs and rabbits which are likely influencing the speed of regeneration.

Management recommendations include planting of canopy and mid-storey species in areas identified as having lower resilience, weed control targeting priority weeds and pest management for feral pigs and rabbits.

Goulburn River BA

The 2020 data has been excluded from attribute comparisons as many sites were inaccessible due to flooding. The 2022 monitoring results indicate the remnant woodland and grassland vegetation is generally stable but in variable condition. The woodland vegetation sites fail to meet Benchmark values for some attributes however the mean values almost fall into the Benchmark Range. Native plant species richness is above or close to the Benchmark minimum. Native ground cover is high while exotic cover is variable. Native shrub cover is low and fallen logs are below-Benchmark mean values.

The River Oak Riparian grassy woodland is in poor condition compared to Benchmark Values. While vegetation is trending towards the Benchmark values for canopy cover and Native Ground-layer Grasses the Total Native species richness and Mid-storey cover remain low and are not showing a trend towards Benchmark.

The grassland area requires management and with no significant natural recruitment of mid storey or overstorey species planting will be necessary to improve the habitat quality of the grassland.

Management recommendations include considering planting or seeding of native understorey, mid-storey and over-storey species to assist sites to achieve Benchmark values. Weed control targeting priority weeds.

Bowditch BA

2022 monitoring results indicate that the woodland vegetation is generally stable and will continue to recover from past disturbance with some management intervention. The Narrow Leaved Ironbark Woodland exceeds the Benchmark minimum for all except Native Ground stratum shrubs and fallen log length. Selected canopy planting may be necessary if canopy recruitment does not improve over time.

The Redgum Rough Barked Apple Woodland has two plots with mean values meeting or exceeding Benchmark values for all attributes except Ground stratum shrubs and Fallen Logs. One plot (H1) was inundated by water resulting in a significant difference in the ground layer failing to match several Benchmark ranges. Previous years data for this plot show similar results. It is possible that the hydrology of this site means the vegetation doesn't conform to this woodland and it will never meet the Benchmark Range. Management recommendations include establishing a replacement monitoring plot for H1 and weed control targeting priority weeds.

Putty BA

2022 monitoring results indicate that the vegetation is generally stable and will continue to recover from past disturbance with some management intervention.

The forest canopy site data has low Overstorey and Mid storey cover, and sometimes a low non-grass understorey cover score. Native species richness is also generally lower than Benchmark.

Management recommendations include increasing habitat quality by installing nest boxes and placing logs on the ground. Consider planting native herbs and shrub layer cover and diversity in areas where cover is low and to increase landscape connectivity and habitat for threatened species. Weed control targeting priority weeds and establishment of permanent markers for transect locations.

Condon View BA

2022 monitoring results indicate the woodland remnants are recovering from past disturbance and are generally stable. The woodland vegetation has a low Overstorey and Mid storey cover but good ground cover. Native species richness is good, although lower than Benchmark in the mid storey and ground layer.

The grassland area is dominated by native grasses with a low exotic cover. Native species richness is relatively low and no Mid storey or Overstorey is present.

Management recommendations include increasing habitat quality by installing nest boxes and placing logs on the ground. Consider planting native herbs and shrub layer cover and diversity in areas where cover is low and to increase landscape connectivity and habitat for threatened species. Weed control targeting priority weeds.

North Rothbury BA

2022 monitoring results indicate vegetation metrics generally fell within Benchmark values. Grassy woodland has native mid-storey vegetation and logs below Benchmark, herbaceous ground layer above Benchmark, and an absence of tree hollows.

Shrubby woodland has native vegetation within Benchmark values, logs below Benchmark and an absence of tree hollows.

Management recommendations include minimising vehicle access tracks and weed control targeting threatening weed types and in a manner that maximises conservation of native abundance including understorey native abundance. Consider installing nest boxes and placing logs on the ground.

5 **PROGRESS IN ATTAINING CONSERVATION OBJECTIVES AGAINST KEY PERFORMANCE INDICATORS**

The primary conservation objectives for the Regional BAs are to:

- enhance landscape connectivity within the surrounding landscape;
- improve fauna movement and flora dispersal opportunities within the surrounding landscape;
- increased condition and area of suitable habitats for threatened fauna species within protected reserves, specifically for the Regent Honeyeater and Swift Parrot;
- provide refuge and habitat for local fauna populations and transient species, particularly threatened species; and
- enhance network of protected vegetation within the Hunter Valley.

Table 3 details the progress in attainment of the long-term conservation objectives. The baseline data presented is from the first monitoring completed in 2014. The Rapid Condition Assessment (RCA) monitoring results indicate that the vegetation and habitat health is being maintained in comparison to the baseline data **Table 5– Table 10**.

6 **ADAPTIVE MANAGEMENT**

No new environmental risks have been identified during the reporting period.

Table 5 Goulburn River BA: Biodiversity Values and KPIs

Biodiversity Value	Nested Conservation Value(s)	Description and baseline metric	KPI	Progress comment
Woodland (MZ2, MZ3, MZ4, MZ5 and MZ7)		Total area: 1,169ha RCA Average Health rating 17.5/20	Maintain or increase area, connectivity and habitat condition over 10 years	RCA Average health rating 2015 – 17/20 2016 – 17.1/20
	Fauna Habitat	Moderate potential habitat for Swift Parrot and Regent Honeyeater	improved habitat condition over 10 years	2017 – 17.1/20 2018 – 18.1/20 2019 – 18.4/20 2020 - *17.5/20 2021 - *17.4/20 2022 - *18.2/20 Area and health maintained *Some sites were inaccessible due to high water levels in the Goulburn River.

Table 6 Bowditch BA: Biodiversity Values and KPIs

Biodiversity Value	Nested Conservation Value(s)	Description and baseline metric	KPI	Progress comment
Woodland (MZ1, MZ2 and MZ4)		Total area: 602ha RCA Average Health rating 17.9/20	Observed and measured increase or maintained RCA scores over 10 years	RCA Average Health rating 2015 – 18/20 2016 – 18.4/20
	Fauna Habitat	Moderate potential habitat for Swift Parrot and Regent Honeyeater	Maintain or increase the condition and extent of habitat and bird usage over 10 years	2017 – 17.1/20 2018 – 17.7/20 2019 – 17.7/20 2020 – 18.1/20 2021 – 18.3/20 2022 – 18.7/20 Area and health maintained

Table 7 Seven Oaks BA: Biodiversity Values and KPIs

Biodiversity Value	Nested Conservation Value(s)	Description and baseline metric	KPI	Progress comment
Woodland (MZ3, MZ4 and MZ5)		Total area: 519ha RCA Average Health rating 17.8/20	Observe an increase in area, connectivity and habitat condition over 10 years	RCA Average Health rating 2016 – 18/20 2017 – 17.3/20
	Fauna Habitat	Moderate potential habitat for Swift Parrot and Regent Honeyeater	Maintain or increase the condition and extent of habitat and bird usage over 10 years	2018 – 17.6/20 2019 – 17.6/20 2020 - 18.2/20 2021 – 18.2/20 2022 – 18.2/20 Area and health maintained

Table 8 Condon View BA: Biodiversity Values and KPIs

Biodiversity Value	Nested Conservation Value(s)	Description and baseline metric	KPI	Progress comment
Woodland (MZ2 and MZ4)		Total area: 515ha RCA Average Health rating 18.9/20	Maintain or increase area, connectivity and habitat condition over 10 years	RCA Average Health rating 2016 – 20/20 2017 – 18.2/20
	Fauna Habitat	Moderate potential habitat for Swift Parrot and Regent Honeyeater	Maintain or increase the condition and extent of habitat and bird usage over 10 years	2018 – 18.6/20 2019 – 18.6/20 2020 – 19/20 2021 – 19.3/20 2022 – 19/4/20 Area and health maintained

