



NGH



2020 COMPLIANCE REPORT

Lake Wallace Biodiversity Offset Sites

July 2021

Project Number: 21-372



Document Verification

Project Title:	Lake Wallace Biodiversity Offset Sites
Project Number:	21-372
Project File Name:	PV Lake Wallace compliance 2020 finalv1.0.docx

Revision	Date	Prepared by	Reviewed by	Approved by
Draft v1	10/07/2021	Paul McPherson	Jane Mills	Jane Mills
Final v1.0	23/07/2021	Paul McPherson	Jane Mills	Jane Mills

NGH prints all documents on environmentally sustainable paper including paper made from bagasse (a by-product of sugar production) or recycled paper.



W. www.nghconsulting.com.au

BEGA - ACT & SOUTH EAST NSW

Suite 11, 89-91 Auckland Street (PO Box 470) Bega NSW 2550 **T.** (02) 6492 8333

BRISBANE

Suite 4, Level 5, 87 Wickham Terrace
Spring Hill QLD 4000 **T.** (07) 3129 7633

CANBERRA - NSW SE & ACT

8/27 Yallourn Street (PO Box 62)
Fyshwick ACT 2609 **T.** (02) 6280 5053

GOLD COAST

PO Box 466
Tugun QLD 4224 **T.** (07) 3129 7633

E. ngh@nghconsulting.com.au

NEWCASTLE - HUNTER & NORTH COAST

Unit 2, 54 Hudson Street
Hamilton NSW 2303 **T.** (02) 4929 2301

SYDNEY REGION

Unit 18, Level 3, 21 Mary Street
Surry Hills NSW 2010 **T.** (02) 8202 8333

WAGGA WAGGA - RIVERINA & WESTERN NSW

Suite 1, 39 Fitzmaurice Street (PO Box 5464)
Wagga Wagga NSW 2650 **T.** (02) 6971 9696

BEGA • BRISBANE • CANBERRA • GOLD COAST • NEWCASTLE • SYDNEY • WAGGA WAGGA

W. www.nghconsulting.com.au

ABN 31 124 444 622 ACN 124 444 622

CONTENTS

1. Introduction.....	1
1.1. This report.....	1
1.2. Background	1
1.3. Progress summary.....	1
2. Compliance review	5
2.1. Project approval conditions	5
2.1.1. Commonwealth Government	5
2.1.2. Local and State Government.....	6
2.2. Offset Management Plan and PVP implementation	8
2.2.1. Stock grazing	8
2.2.2. Weed control	10
2.2.3. Pest animal control	11
2.2.4. Ecological monitoring.....	12
2.3. Summary of Council inspections	22
2.4. Summary of leaseholder records	23
3. Conclusion	23
4. References.....	24
Appendix A Offset site photographs.....	A-I
Appendix B Council and leaseholder pro forma checklists	B-I
Appendix C Paddock map.....	C-I

TABLES

Table 2-1 Compliance against Commonwealth approval conditions	5
Table 2-2 Compliance against Local and State Government approval conditions	6
Table 2-3 Stocking records 2020 - OMP stocking rate breaches outlined in red, grassland condition breaches shaded blue.	9
Table 2-4 Priority weeds observed at the Lake Wallace offset sites	10
Table 2-5 Compliance against Offset Management Plan and Property Vegetation Plan provisions.....	13
Table 2-6 Summary of 2020 monthly Council compliance inspections	22
Table 2-7 Summary of 2020 leaseholder fortnightly stock and pasture monitoring.....	23

FIGURES

Figure 1-1 Lake Wallace block offset site (from NGH Environmental 2015a).....	3
Figure 1-2 Southern Blocks offset site (from NGH Environmental 2015a)	4
Figure 2-1 Priority weed infestations observed at the offset sites in 2020 (Hurford 2020)	11

1. INTRODUCTION

1.1. THIS REPORT

This report reviews Snowy Monaro Regional Council's compliance with:

- actions and provisions in the Lake Wallace Biodiversity Offset Management Plan and Property Vegetation Plan
- Commonwealth and State Government approval conditions for the Lake Wallace dam project related to the biodiversity offset sites.

The report also summarises the findings of monthly Council inspections and fortnightly leaseholder records for the 2020 calendar year.

1.2. BACKGROUND

Cooma Monaro Shire Council/Snowy Monaro Regional Council completed the 320 megalitre Lake Wallace storage dam on Pigging Creek in mid-2016. The dam provides a town water supply to the nearby village of Nimmitabel. The project required the clearing of native vegetation, including one State-listed Endangered Ecological Community (EEC) and one Commonwealth-listed Threatened Ecological Community (TEC). Two offset sites totalling 250 hectares located adjacent to and immediately upstream of the dam were established to compensate for the clearing; refer Figure 1-1 and Figure 1-2.

