



Regional Biodiversity Areas

Annual Report 2017

April 2018

Annual report for the period from January to December 2017, 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

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1 INTRODUCTION

This annual report is a requirement of the Management Plans for all regional Warkworth Mining Limited offsets for the 2017 reporting period from 1 January through to 31 December 2017.

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 offsets 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 MTW 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 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

Location of the Warkworth Mine Biodiversity Areas
EPBC Annual Compliance Report

Figure 1

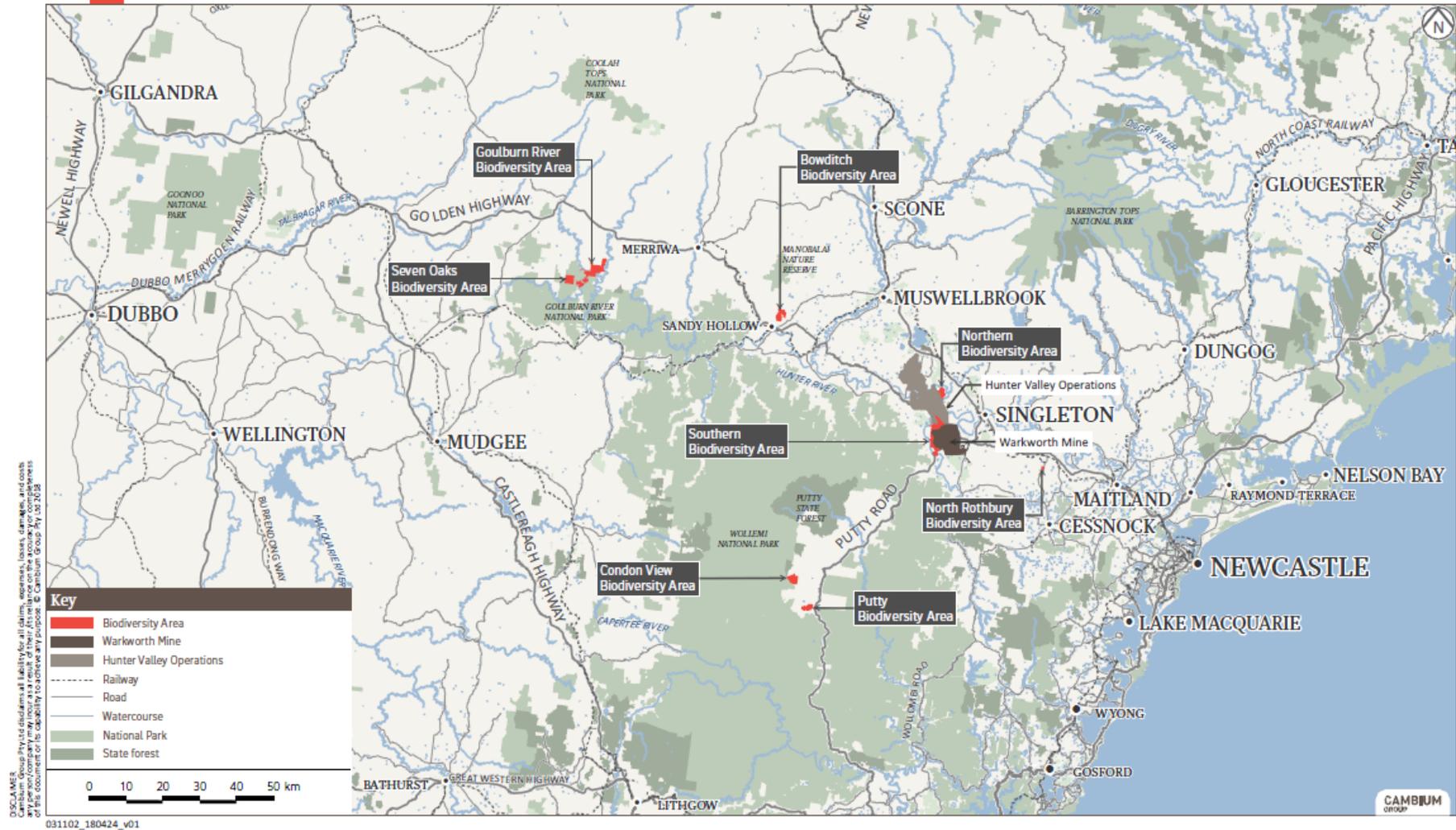


FIGURE 1 LOCATION OF WARKWORTH MINING LIMITED BIODIVERSITY AREAS

Cadastral boundaries and offset areas at the Goulburn River Biodiversity Area
Management Plan 2017