Table 9 Putty BA: Biodiversity Values and KPIs

Biodiversity Value	Nested Conservation Value(s)	Description and baseline metric	KPI	Progress comment
Woodland (MZ2, MZ3 and MZ4)		Total area: 383ha RCA Average Health rating 16.9/20	Observe an increase in area, connectivity and habitat condition over 10 years	RCA Average Health rating 2016 – 17.3/20 2017 – 17.6/20
	Fauna Habitat	Moderate potential habitat for Swift Parrot and Regent Honeyeater	Maintain or increase the condition and extent of habitat and bird usage over 10 years	2018 – 17.8/20 2019 – 15.6/20 2020 – 16.2/20 2021 – 16.8/20 2022 – 17/20 (Bushfire in July and December 2019 reduced the health rating)

Table 10 North Rothbury BA: Biodiversity Values and KPIs

Biodiversity Value	Nested Conservation Value(s)	Description and baseline metric	KPI	Progress comment
Woodland (MZ1 and MZ2)		Total area: 41ha RCA Average Health rating 18.6/20	Observe an increase in area, connectivity and habitat condition over 10 years	RCA Average Health rating 2016 – 18/20 2017 – 18.2/20
	Fauna Habitat	Moderate potential habitat for Swift Parrot and Regent Honeyeater	Maintain or increase the condition and extent of habitat and bird usage over 10 years	2018 – 19/20 2019 – 18.7/20 2020 – 19/20 2021 – 19/20 2022 – 19/20 Area and health maintained

ATTACHMENT B:

Local Offset Management Plan Annual Report 2022



Local Biodiversity Areas

Annual Report 2022

[Subject]

Annual report for the period from January to December 2022, for activities described in the Management Plans for all Local Warkworth Mining Limited offsets including:

- Southern Biodiversity Area (including the Putty Road Offset Area)
- Northern Biodiversity Area

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Revision

Version No.	Version Details	Document Status	Date
1.0	Environment and Community Advisor	Final	30/04/2023

1 INTRODUCTION

This annual report is a requirement of the management plans for all Local Warkworth Mining Limited offsets for the 2021 reporting period (1 January 2022 to 31 December 2022).

The report provides a summary of the key management activities completed across the biodiversity offset located within the Southern (includes the Putty Road Offset Area) and Northern Biodiversity Areas (BAs).

The management plans describe the conservation management strategies and monitoring to achieve, and measure improvement and protection of the offset's biodiversity values. It is a compliance requirement of the Commonwealth and NSW environmental approvals to implement the management plans.

The Local OMP (November 2014) was prepared to satisfy the consent requirements for the New South Wales (NSW) Warkworth Mine Development Approval (DA 300-9-2002i) and replaces the former *Flora and Fauna Management Plan* and *Warkworth Sands Woodland (WSW) Offset Area OMP*. In November 2015 the NSW Warkworth Continuation Project Approval (SSD-6464) was granted providing both NSW and Commonwealth approval for the same disturbance area. Phase 2 of the EPBC2009/5081 action also commenced on 16 February 2016. In response to the granting of these new approvals, new Management Plans for the Southern and Northern BA have been prepared to satisfy the Commonwealth approval EPBC2009/5081 and the NSW consent (SSD-6464), replacing both the Local and Putty Road OMPs.

The Biodiversity Offset Portal contains the supporting documentation for this report, including photo point monitoring. Access to the portal is restricted, relevant regulators have been provided with login details; please contact Mount Thorley Warkworth should you require assistance.

2 LOCATION AND LANDHOLDER DETAILS

The locations of the local BAs are shown in **Figure 1**, **Figure 2** and **Figure 3**, details are provided in **Table 1**.

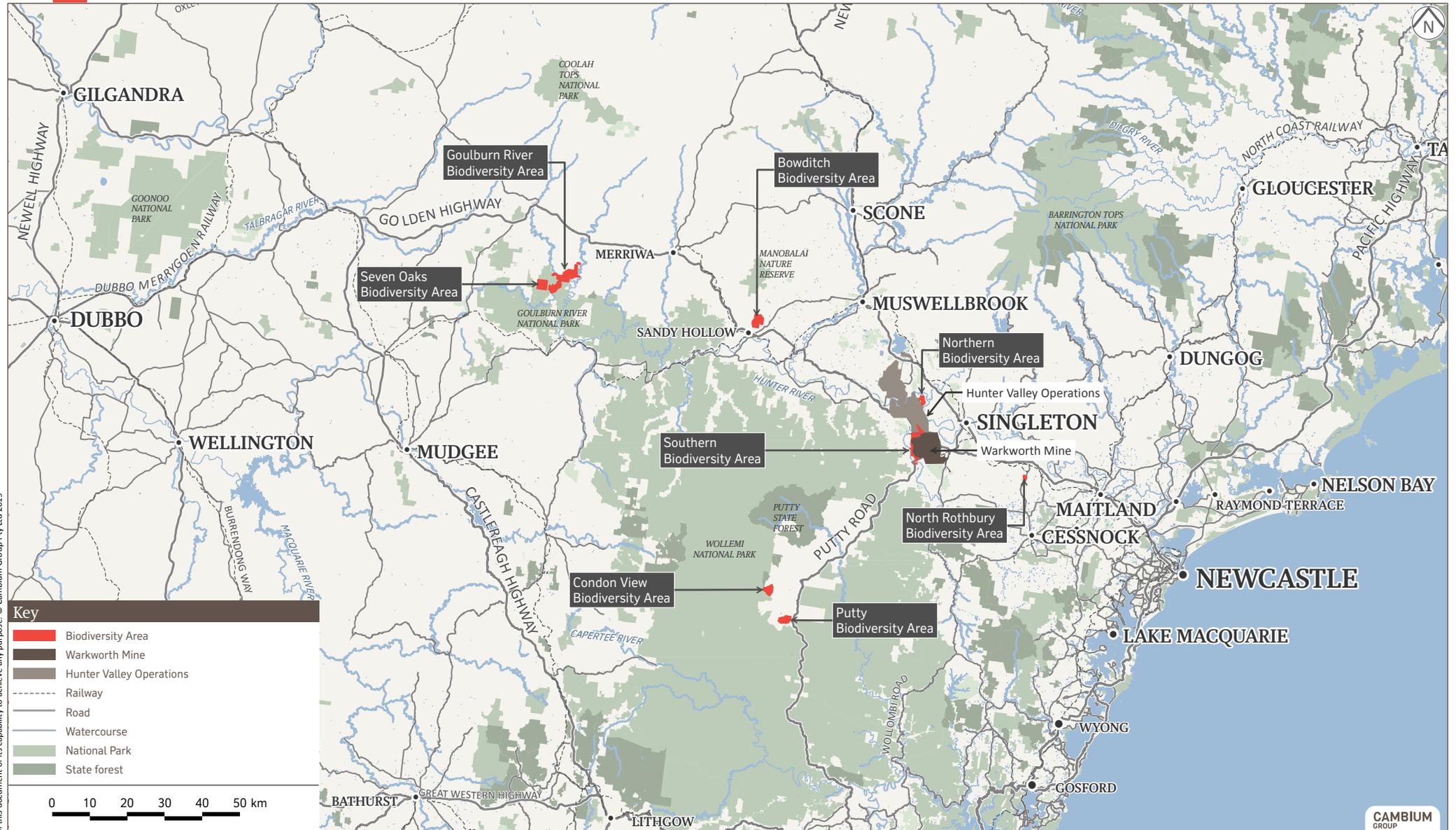
Table 1 Local Biodiversity Areas

Biodiversity Area	Land Owner	Area (ha)	Offset Area (ha)	Location
Northern BA	Coal & Allied Operations Pty Ltd	344	341	Approximately 7km north of the Warkworth Mining Lease and in close proximity to the Hunter Valley Operations. Accessed via Comleroi Road.
Southern BA (including the Putty Road Offset)	Coal & Allied Operations Pty Ltd Miller Pohang Coal Company Pty Ltd Warkworth Mining Limited	1,023	986	Immediately west and north of Warkworth Mine. Intersected by Putty Road in the south, and Wallaby Scrub Road and the Golden Highway in the north.