Council is responsible for establishing, managing and monitoring the offset sites in accordance with the Lake Wallace Offset Management Plan (OMP) (NGH Environmental 2015a) and Property Vegetation Plan (PVP). Under the OMP and PVP, stock grazing can be used to control grass growth at the offset sites when monitoring indicates grass biomass levels have the potential to damage grassland biodiversity. The offset sites were leased for grazing to manage grassland areas, subject to a stock management plan contained in the OMP. The OMP provides for the preparation of an annual compliance report addressing the requirements of local, State and Commonwealth governments.

1.3. PROGRESS SUMMARY

Council purchased the property containing the Lake Wallace Block and Southern Blocks offset sites on 15 December 2014. The offset sites were legally established under a Property Vegetation Plan (PVP) approved on 7 March 2016. Establishment works for the sites have been completed, including new paddock and riparian fencing, fencing of a threatened Small Snake Orchid colony, farm track surface and drainage works, stock crossing over Pigging Creek and erosion gully remediation. Weed spraying and pest animal control has been undertaken.

Stock grazing has been allowed at the offset sites under lease, subject to the OMP stock management plan and the need for grass biomass control. Grassland condition and compliance monitoring for grazing has been implemented. Grazing rotations were completed each year in 2016, 2017, 2018, 2019 and 2020 (part). As a result of significant non-compliance issues, Council terminated the grazing lease arrangements with effect from 30 June 2020.

Ecological condition monitoring surveys involving 12 permanent monitoring sites have been undertaken in 2014, 2015, 2017 and 2019. Annual monitoring of the Small Snake Orchid colony in the Lake Wallace block has been undertaken in 2014 - 2020.