Figure 2

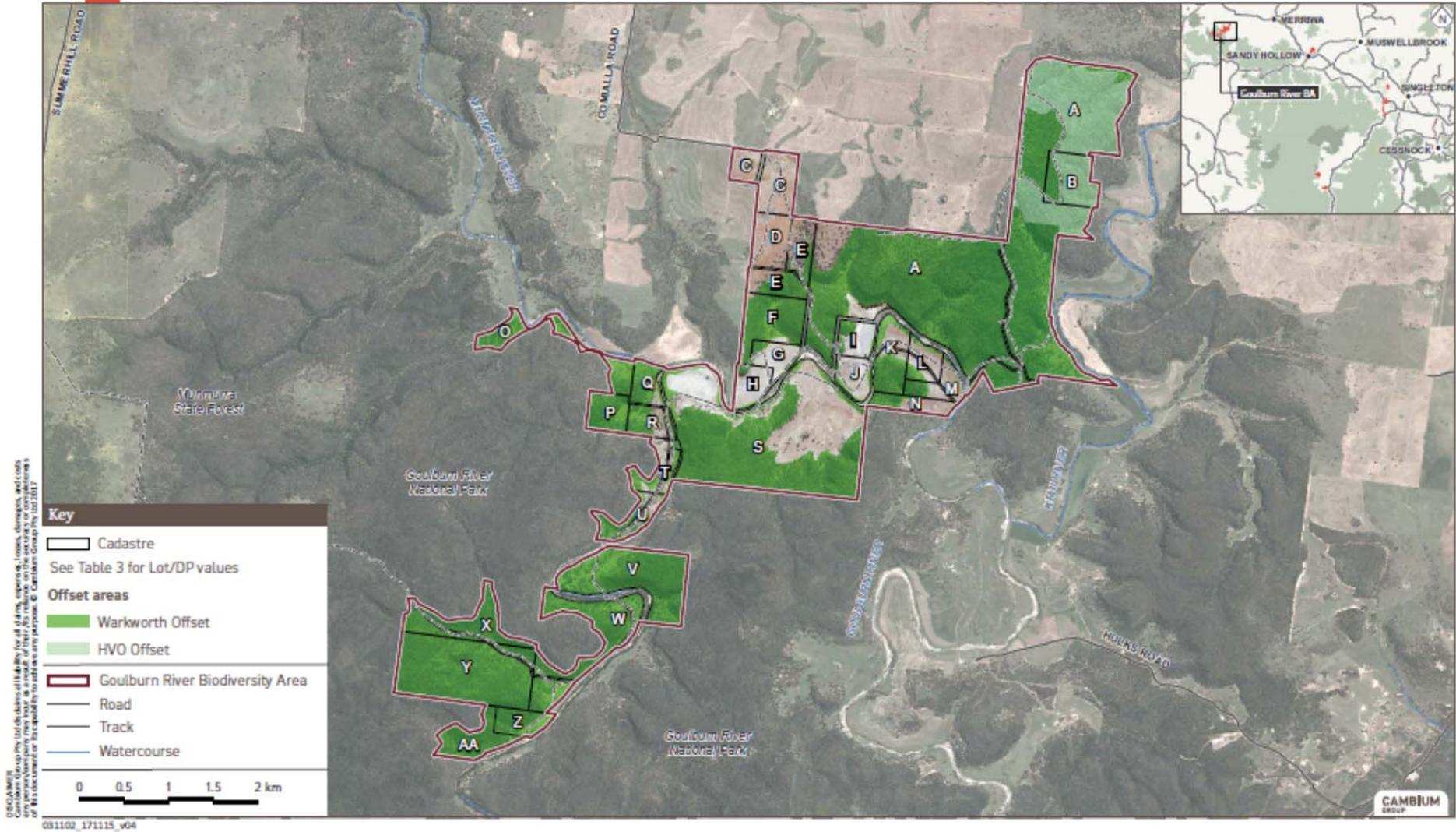


Figure 2 Offset areas at the Goulburn River Biodiversity Area

Cadastral boundaries and offset areas at the Condon View Biodiversity Area
 Management Plan 2017