Location of the Warkworth Mining Limited Biodiversity Areas

Annual Compliance Report

Figure 1

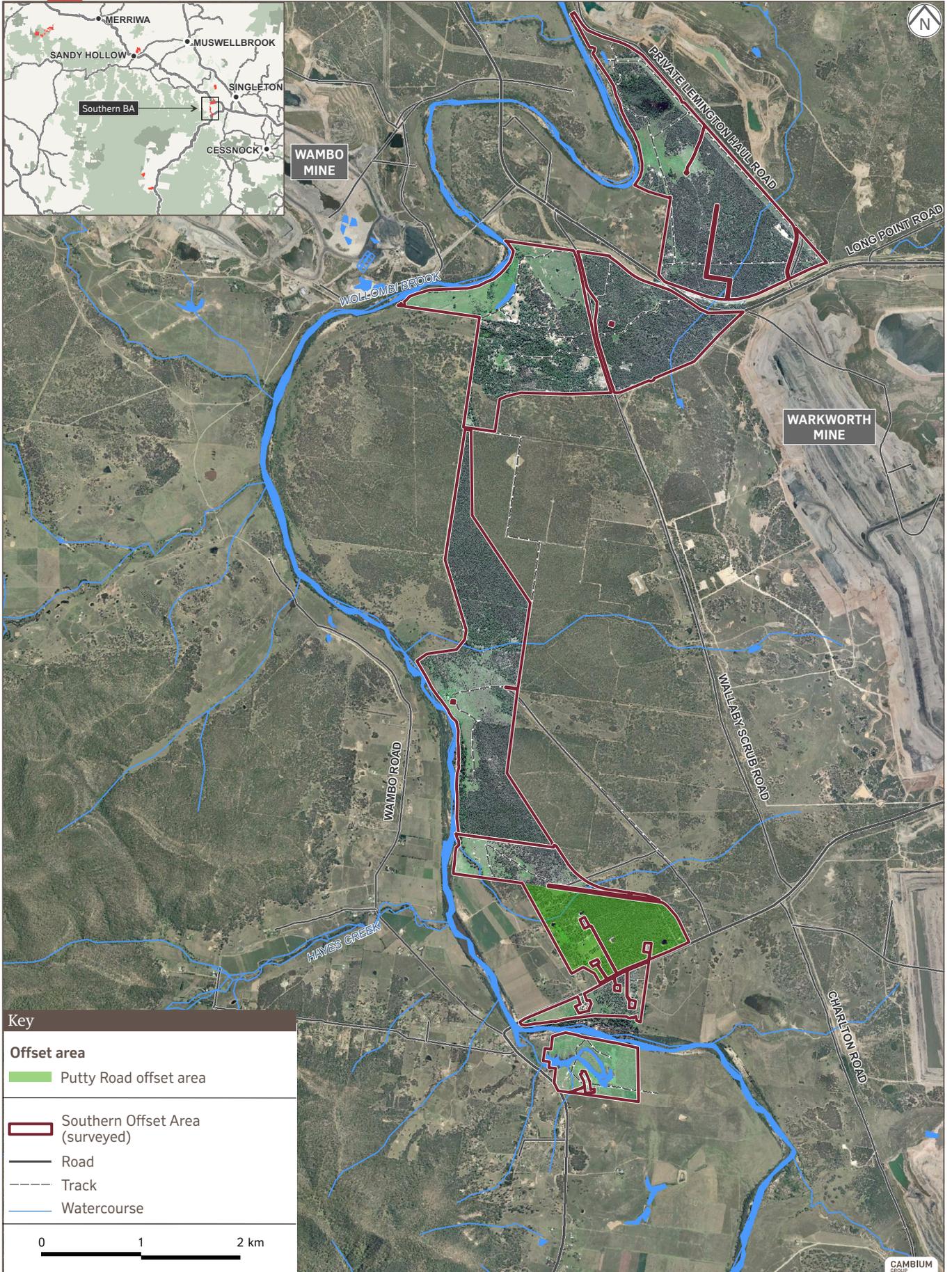


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Southern Biodiversity Area - Putty Road offset area