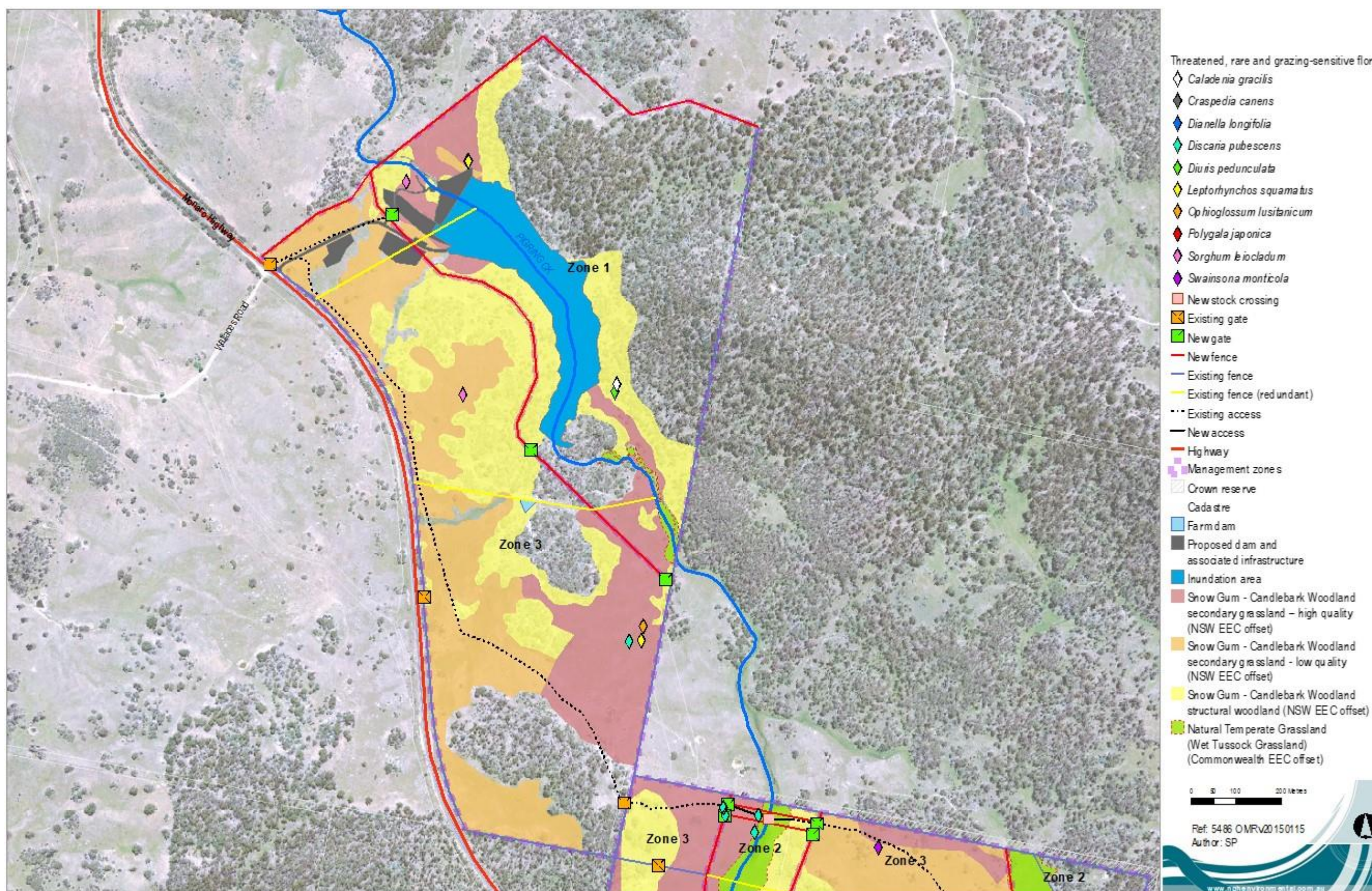


Figure 1-1 Lake Wallace block offset site (from NGH Environmental 2015a)