Figure 2

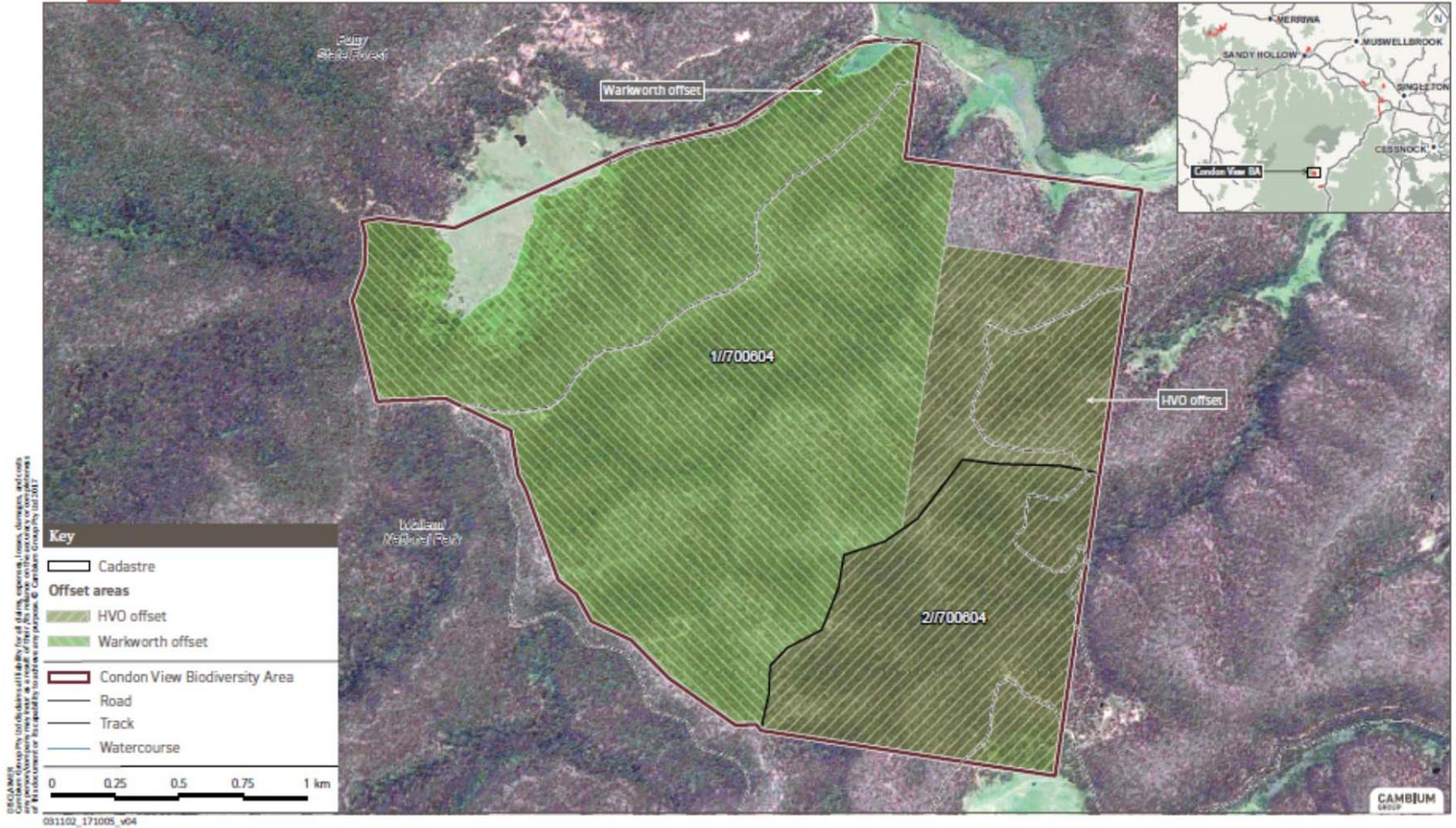


FIGURE 3 OFFSET AREAS AT THE CONDON VIEW BIODIVERSITY AREA

3 SUMMARY OF ACTIVITIES – 2017

Table 3 provides a summary of the activities undertaken during the reporting period (year 1) 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 2017, rainfall