Annual Compliance Report

Figure 2

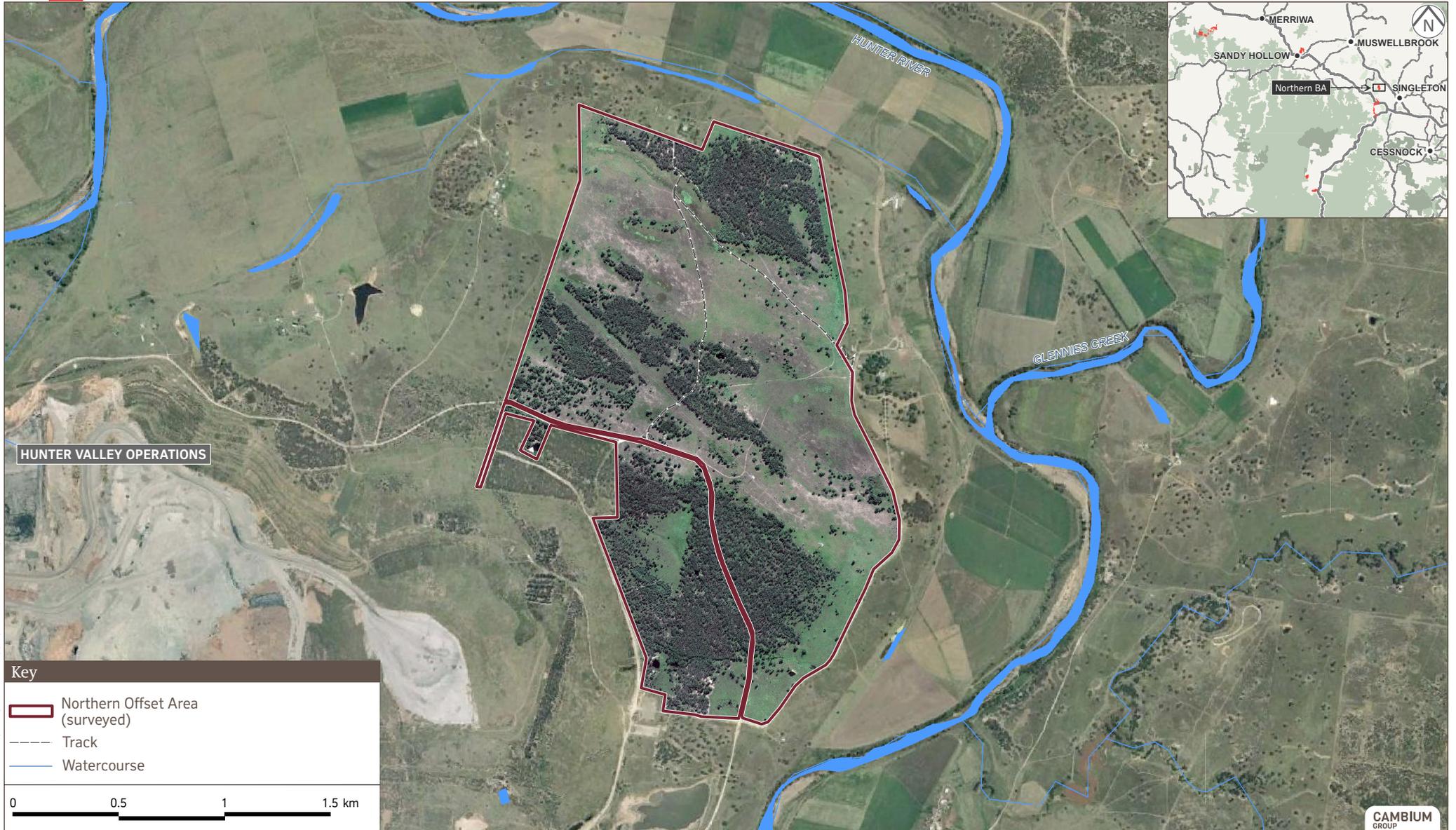


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Northern Biodiversity Area

Annual Compliance Report

Figure 3



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3 SUMMARY OF ACTIVITIES – 2022

Table 2 provides a summary of the activities undertaken during the reporting period (year 6) and the progress in attaining the Performance Criteria for the key Conservation Management Strategies in the management plans.

3.1 Summary of climatic conditions

Figure 4 and **Figure 5** show the monthly actual rainfall compared to the long-term average for the Northern BA and Southern BA for the reporting period. In 2022 rainfall was well above average for March, July, October and November with minimal rainfall in June and December. The Southern BA received 1,203mm of rainfall which was 666mm above the long-term average and the Northern BA received 1,163mm which was 637mm above the long-term average. The high rainfall was a significant factor in the survival of the Central Hunter Grey Box – Ironbark Woodland, River Oak Forest and Warkworth Sands Woodland tube stock planted from July to December 2022.

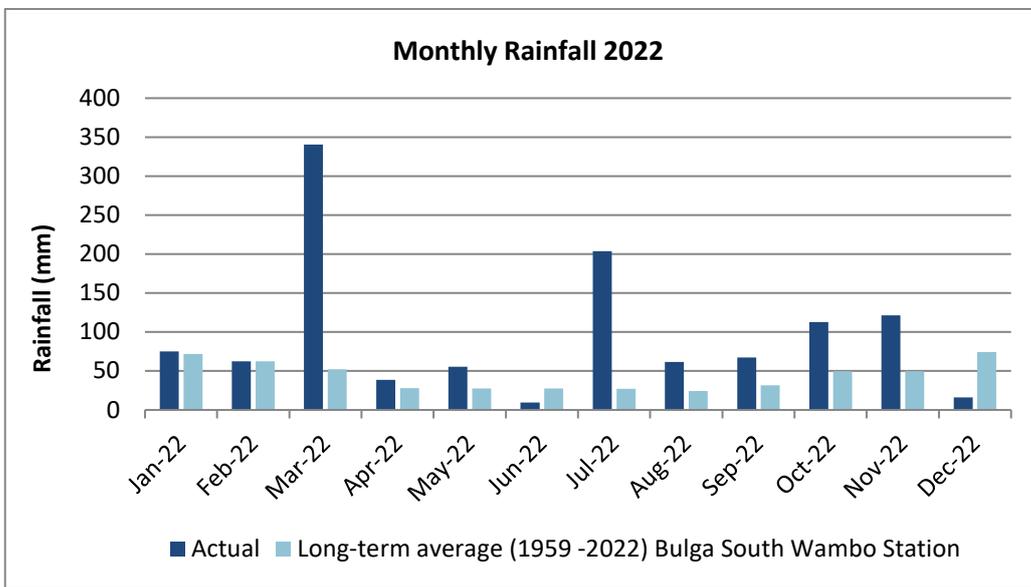


FIGURE 4 MONTHLY RAINFALL – NORTHERN BA

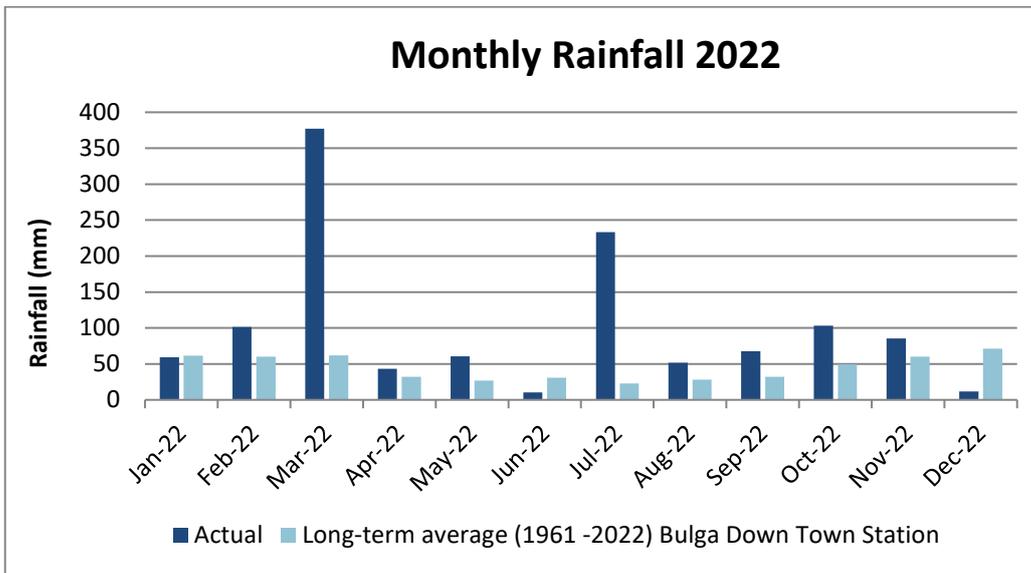


FIGURE 5 MONTHLY RAINFALL –SOUTHERN BA

Table 2 Summary of progress against Performance Criteria

Conservation Actions	Year 1 to Year 5	Year 6 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
ACTIVE RESTORATION				
Southern BA WSW planting (40ha)				
<i>Performance Criteria</i>	<i>Collection of seed. Plant propagation. Tubestock planted. Completed survival assessment.</i>	<i>Ecological monitoring completed</i>	<i>Ecological monitoring demonstrates a trajectory toward the reference site or the benchmark values for HU872 for all attributes measured over the three consecutive assessments (the average of all plots).</i>	
Activity / Progress	Seed collection and plant propagation was undertaken. In 2017 1ha of WSW tubestock was planted in the Southern BA. In 2018 14 ha of WSW tubestock was planted in the Southern BA including replanting the sand quarry and old orchard areas. In 2019 maintenance of planting areas was undertaken and included infill planting of over 9,000 tubestock. In 2020 maintenance of planting areas was undertaken and included infill planting of over 2,000 tubestock. Survival assessments were completed for all planting areas.	Seed collection and plant propagation was undertaken. In 2022 planting of tubestock included 3,000 WSW tubestock in the grassland area of Southern BA1 and infill planting of 4,400 tubestock throughout the Southern BA. Ecological monitoring was undertaken		Collect seed and propagate plants. Undertake survival assessments. Undertake infill planting to restore Warkworth Sands Woodland in the Southern BA.