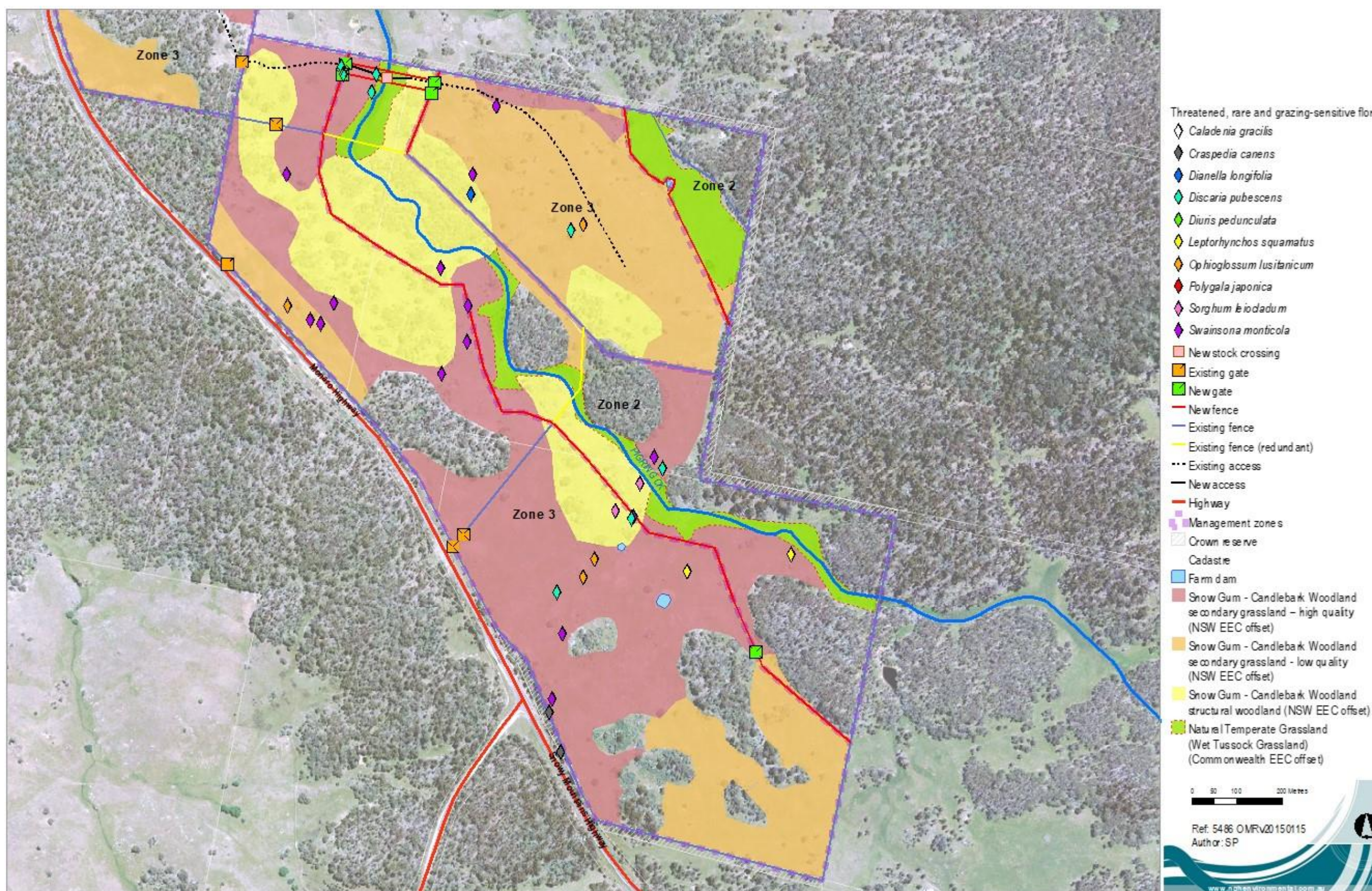


Figure 1-2 Southern Blocks offset site (from NGH Environmental 2015a)

2. COMPLIANCE REVIEW

2.1. PROJECT APPROVAL CONDITIONS

2.1.1. Commonwealth Government

The Commonwealth Government granted approval for the Lake Wallace project under Part 9 of the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) on 30 June 2014. The approval is subject to a number of conditions related to the establishment and management of the offset sites. Council's compliance with these conditions to date is summarised below.

Table 2-1 Compliance against Commonwealth approval conditions

Council must provide for the protection of the Southern Blocks offset site through a legally binding conservation covenant consistent with the EPBC Act Offsets Policy.

A legally binding Conservation Property Vegetation Plan (PVP) under the *Native Vegetation Act 2003* was approved for the offset sites on 7 March 2016 (PVP00029). The provisions of the PVP are registered on the property title in perpetuity.

Within two years of commencing the action, Council must provide evidence to the Commonwealth that the covenant has been implemented.

PVP documentation was appended to the 2017 compliance report, submitted to the Commonwealth on 27 July 2017.

Council must submit for the Minister's approval a Natural Temperate Grassland Management Plan. The plan must be approved in writing prior to commencement of the action. The plan must be implemented.

The Offset Management Plan (OMP) for the offset sites (NGH Environmental 2015a), which incorporates the requirements of a Natural Temperate Grassland Management Plan, was submitted to the Commonwealth Government in February 2015. Council received written notification of approval of the plan on 10 April 2015. This compliance report outlines the implementation of key actions and guidelines contained in the OMP.

The Natural Temperate Grassland Management Plan must include:

- A textual description of the site, including offset attributes, shapefiles and a map clearly defining the location and site boundaries
- A detailed description of the management actions designed to protect and improve the ecological quality of the Natural Temperate Grassland on the offset site
- Key milestones, performance indicators and timeframes for management actions
- A monitoring program to determine the success of the management actions
- Corrective actions and contingency measures to be implemented where monitoring shows that key milestones or performance indicators are not being met.

The OMP incorporates the above requirements. The OMP was approved by the Commonwealth Government on 10 April 2015.

Council must provide the approved plan to members of the public within 14 days on request.

The OMP has been published on Council's website and is available for download by the public from the website <<https://www.snowymonaro.nsw.gov.au/723/Lake-Wallace>>.

Council must maintain records substantiating activities related to the approval conditions, including implementation of the plan, available to the Commonwealth on request.

Council has collected and retained records relating to the approval conditions and implementation of the OMP, including monthly inspection reports. Records relevant to the OMP are summarised in sections 2.3 and 2.4 of this report. The January 2020 compliance inspection was not able to be conducted because of the prevailing fire hazard. Ecological monitoring data from the offset sites has been included in regular monitoring reports which have been submitted to the Commonwealth.

Within 3 months of each 12 month anniversary of commencement of the action, Council must publish on its website a compliance report addressing approval conditions, including implementation of the plan. Documentary evidence providing proof of the date of publication, and details of any non-compliance, must be provided to the Commonwealth at the same time as the compliance report is published.

The annual compliance reports are intended to satisfy this condition. Annual compliance reports are intended for completion by the end of March each year, based on the preceding calendar year. Calendar years rather than the works anniversary cycle has been used so that whole stock grazing rotations can be captured in each compliance report. The 2017 report covered the period from the commencement of works in April 2015 till the end of December 2016. The current report covers the 2020 calendar year; the report has been delayed by staffing and administrative changes, and other factors. The compliance reports are submitted to the Commonwealth at the same time they are published on Council's website (<https://www.snowymonaro.nsw.gov.au/723/Lake-Wallace>).

Potential or actual contraventions of the conditions must be reported to the Commonwealth within 2 days of Council becoming aware of them, and included in the annual compliance report.