for most months was close to average, with the exception of well below average rainfall in February, July and September and much higher than average rainfall in March.

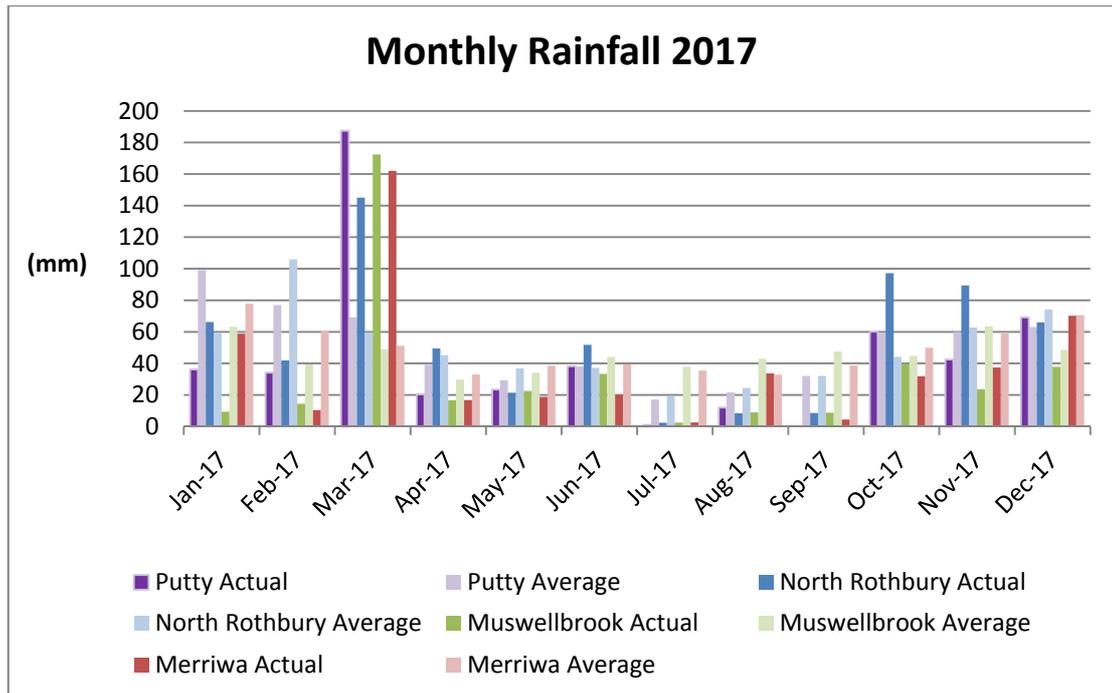


FIGURE 4 MONTHLY RAINFALL - 2017

Table 3 Summary of progress against Performance Criteria (PC)