Conservation Actions	Year 1 to Year 5	Year 6 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
Southern BA CHGBIW planting (240ha)				
<i>Performance Criteria</i>	<i>Collection of seed. Plant propagation. Tubestock planted. Completed survival assessment.</i>	<i>Ecological monitoring completed.</i>	<i>Ecological monitoring demonstrates a trajectory toward the reference site or the NSW Biometric HU817 for all attributes measured over three consecutive assessments (the average of all plots).</i>	
Activity / Progress	<p>Seed collection and plant propagation was undertaken.</p> <p>Restoration activities included tubestock planting of Central Hunter Grey Box – Ironbark Woodland in the Southern BA.</p> <p>In 2017, 89 ha of the Southern BA was planted with over 13,000 tubestock planted into rip lines.</p> <p>In 2018 118 ha of the Southern BA was planted with over 20,000 tubestock planted into rip lines.</p> <p>In 2019 maintenance of planting areas was undertaken and included infill planting of over 10,000 tubestock.</p> <p>In 2020 maintenance of planting areas was undertaken and included infill planting of over 3,800 tubestock.</p> <p>In 2021 maintenance of planting areas was undertaken and included infill planting of 9,000 tubestock.</p> <p>The site preparation for these sites included ripping by dozer and weed control. To mimic nature the tree species were planted at a spacing of 5 -10m and shrubs species planted in clumps as commonly found with understory species within this vegetation type. All plants were watered, fertilised and protected with a tree guard.</p> <p>Survival Assessments were completed for all planting areas.</p>	<p>Seed collection and plant propagation was undertaken.</p> <p>In 2022 maintenance of planting areas was undertaken and included infill planting of 7,000 tubestock.</p> <p>Ecological monitoring was undertaken.</p>	<p>Collect seed and propagate plants.</p> <p>Undertake survival assessments.</p> <p>Undertake infill planting of Central Hunter Grey Box – Ironbark Woodland in the Southern BA.</p>	

Conservation Actions	Year 1 to Year 5	Year 6 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
Southern BA ROF planting (26ha)				
<i>Performance Criteria</i>	<i>Collection of seed. Plant propagation. Tubestock planted. Completed survival assessment.</i>		<i>Survival assessment greater than 70%</i>	
Activity / Progress	<p>Seed collection and plant propagation was undertaken.</p> <p>Restoration activities included planting River Oak Forest in the Southern BA.</p> <p>In 2018, 11ha of the Southern BA was planted with over 2,000 tubestock planted into rip lines.</p> <p>In 2019 maintenance of planting areas was undertaken and included infill planting of over 800 tubestock.</p> <p>In 2020 maintenance of planting areas was undertaken and included infill planting of 3,200 tubestock.</p> <p>In 2021 maintenance of planting areas was undertaken and included infill planting of 4,000 tubestock. The site preparation for this site included ripping by dozer and weed control. To mimic nature the tree species were planted at a spacing of 5 -10m and shrubs species planted in clumps as commonly found with understory species within this vegetation type. All plants were watered, fertilised and protected with a tree guard.</p> <p>Survival Assessments were completed for all planting areas.</p>	<p>In 2022 maintenance of planting areas was undertaken and included infill planting of 5,000 tubestock.</p> <p>Seed collection and plant propagation was undertaken.</p> <p>Ecological monitoring was undertaken.</p>		<p>Collect seed and propagate plants.</p> <p>Undertake survival assessments.</p> <p>Undertake infill planting of River Oak Forest in the Southern BA.</p>
Northern BA WSW planting (195ha)				
<i>Performance Criteria</i>	<i>Collection of seed. Plant propagation. Tubestock planted. Completed survival assessment.</i>	<i>Ecological monitoring completed.</i>	<i>Ecological monitoring demonstrates a trajectory toward the reference site or the benchmark values for HU872 for all attributes measured over three consecutive assessments (the average of all plots).</i>	

Activity / Progress

Seed collection and plant propagation was undertaken.

Restoration activities included planting Warkworth Sands Woodland in the Northern BA.

In 2014 work commenced to restore over 80 hectares of Warkworth Sands Woodland, this involved the planting of seedlings and the relocation of sand salvaged ahead of mining activities.

In 2017, 10,800 tubestock were planted into 44 50x50m patches. Topsoil from ahead of mining operations at MTW was salvaged and hauled to the Biodiversity Area prior to planting commencing. In total Ten patches received 50mm of topsoil over the whole patch, two received 50mm of topsoil over half the patch, 12 received 25mm of topsoil over the patch and ten received no topsoil. Holes were dug for tubestock, either by hand or auger and all plants were watered, fertilised and protected with a tree guard.

In 2018 maintenance of planting areas was undertaken and included infill planting of over 8,000 tubestock.

In 2019 maintenance of planting areas was undertaken and included infill planting of over 3,000 tubestock.

In 2020 planting progressed at the Northern BA with 9,112m³ of WSW sand stripped ahead of mining at MTW and hauled to the Northern Biodiversity Area. 5,480m³ of this WSW sand was spread into strips and seeded with native grasses to increase the groundcover diversity then planted with 4,500 tubestock

In 2021 WSW planting progressed with 3,632 m³ of sand from ahead of mining at MTW spread into strips and seeded with native grasses then planted with 1,500 tubestock.

Survival Assessments were completed for all planting areas

A separate Ecological monitoring program was undertaken in 2021 to capture the WSW planting areas.

Seed collection and plant propagation was undertaken.

In 2022 maintenance of planting areas was undertaken and included infill planting of 3,400 WSW tubestock.

Planting of 10,000 Warkworth Sands Woodland tube stock was delayed due to access issues transporting sand into the planting areas, this has been rescheduled for 2023.

Ecological monitoring was undertaken.

Collect seed and propagate plants.

Undertake survival assessments

Undertake track maintenance to allow sand to be transported to the planting areas.

Spread topsoil from ahead of mining operations at MTW into the 2022 and 2023 Northern BA planting strips.

Undertake planting of the 10,000 Warkworth Sands Woodland tube stock delayed from 2022 and the 12,000 tube stock for 2023.

Conservation Actions	Year 1 to Year 5	Year 6 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
Northern BA CHGBIW planting (23ha)				
<i>Performance Criteria</i>	<i>Collection of seed. Plant propagation. Tubestock planted. Completed survival assessment.</i>	<i>Ecological monitoring completed.</i>	<i>Ecological monitoring demonstrates a trajectory toward the reference site or the NSW Biometric HU817 for all three attributes measured over three consecutive assessments (the average of all plots).</i>	
Activity / Progress	<p>Restoration activities included tubestock planting of Central Hunter Grey Box – Ironbark Woodland in the Northern BA.</p> <p>In 2017, 6ha of the Northern BA was planted with 2,780 tubestock planted into rip lines. The site preparation for this site included ripping by dozer and weed control. To mimic nature the tree species were planted at a spacing of 5 -10m and shrubs species planted in clumps as commonly found with understory species within this vegetation type. All plants were watered, fertilised and protected with a tree guard.</p> <p>In 2018 maintenance of planting areas was undertaken and included infill planting.</p> <p>Survival Assessments were completed for all planting areas.</p>	Ecological monitoring was undertaken		