Aside from the variation to the compliance reporting cycle (explained above) and stock management plan breaches (refer section 2.2.1), Council is not aware of any contraventions relating to Natural Temperate Grassland or Commonwealth approval conditions. The grazing lease has now been terminated with effect from 30 June 2020.

Any activity not in accordance with the plan will require approval from the Commonwealth.

No activity has been undertaken which is not in accordance with the OMP in relation to the Natural Temperate Grassland or the Commonwealth approval elements of the plan.

Council must publish the plan on its website within 1 month of approval of the plan, and keep the plan on the website for the duration of the approval [until 31 December 2064].

The OMP has been published on Council's website and is available for download by the public from the website.

2.1.2. Local and State Government

Council approved the Lake Wallace project on 13 August 2014, subject to a series of conditions including concurrence conditions provided by the then NSW Office of Environment and Heritage. Council's compliance with these conditions to date is summarised below.

Table 2-2 Compliance against Local and State Government approval conditions

Condition 31

Prior to construction, Council must secure the offset sites identified in the Biodiversity Offset Strategy under its management and control. The offset site must be managed in perpetuity in accordance with the Biodiversity Offset Strategy.

Council purchased the Wallace property, which includes the two offset sites identified in the Biodiversity Offset Strategy, on 15 December 2014. A legally binding Conservation Property Vegetation Plan (PVP) for the offset sites

was approved under the *Native Vegetation Act 2003* on 7 March 2016 (PVP00029). The approved Offset Management Plan (OMP) (NGH Environmental 2015a) and the provisions of the PVP are consistent with the Biodiversity Offset Strategy (NGH Environmental 2013).

Condition 38

The water storage site must be managed in accordance with the OMP.

The water storage site forms part of the Lake Wallace block, which is one of the offset sites managed in accordance with the OMP. The works at the site have been consistent with the OMP. Grazing has been managed using the stock management plan in the OMP; some non-compliance with the stock management plan has occurred (refer section 2.2.1). The grazing lease has now been terminated with effect from 30 June 2020.

Condition 39

Stock are to be excluded from within 50 metres of the high water level of the dam.

The eastern side of the dam has been fenced to exclude stock over a distance of at least 50 metres from the high water level of the dam. Stock are permanently excluded from the western side of the dam and Pigring Creek in the Lake Wallace block.

Condition 40

An in perpetuity Biodiversity Offset Area must be created, as recommended in the Council Draft Determination, Offset Site Assessment report and Offset Management Plan report.

The offset areas are to be managed for the purpose of conservation of threatened species habitat and ecological community values. No development is to occur in the offset areas.

The management of the offset areas is to be funded by Council, in accordance with an OMP.

The OMP is to be developed in consultation with, and approved by, OEH.

The OMP must be completed within 12 months of the start of construction of the Lake Wallace facility.

Council-owned offset sites as described in the Draft Determination, Offset Site Assessment report and Offset Management Plan report have been established and protected in perpetuity using a Property Vegetation Plan made under the *Native Vegetation Act 2003*. The Offset Management Plan (OMP) for the offset sites was developed in consultation with OEH and was approved by OEH on 19 September 2015, within 12 months of the commencement of construction. As specified in the OMP, the offset sites are managed for the purpose of conservation of threatened species habitat and ecological community values. Management is funded by Council in accordance with the approved OMP.

Condition 41

An appropriate legal mechanism to guarantee the management of the offset sites in perpetuity must be applied, through registration of title, using a Bio-banking Agreement, a Conservation Property Vegetation Management Plan or a Trust Agreement.

A legally binding Conservation Property Vegetation Plan (PVP) for the offset sites was approved under the *Native Vegetation Act 2003* on 7 March 2016 (PVP00029). The PVP incorporates the management provisions contained in the OMP.

Condition 42

The colony of Small Snake Orchids identified in the SIS must be protected through all stages of the project, including temporary fencing during construction.

The Site Environmental Officer must make personnel aware of the location and significance of the colony.

The colony must be monitored during the flowering period each year from project approval until the dam has been constructed and operating for 5 years.

Monitoring results must be provided to OEH within 2 months of the fieldwork. Monitoring must include the number of individuals present, photographs of the colony and an assessment of whether there have been any impacts to the colony.

Any new Small Snake Orchid records at the site must be submitted to OEH and Bionet.