Conservation Actions	Year 1 to Year 4 (2017 is Year 1)	Year 5 to Year 10	Completion Criteria	Actions 2018
ACTIVE RESTORATION				
Goulburn River BA Yellow Box – Grey Box – Red Gum grassy woodland (21.5ha) and River Oak riparian woodland (24.2ha)				
PC	<i>Collection of seed. Plant propagation. Tubestock planted.</i>		<i>Planting achieves above 70% survival.</i>	Collection of seed and plant propagation
	<i>Completed survival assessment.</i>			
Activity / Progress	Seed collection undertaken.			
All Regional BAs				
PC	<i>Review monitoring data to identify areas that require re-planting.</i>			Review Habitat Restoration Monitoring data.
	<i>If re-planting is identified, develop a re-establishment plan and implement within 12 months</i>			
Activity / Progress	No re-planting identified from annual ecological monitoring results/recommendations.			
PASSIVE RESTORATION				
Weed control and monitoring				
PC	<i>At least two weed control events each year for species listed in Table 14 of Management Plans and other weeds recorded from monitoring activities.</i>	<i>At least one weed control event each year for species listed in Table 14 of Management Plans and other weeds recorded from monitoring activities.</i>	<i>Ecological monitoring data indicates a trajectory for reduction in exotic plant cover over three consecutive assessments.</i>	Weed management in autumn and spring.
	<i>Complete Rapid Condition Assessment and Property Inspections.</i>	<i>Complete Rapid Condition Assessment and Property Inspections.</i>		Review Habitat Restoration Monitoring data. Rapid Condition Assessment Property Inspections
Activity / Progress	Weed contractor engaged to undertake weed control activities in Autumn and Spring 2017 to control noxious species and stop weeds spreading into previously un-infested areas. Management of the Goulburn River BA and Bowditch BA has involved the removal of grazing. Recent monitoring results from these BA's has shown an increase in exotic species cover compared with 2014 levels. The increased exotic grass cover is likely to be due to the removal of cattle which were selectively grazing the palatable exotic species.			

Conservation Actions	Year 1 to Year 4 (2017 is Year 1)	Year 5 to Year 10	Completion Criteria	Actions 2018
Pest control and monitoring				
PC	<p>At least two control events each year for species listed in Management Plans, and any other species recorded from monitoring activities.</p> <p>All actions recorded in the Annual Report.</p> <p>Active participation in programme coordinated by HLLS, this may include local control actions.</p> <p>Complete Rapid Condition Assessment and Property Inspections.</p>	<p>At least one control event each year for species listed in Management Plans, and any other species recorded from monitoring activities.</p> <p>All actions recorded in the Annual Report.</p> <p>Active participation in programme coordinated by HLLS, this may include local control actions.</p> <p>Complete Rapid Condition Assessment and Property Inspections.</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>	<p>Participation in HLLS Aerial Baiting programme in autumn.</p> <p>Participation in HLLS Wild Dog Association programme.</p> <p>Schedule shooting, baiting and trapping programmes.</p> <p>Control of noisy miners in the Regent Honeyeater breeding area at GRBA</p>
Activity / Progress	<p>Noisy Miner ground shoot at the Goulburn River BA to assist the survivability of the Regent Honeyeater: 350 Noisy Miners controlled under NPWS Section 120/121.</p> <p>Sixty Five feral cattle were mustered and removed from the Goulburn River BA.</p> <p>1080 ground baiting undertaken in autumn and spring.</p> <p>Trapping for wild dogs and foxes was undertaken on the Goulburn River and Seven Oaks BA.</p> <p>Shooting for other vertebrate pests was undertaken across the BAs.</p>			
Grazing				
PC	<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>			<p>Undertake Property Inspections.</p> <p>Rapid Condition Assessment</p>
Activity / Progress	<p>Cattle excluded from all BAs.</p> <p>Feral and trespassing cattle removed from Goulburn River BA .</p> <p>Rapid Condition Assessment and Property Inspections undertaken and boundary fence repaired as required.</p>			
Regional BA Bushfire Management Plan (BFMP) and monitoring				
PC	<p>Actions implemented.</p> <p>Review and revise if required.</p> <p>Complete Rapid Condition Assessment and Property Inspections.</p>	<p>Actions implemented.</p> <p>Review and revise if required.</p> <p>Complete Rapid Condition Assessment and Property Inspections.</p> <p>Completed ecological fire management plan.</p>	<p>All required actions of BFMP have been implemented.</p> <p>BFMP has been reviewed annually and revised if required.</p>	<p>Review BFMP.</p>
Activity / Progress	<p>BFMP reviewed to add all new BAs.</p>			