Conservation Actions	Year 1 to Year 5	Year 6 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
PASSIVE RESTORATION				
Weed control and monitoring				
<i>Performance Criteria</i>	<p>At least two weed control events each year for species listed in Table 14 of Management Plans and other weeds recorded from monitoring activities.</p> <p>All actions recorded in Annual Report.</p> <p>Complete Rapid Condition Assessments and Property Inspections.</p>	<p>At least one weed control event each year for species listed in Table 14 of Management Plans and other weeds recorded from monitoring activities.</p> <p>All actions recorded in Annual Report.</p> <p>Complete Rapid Condition Assessments and Property Inspections.</p>	<p>Ecological monitoring data indicates a trajectory for reduction in exotic plant cover over three consecutive assessments.</p>	
Activity / Progress	<p>Weed contractor engaged to undertake weed control activities at the Northern and Southern BA throughout the year.</p> <p>Rapid Condition Assessment and Property Inspections were completed.</p>	<p>In 2022 weed control targeted the following species: African boxthorn (<i>Lycium ferocissimum</i>), African lovegrass (<i>Eragrostis curvulva</i>), African olive (<i>Olea europaea</i>), Balloon vine (<i>Cardiospermum grandiflorum</i>), Blue heliotrope (<i>Heliotropium amplexicaule</i>), Brazilian nightshade (<i>Solanum seaforthianum</i>), Bridal creeper (<i>Asparagus asparagoides</i>), Cats claw creeper (<i>Dolichandra unguis-cati</i>), Coolatai grass (<i>Cynodon dactylon</i>), Farmers friends (<i>Biden pilosa</i>), Fire weed (<i>Senecio madagascariensis</i>), Galenia (<i>Galenia pubescens</i>), Green cestrum (<i>Cestrum parqui</i>), Honey locust (<i>Robina pseudoacacia</i>), Kikuyu grass (<i>Pennisetum clandestinum</i>), Lantana (<i>Lantana camara</i>), Moth Vine (<i>Araujia sericifera</i>), Mother of millions (<i>Bryophyllum delagonese</i>), Prickly pear (<i>Opuntia stricta</i>), Queensland silver wattle (<i>Acacia podalyriifolia</i>), Telegraph weed (<i>Heterotheca grandiflora</i>), Tiger pear (<i>Optunia aurantiaca</i>), Tree of heaven (<i>Ailanthus altissima</i>), Turkey rhubarb (<i>Rumex sagittatus</i>), and Whisky grass (<i>Andropogon virginicus</i>).</p> <p>Rapid Condition Assessments and Property Inspections were completed.</p>		<p>Control noxious species and stop weeds spreading into previously un-infested areas.</p> <p>Undertake Rapid Condition Assessments.</p> <p>Undertake Property Inspections.</p>

Conservation Actions	Year 1 to Year 5	Year 6 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
Pest control and monitoring				
<i>Performance Criteria</i>	<p>At least two control events each year for species listed in Table 20 of Management Plans, and any other species recorded from monitoring activities.</p> <p>Active participation in programme coordinated by Hunter Local Land Service (HLLS), this may include local control actions.</p> <p>Complete biannual inspection and report all works completed and actions for next year.</p>	<p>At least one control events each year for species listed in Table 17 of Management Plans, and any other species recorded from monitoring activities.</p> <p>Active participation in programme coordinated by HLLS, this may include local control actions.</p> <p>Complete biannual inspection and report all works completed and actions for next year.</p>	<p>No observed vertebrate pest or damage.</p> <p>Ecological monitoring demonstrates a trajectory to benchmark values for all attributes measured over three consecutive assessments (the average of all plots).</p>	
Activity / Progress	<p>Vertebrate pest contractor was engaged to undertake programmes across the Southern and Northern BA.</p> <p>Biannual property inspections were undertaken.</p>	<p>In 2022 a vertebrate pest contractor was engaged to undertake programmes across the Southern and Northern BA.</p> <p>Two 1080 ground baiting programmes were undertaken targeting wild dogs and foxes in autumn and spring. Both programmes were coordinated with HLLS and neighbouring landholders across the broader Hunter Valley area.</p> <p>Biannual property inspections were undertaken.</p>		<p>Undertake vertebrate pest management including 1080 ground baiting programmes scheduled for autumn and spring to target wild dogs and foxes.</p> <p>Undertake biannual property Inspections.</p>
Grazing				
<i>Performance Criteria</i>	<p>Grazing is conducted in accordance with the Management Plan.</p> <p>Boundary fences maintained.</p> <p>Complete Rapid Condition Assessment and Property Inspections.</p>			
Activity / Progress	<p>No strategic grazing was undertaken in the BAs in 2022.</p> <p>Property Inspections and Rapid Condition Assessments were undertaken in 2022</p>			<p>Undertake Property Inspections.</p> <p>Undertake Rapid Condition Assessments.</p> <p>Maintain boundary fences.</p>

Conservation Actions	Year 1 to Year 5	Year 6 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
Bushfire Management Plan (BFMP), Ecological burn and monitoring				
<i>Performance Criteria</i>	<i>Actions implemented.</i> <i>Review and revise if required.</i> <i>Complete Rapid Condition Assessments and Property Inspections.</i>	<i>Actions implemented.</i> <i>Review and revise if required.</i> <i>Complete Rapid Condition Assessments and Property Inspections.</i> <i>Completed ecological fire management plan for MZ1, MZ3, MZ5, MZ7, MZ8 and MZ9.</i>	<i>All required actions of BFMP have been implemented.</i> <i>BFMP has been reviewed annually and revised if required.</i>	
Activity / Progress	BFMP reviewed. Firebreaks were slashed. Property Inspections and Rapid Condition Assessments were undertaken.	BFMP reviewed. Firebreaks were slashed at the Southern BA in 2022, The ground conditions at the Northern BA were unsuitable for slashing in 2022. Property Inspections and Rapid Condition Assessments were undertaken in 2022.		Review BFMP. Undertake Property Inspections. Undertake Rapid Condition Assessments. Undertake fuel load assessments. Slash firebreaks.
Infrastructure Improvements and monitoring				
<i>Performance Criteria</i>	<i>Completed GDP for all infrastructure improvement actions.</i> <i>Maintenance of tracks and fences completed at least every 3 years.</i> <i>Property Inspections undertaken.</i>			.
Activity / Progress	GDP completed for WSW planting programs in the Southern and Northern BA in 2022. Boundary fences maintained, and Property Inspections undertaken in 2022.			Maintain tracks and boundary fences. Undertake Property Inspections
Erosion monitoring inspections and reports				
<i>Performance Criteria</i>	<i>Complete Rapid Condition Assessment and Property Inspections</i>			
Activity / Progress	Rapid Condition Assessments and Property Inspections undertaken in 2022. A small erosion area was identified at the Northern BA and coir logs and mesh installed in 2022.			Undertake Rapid Condition Assessments. Undertake Property Inspections.

Conservation Actions	Year 1 to Year 5	Year 6 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
Dam conversion and rehabilitation and monitoring				
<i>Performance Criteria</i>	<i>Prepare dam conversion plan. Dam conversion complete and rehabilitation has stabilised the site. Property inspections.</i>	<i>Observed natural flow regime and no erosion. Property inspections.</i>	<i>All works completed.</i>	
Activity / Progress	Property inspections undertaken. Dam conversion plan prepared.	Property inspections undertaken in 2022. Most dams were at capacity due to above average rainfall.		Implement actions from dam conversion plan. Undertake Property Inspections.
Natural Regeneration and monitoring				
<i>Performance Criteria</i>	<i>Annual weed control, vertebrate pest and fire management actions implemented as per management plans. Complete Rapid Condition Assessments and Property Inspections.</i>		<i>Ecological monitoring demonstrates a trajectory to benchmark values for all attributes measured over three consecutive assessments (the average of all plots).</i>	
Activity / Progress	All actions implemented in 2022 as per management plans. Rapid Condition Assessments and Property Inspections undertaken in 2022.			Undertake Property Inspections. Undertake Rapid Condition Assessments.
Controlled Activities				
<i>Performance Criteria</i>	<i>No reported incidents of prohibited actions undertaken Yancoal, contractors, consultants or other agents of Yancoal. Any clearing of vegetation reported in Annual Report. Signage and locks (where required) maintained. Complete risk assessment for any recreation activities. All occupants of residents compliant with requirements of the MP. No Cultural Heritage sites knowingly disturbed and any protective barricading maintained. Damaged and unwanted fences removed. All Property Inspections completed.</i>			

Conservation Actions	Year 1 to Year 5	Year 6 to Year 10 (2022 is Year 6)	Completion Criteria	Actions 2023
Activity / Progress	<p>In 2017 trespassing and illegal tree clearing and timber getting within the Southern Biodiversity Area resulted in felling approximately 40 full sized trees and 100 small trees. This unauthorised activity was reported to both Department of Environment and Energy and Department of Planning and Environment in October 2017.</p> <p>Internal fences and waste were removed from the Southern BA areas to be planted in 2018 and sections of boundary fence at the Northern BA and Southern BA were repaired and replaced where needed.</p> <p>New Biodiversity Area signs were installed in 2017.</p> <p>Regular property inspections were undertaken.</p> <p>In 2022 there were no reported incidents or prohibited actions undertaken on the Biodiversity Areas.</p>			Undertake Property Inspections.