A permanent fence protecting the recorded orchid colony was constructed on 13 May 2015, prior to dam construction works, consistent with the OMP. The orchid colony has been subjected to specific annual monitoring since 2014. Monitoring reports have been submitted to OEH for the period 2014 – 2020 (NGH Environmental 2015b, 2015c, 2016, 2017, 2018, 2019b, 2020). A gate has been installed in the enclosure fence to control grass biomass using wild herbivory during the orchid dormancy period.

Condition 43

The proponent must not clear more than 5.56 hectares of the Snow Gum Woodland EEC.

This condition has been met, taking both dam construction and offset site establishment works into account.

2.2. OFFSET MANAGEMENT PLAN AND PVP IMPLEMENTATION

This section provides a summary of compliance against the key management actions and guidelines in the Offset Management Plan (OMP), and the management actions required under the Property Vegetation Plan (PVP). The PVP requires that the offset sites are managed according to the OMP and PVP. OMP and PVP reference numbering for each action is provided in Table 2-5 below.

2.2.1. Stock grazing

Stock Management Plan

Under the OMP and PVP, the offset sites can be leased for grazing to manage grass biomass in designated paddocks, subject to a Stock Management Plan in the OMP. The plan includes the following grazing rules (summarised):

- stock grazing is permitted between 1 February and 30 September
- stocking rates will not exceed 4 DSE per hectare of pasture
- grazing will not commence, and stock will be removed from the paddocks, when:
 - the live pasture cover falls below 80%, or
 - the average grass sward height is ≤ 50 mm.

When the offset sites are subject to grazing, the leaseholder is to monitor live pasture cover and grass height on a fortnightly basis using a methodology and reporting checklist provided by Council. Council monitors compliance with the plan using monthly inspections.

Maximum stocking rate

The maximum stocking rate in the offset site paddocks is expressed in the OMP in terms of Dry Sheep Equivalent (DSE), which is the standard unit for carrying capacity. One DSE is the amount of feed required by a 2 year old 45 kg Merino sheep (wether or nonlactating, non-pregnant ewe) to maintain its weight. A DSE rating of 6.5 has been adopted for c. 200kg young cattle and 8.5 for larger heifers (refer Agriculture

Victoria 2018). The OMP specifies that stocking rates during the February-September grazing period will not exceed 4 DSE per hectare of pasture (excluding mapped forest and woodland areas).

The grazing areas and maximum stocking rates (in DSE) for each paddock are shown on the map in Appendix C. The area within the offset sites available for grazing totals 156.65 hectares, over four paddocks. The 'South' and 'West' paddocks in the Southern Blocks offset site are considered together for the calculation of stocking rates because there is no water in the West paddock and gates between the paddocks are left open. Where possible however, gates between paddocks should be kept closed to maintain the integrity of the rotation system.

Stock grazing in 2020

Stocking during the 2020 season is summarised in Table 2-3. The data are based on Council monthly inspection reports and where available fortnightly leaseholder records. The Council compliance report for January was not available due to local fire risks, and leaseholder records for January, May and June were not available (refer sections 2.3 and 2.4).

Monitoring records indicate that the offset sites were grazed by the leaseholder between February and May 2020. The combined West and South paddocks carried 33 heifers throughout this period, which was a slight breach of the maximum permissible combined stocking rate of 31 heifers. Council records indicate that this grazing also breached grassland condition thresholds in February, April and May. Council noted approximately 17 sheep in the East paddock in February, and 40+ sheep in June, which also breached grassland condition thresholds. These sheep were escapees from the neighbour bordering the East paddock.

Table 2-3 Stocking records 2020 - OMP stocking rate breaches outlined in red, grassland condition breaches shaded blue.

Date	Paddock (max stocking rate - DSE, 300-350 kg cows/heifers)				Reported by
	North (164, 19)	East (94, 11)	West (99, 12)	South (159, 19)	
23/02	0	0	33 heifers		Leaseholder
25/02	0	c. 17 sheep	c. 28 heifers		SMRC
8/03	0	0	33 heifers		Leaseholder
10/03	0	0	c. 30 heifers		SMRC
22/03	0	0	33 heifers		Leaseholder
11/04	0	0	33 heifers		Leaseholder
28/04	0	0	c. 32 heifers		SMRC
28/05	0	0	c. 30 heifers		SMRC
26/06	0	40+ sheep	0		SMRC

The 2019 ecological monitoring report recommended that the lease arrangement be terminated, taking into account the 2017 and 2019 monitoring results, and a series of serious stock grazing breaches in 2018 (refer section 2.2.4 below). Grassland condition and stocking rate breaches continued through 2019 (NGH Environmental 2020a) and 2020. Council terminated the grazing lease with effect from 30 June 2020.