Conservation Actions	Year 1 to Year 4 (2017 is Year 1)	Year 5 to Year 10	Completion Criteria	Actions 2018
Erosion monitoring inspections and reports				
PC	Complete Rapid Condition Assessment and Property Inspections			Rapid Condition Assessment and Property Inspections
Activity / Progress	No significant erosion issues identified during monitoring.			
Dam conversion and rehabilitation and monitoring				
PC	Prepare dam conversion plan. Dam conversion complete and rehabilitation has stabilised the site. Property inspections.	Observed natural flow regime and no erosion. Property inspections.	All works completed.	Prepare dam conversion plan.
Activity / Progress	Property inspections undertaken.			
Natural Regeneration and monitoring				
PC	Annual weed control, vertebrate pest and fire management actions implemented as per management plans. Complete Rapid Condition Assessment and Property Inspections.		Ecological monitoring demonstrates a trajectory to benchmark values for all attributes measured over three consecutive assessments (the average of all plots).	Implement actions as per Management plans.
Activity / Progress	Rapid Condition Assessment and Property Inspections undertaken. Actions implemented as per management plans – see above.			
Controlled Activities				
PC	No reported incidents of prohibited actions undertaken Yancoala, contractors, consultants or other agents of Yancoala. 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.			Undertake Property Inspections.
Activity / Progress	No reported incidents of prohibited actions undertaken in 2017. New Biodiversity Area signs were installed and monthly property inspections were undertaken			

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	2017	Date/s	Completed by
Bird Assemblage	N/A	August 2016, next due July – August 2018	Niche Environment and Heritage
Habitat Restoration	N/A	November 2016, next due September – November 2018	Niche Environment and Heritage
Rapid Condition Assessment	X	November 2017, next due September – November 2018	Advisor – Land Management
Property Inspection	X	April/November 2017, next due April/November 2018	Rural and Environmental Management

4.1 Bird assemblages monitoring

Bird Assemblage monitoring was not required to be undertaken during 2017. The results from the 2016 Bird Assemblage monitoring were presented in the 2016 Annual Report for Regional Offsets.

4.2 Habitat restoration monitoring

Habitat Restoration monitoring was not required to be undertaken during 2017. The results from the last round of Habitat Restoration monitoring conducted in 2016 were presented in the 2016 Annual Report for Regional Offsets.

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 4 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 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 19.1/20	Maintain or increase area, connectivity and habitat condition over 10 years	RCA Average health rating 2015 – 17/20 2016 – 17.1/20 2017 – 17.1/20
	Fauna Habitat	Moderate potential habitat for Swift Parrot and Regent Honeyeater	improved habitat condition over 10 years	Area maintained. Stock removed.

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 17.8/20	Observed and measured increase or maintained RCA scores over 10 years	RCA Average Health rating 2015 – 18/20 2016 – 18.4/20 2017 – 17.1/20
	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	

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 17.6/20	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	

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 19.1/20	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	

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 17.4/20	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	

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 18/20	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	