4 MONITORING ACTIVITIES

The following table provides a summary of the monitoring activities undertaken as detailed in the MP. Monitoring reports and results are available on the Biodiversity Offset Portal.

Table 3 Monitoring Activity Summary

Monitoring	2022	Date/s	Completed by
Bird Assemblage	X	July – October 2022, next due July – October 2024	ANU Enterprise
Habitat Restoration	X	September - November 2022, next due September – November 2024	Mosaic Ecology and Cumberland Plain Seeds
Rapid Condition Assessment	X	November 2022, next due September – November 2023	Environment Advisor
Property Inspection	X	April/November 2022, next due April/November 2023	Environment Advisor

4.1 Bird assemblages monitoring

Bird assemblage monitoring is undertaken every two years as part of the ecological monitoring requirements to assess changes in the condition and extent of the woodland habitats within the BAs and the ongoing usage of these habitats by woodland birds, including the critically endangered regent honeyeater and swift parrot.

Previous bird monitoring methodology (2014 – 2018) included two-hectare, 20-minute area searches with one visit to each monitoring site during winter and early spring. In 2020 the bird monitoring methodology changed to increase site visits so that each site was visited three times between July and October, to cover the period when swift parrots and regent honeyeaters are most likely to be present. The maximum count of all bird species detected visually or audibly during the survey period and within the boundaries of each survey site were recorded. Data from the 2020 monitoring program demonstrated that three visits to each monitoring site is sufficient to record most bird species regularly occupying the monitoring sites.

In 2022 eighteen new monitoring sites were added to the monitoring programme to help increase the likelihood of detecting regent honeyeaters or swift parrots occupying the BAs. A total 113 species of birds were recorded throughout the eight Biodiversity Areas in 2022 representing a decrease of nine species compare to 2020 data. The decline is likely due to wet weather and lack of eucalypt blossom. A total of 11 threatened bird species were detected during surveys and some species detected for the first time included water birds occupying ephemeral wetlands within the BAs. No regent honeyeaters or swift parrots were detected occupying any of the BAs in 2022. The wet weather and a lack of eucalypt and mistletoe blossom within the BAs may mean regent honeyeaters and swift parrots are occupying different habitats to where they typically occupy during this monitoring period.

The following are the recommendations and discussion summaries for the Local Biodiversity Areas.

Northern BA

After three visits a total of 35 bird species were detected during standardised surveys representing a decrease of one species on the 2020 data. Threatened species detected included the Grey-crowned babbler *Pomatostomus temporalis*. The overall species richness was higher than all previous years and the Golden-headed cisticolas *Cisticola exilis* was detected for the first time on the property. Noisy miner (*Manorina melanocephala*) numbers have increased over the past two years. Management

recommendations include continuation of planting and consideration of noisy miner management.

Southern BA

In 2022 an additional four monitoring sites were added into areas of proactive habitat management in the BA as recommended by the previous monitoring report. A total of 60 bird species were detected during standardised surveys representing an increase of four species on the 2020 data. This represents a slight increase in species richness on previous years. Threatened species detected included the speckled warbler, grey-crowned babbler, varied sittella *Daphoenositta chrysoptera*, dusky woodswallow *Artamus cyanopterus* and little eagle *Hieraaetus morphnoides*. A red-capped robin *Petroica goodenovii* was detected occupying the BA for the first time during standardised surveys in 2022. The GBIBW planting areas are providing improved habitats for small woodland birds as they mature. Evidence of rabbit abundance was generally low although there were signs of fresh pig tracks. Management recommendations include continuation of planting and consideration of noisy miner management.

4.2 Habitat restoration monitoring

This study completes the fourth round of habitat restoration monitoring for the Southern BA and the fifth for the Northern BA. A separate monitoring program was undertaken across the Northern BA in Spring 2021 and included an additional eight transitional plots to capture the WSW planting activities undertaken between 2014 - 2021. The habitat restoration monitoring programme assesses the changes in key attributes within the BA through time as grassland communities are restored to woodland.

Monitoring was undertaken across all BAs in Spring 2022. The years leading up to the 2022 monitoring event experienced higher than average rainfall and improved growing conditions after a prolonged and severe drought. This should be considered when comparing 2022 data with previous years.

The following are the recommendations and discussion summaries for the Local Biodiversity Areas.

2022 monitoring results indicate that the reference sites are in relatively good condition considering the history of disturbance while the transition sites are generally in poor condition compared to the reference sites.

The Grey Box Ironbark woodland reference sites attributes were variable across the plots but the mean value for all attributes were above or close to Benchmark.

The Grey Box Ironbark transition sites native species richness and plant cover scores are low compared to reference mean values (except for native grass cover). Many calculated mean scores were above the reference site minima but only native ground layer (grass) cover achieved the reference mean value. The CHGBIW Trans 3 plot was inundated by deep water at the time of survey and so data could not be collected for this site.

The Warkworth Sand Woodland reference sites native species richness, over storey cover and ground layer (other) cover within the Benchmark range across all sites (some sites had above Benchmark maximum values). Native ground layer (grasses) cover was above the Benchmark maximum at all sites. Other attributes were variable across the plots. Native shrub cover, both in the mid storey and ground layer was generally lower than the Benchmark minimum as was fallen log length.

Warkworth Sands woodland transition sites total native species richness is low compared to reference mean values. Native species diversity is spread across all

vegetation categories but is largely lower than the corresponding reference mean value. Native plant cover scores are low compared to reference mean values except in the native ground layer (other) category with some sites above the reference site minima and several calculated mean scores above the reference site means. Recent plantings, soil translocation and direct seeding have increased biodiversity and total stems in many plots, but the plants were generally too small to significantly increase canopy cover. Vegetation at the Hunter Lowland Redgum Forest plots was in generally good condition, meeting the Benchmark Range for many attributes. Mean Values for all key attributes were above the Benchmark Minimum values or above 85% of the minimum. Management recommendations include pest management for feral pigs and rabbits. Weed management to reduce priority weeds and planting to increase the diversity of native canopy and mid-storey species. Consideration of selectively thinning sites with high stem densities of more than 1000/Ha to decrease competition and increase total length of logs on the ground.

5 PROGRESS IN ATTAINING CONSERVATION OBJECTIVES AGAINST KEY PERFORMANCE INDICATORS

The primary conservation objectives for the local offset areas (including the Putty Road Offset) are to:

- enhance biodiversity values across the BAs;
- protect the WSW Offset Area and Putty Road Offset Area under a legally binding conservation covenant;
- increase the condition of WSW and Ironbark EECs and observe a transition from grassland to woodland;
- enhance habitat and foraging opportunities for the woodland birds; and
- contribute to and enhance the existing network of protected vegetation within the Hunter Valley.