2.2.2. Weed control

Council's Biosecurity Officer inspected the offset sites on 20 April 2020 to determine priority weed management requirements in accordance with the *Biosecurity Act 2015*. Priority weeds observed at the site are summarised in Table 2-4.

Table 2-4 Priority weeds observed at the Lake Wallace offset sites

Weed	Degree of infestation
African Lovegrass (<i>Eragrostis curvula</i>)	Isolated
Serrated Tussock (<i>Nassella trichotoma</i>)	Established
Definition of degree of infestation	
Isolated – Council imposes strict conditions on all land managers to eliminate isolated infestations of priority weeds at paddock, property and landscape level. In discharging their General Biosecurity Duty, land managers must fully and continuously suppress and destroy isolated infestations where it is reasonably practicable to do so in accordance with Section 16 of the <i>Biosecurity Act 2015</i> .	
Established - The growth of the plant must be controlled in a manner that continuously inhibits the ability of the plant to spread.	

African Lovegrass is highly invasive and is not widespread in the local area. It poses a high risk of spreading further at the offset sites and to neighbouring areas (Hurford 2020). Serrated Tussock can be dispersed over long distances by wind-borne seed and by water. It presents a risk of spreading within the offset sites and into neighbouring farmland and natural areas. This species is also a Weed of National Significance. Other minor weed species observed at the sites, including thistles and Sweet Briar, are common within the local area (Hurford 2020).

Council staff continually monitor the property and control all the above-mentioned weeds with the use of a registered herbicide. All the African Lovegrass and Serrated Tussock were effectively controlled at the time of the 2020 inspection. Control work will be undertaken on common non-priority weeds as needed (Hurford 2020).