Table 2 indicates the progress in attainment of the long-term conservation objectives, the ecological monitoring data supports the continued implementation of the conservation management strategies.

6 ADAPTIVE MANAGEMENT

No new environmental risks have been identified during the reporting period.

Table 4 Local Offset Areas Biodiversity Values and Key Performance Indicators

Area	Biodiversity Value	Description and baseline metric	KPI	Progress comment
Southern BA	Ironbark Woodland	Total area: 446.7ha RCA Average Health rating 18/20 (MZ1)	Extent and condition of woodland over 10 years.	RCA results: 2014 – 18/20 2015 – 18/20 2016 – 18/20 2017 – 18.5/20 2018 – 18.5/20 2019 – 18/20 2020 – 17.5/20 2021 – 17.5/20 2022 – 18/20 Area and health maintained.
	Ironbark Grassland	Total area: 258.4ha	Transition of grassland to woodland.	2022 monitoring supports continued implementation of the conservation management strategies.
	WSW	Total area: 137ha RCA Average Health rating 17.8/20 (MZ3)	Extent and condition of woodland over 10 years.	RCA results: 2014 – 16/20 2015 – 18/20 2016 – 17/20 2017 – 18/20 2018 – 18/20 2019 – 18/20 2020 – 17/20 2021 – 17/20 2022 – 16/20 Area and health maintained.

Area	Biodiversity Value	Description and baseline metric	KPI	Progress comment
	WS Grassland	Total area:40.3ha	Transition of grassland to woodland.	
	Hunter Lowland Red Gum Forest	Total area: 32.4ha RCA Average Health rating 18.6/20 (MZ5)	Extent and condition over 10 years.	RCA results: 2014 – 17/20 2015 – 19/20 2016 – 19/20 2017 – 19/20 2018 – 18.5/20 2019 – 18.5/20 2020 – 19/20 2021 - * 2022 - * *Sites were inaccessible due to flooding
	Fauna Habitat	Low potential habitat	Observe maintenance or increase habitat condition rating over 10 years	2022 monitoring supports continued implementation of the conservation management strategies.
Northern BA	Ironbark Woodland	Total area: 103.6ha RCA Average Health rating 18.6/20 (MZ1)	Extent and condition of woodland over 10 years.	RCA results: 2014 – 18/20 2015 – 18.5/20 2016 – 19.5/20 2017 – 19.5/20 2018 – 18/20 2019 – 18/20 2020 – 19/20 2021 – 19/20 2022 – 18.5/20 Area and health maintained.

Area	Biodiversity Value	Description and baseline metric	KPI	Progress comment
	Ironbark Grassland	Total area: 23.1ha	Transition of grassland to woodland.	
	WSW	Total area: 19.5ha RCA Average Health rating 18.5/20 (MZ3)	Maintain woodland extent over 10 years.	RCA results: 2014 – 17.5/20 2015 – 18/20 2016 – 19/20 2017 – 19/20 2018 – 18.5/20 2019 – 18.5/20 2020 – 19/20 2021 – 18.5/20 2022 – 18.5/20 Area and health maintained.
	WS Grassland	Total area: 194.5	Transition of grassland to woodland	2022 monitoring supports continued implementation of the conservation management strategies.
	Fauna Habitat		Observe maintenance or increase habitat condition rating over 10 years	2022 monitoring supports continued implementation of the conservation management strategies.

ATTACHMENT C: EPBC 2009/5081 Compliance Register (Condition 17)

EPBC 2009/5081 Compliance Register (Condition 17)

Condition	Documents	Date due (as per Approval)	Date submitted	Date approved	Date Plan on website	Date DoEE notified	Date review due
2	Putty Road Offset Management Plan	13-Apr-2014	14-Apr-2014	04-Jul-2014	31-Jul-2014	31-Jul-2014	within 12 months of the approval of the Phase 2 Offset (refer Condition 5)
5	Southern BA Management Plan	17-Feb-2017	15-Feb-2017 14-Dec-2017 (revised version) 13-Nov-2020 (revised version) 28-Jul-2022 (revised version)	30-Apr-2018 20-Jul-2021 12-Aug-2022	28-Feb-2019 22-Jul-2021 10-Nov-2022	N/A	12-Aug-2026
6	Re-Establishment Management Plan	03-Feb-2015	02-Feb-2015	Not yet received	N/A	N/A	within 12 months of the Commencement of Construction of Phase 2
7	Putty, Seven Oaks, Goulburn River, Bowditch and North Rothbury Biodiversity Area Management Plans	17-Feb-2017	15-Feb-2017 14-Dec-2017 (revised versions) 28-Jul-2022 (revised version)	16-Feb-2018 (DoEE) 30-Apr-2018 (DPE)	28-May-2018 27-Sep-2018	N/A	12-Aug-2026
	Northern Management Plan		15-Feb-2017 14-Dec-2017 (revised version) 13-Nov-2020 (revised version) 28-Jul-2022 (revised version)	16-Feb-2018 (DoEE) 25-Sep-2018 (DPE) 20-Jul-2021	27-Sep-2018 22-Jul-2021	N/A	12-Aug-2026
	Condon View Biodiversity Area Management Plan		15-Feb-2017 10-Oct-2017 (revised version) 28-Jul-2022 (revised version)	12-Aug-2022	4-Nov-2022	N/A	
8	Water Management Plan	03-Aug-2014	15-Sep-2014 (following approval by NSW regulator 10-Sep-2014) 30-Apr-2020 (revised version). 28-Jul-2020 (revised version)	20-Sep-2018 (DPE) 13-May-2020 (DP&E) 15-Nov-2021	27-Sep-2018 13-May-2020 3-Feb-2022 (most recent version)	15-Sep-2014	N/A

Condition	Documents	Date due (as per Approval)	Date submitted	Date approved	Date Plan on website	Date DoEE notified	Date review due
11	Mine Site Rehabilitation Plan (Phase 1)	03-Feb-2015	02-Feb-2015	Not yet received	N/A	N/A	within 12 months of the Commencement of Construction of Phase 2
	Mine Site Rehabilitation Plan (Phase 2)	17-Feb-2017	23-Jan-2019 (following approval by NSW regulator 14-Dec-2018)	11-Jun-2019 (DPE) 11-Mar-2020 (DAWE)	N/A	N/A	N/A
			18-Nov-2021.	30-Nov-2021	19-Jan-2022	2-Aug-2022	
			28-Jul-2022	N/A for New RMP process	11-Aug-2022	Within 30 days of approval of a rehabilitation outcome document.	
12	Mine Closure Plan	6 months prior to mine closure	N/A	N/A	N/A	N/A	N/A
15	Compliance Report	03-May-2015 (and annually thereafter)	28-Apr-2015	N/A	28-Apr-2015	28-Apr-2015	03-May-2016
		03-May-2016	03-May-2016	N/A	03-May-2016	03-May-2016	03-May-2017
		03-May-2017	01-Jun-2017	N/A	10-Jun-2017	01-Jun-2017	03-May 2018
		03-May-2018	03-May-2018	N/A	03-May-2018	03-May-2018	03-May 2019
		03-May-2019	03-May-2019	N/A	03-May-2019	03-May-2019	03-May 2020
		03-May-2020	03-May-2020	N/A	03-May-2020	03-May-2020	03-May 2021
		03-May-2021	03-May-2021	N/A	03-May-2021	03-May-2021	03-May-2022
		03-May-2022	03-May-2022	N/A	03-May-2022	03-May-2022	03-May-2023
03-May-2023	03-May-2023	N/A	03-May-2023	03-May-2023	03-May-2024		