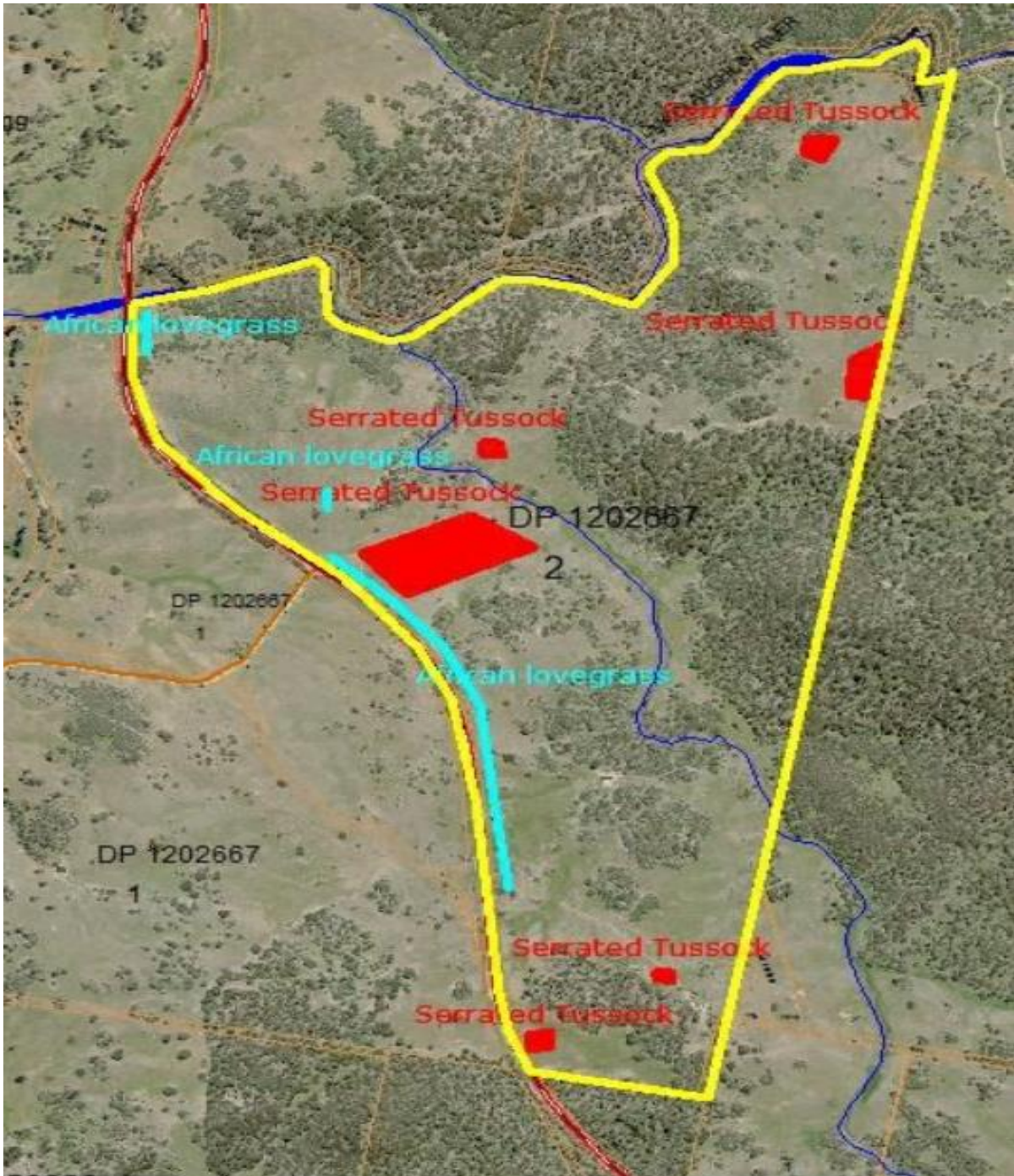


Figure 2-1 Priority weed infestations observed at the offset sites in 2020 (Hurford 2020)

2.2.3. Pest animal control

The Council compliance inspections recorded large numbers of wild goats in February and April 2020. Fresh pig damage was recorded in the East paddock in February. The leaseholder noted the presence of goats during all monitoring occasions. Pest animal control has been the responsibility of the leaseholder until termination of the lease in mid-2020.

In 2020, goat control by Council initially involved rounding up with dogs and removal using a small truck. 25 animals were removed on the first occasion and 20 subsequently. Goats became increasingly elusive

as feed increased. Cameras were set up to locate the goat activity; few were detected this way. A lick in a tub was used to attract the goats, with limited effect. Currently, total goats are estimated to number 50 at the sites. No pigs were sighted during various Council visits. No rabbit warrens were observed during Council monitoring visits. Rabbit scats were present but not at significant levels.

2.2.4. Ecological monitoring

Biennial ecological monitoring at the offset sites measures a range of grassland condition indicators including native vegetation cover, grass sward height, species richness, Floristic Site Value scores and abundance of grazing-sensitive species.

Monitoring in 2017 showed a general decline in the condition of grassland at the sites. The monitoring report concluded that drought in combination with total grazing pressure had been responsible for the decline. The report recommended that stock grazing be suspended for 2018 and not recommence until the average grass height at all sites is at least 10 centimetres.

The 2019 ecological monitoring results showed that condition at the offset sites had continued to decline, at both grazed and ungrazed sites. The strongest decline was recorded in the lower quality grazed areas, which are intended to be restored and improved under the OMP and PVP. The report noted that stock grazing and pest animal impacts are likely to be exacerbating conditions for sensitive flora species.

The 2019 monitoring report reiterated the 2017 findings, recommending that all stock grazing be ceased at the offset sites until monitoring and ecological advice indicates that stock grazing is required to control grass biomass. The report noted that the current leaseholder appeared to have repeatedly breached the rules set out in the OMP through 2018, including grazing outside the approved grazing period, overstocking and grazing within the protected riparian zone. The report recommended that the current lease arrangements be terminated. The lease has now been terminated with effect from 30 June 2020.

The 2019 orchid monitoring report recommended that grass and litter biomass within the Small Snake Orchid exclosure be reduced by burning or allowing periodic wild herbivory (subject to pig control or the absence of any evidence of local pig activity).

A stock gate was installed on the exclosure fence in 2020, allowing grazing by wild herbivores. The gate was opened during the orchid dormancy period in 2020; monitoring showed that the gate had been effective in reducing grass biomass, reflected in reduced grass height and increased native forb cover. The grazing has also controlled the growth of eucalypt saplings within the exclosure.

The Small Snake Orchid monitoring conducted in November 2020 however continued to record very low numbers of flowering orchids. The monitoring report recommended that the gate be opened each year during the Small Snake Orchid dormant period of February – June, and closed during the orchid reproductive period (July-January).

Table 2-5 Compliance against Offset Management Plan and Property Vegetation Plan provisions

OMP PVP	Actions and guidelines	Target June 2016	Achieved or on track?
1. Perimeter fencing, access and signage			
1.1 PVP 40	Existing perimeter fencing will be inspected and upgraded as required at the establishment of the offset sites.	X	Yes - completed June 2016
1.2 PVP 39	A new perimeter fence will be constructed across the northern boundary of the Lake Wallace block.	X	Yes - completed June 2016
1.3 PVP 45	Signage on gates and fences will be installed advising that the site is private land managed for conservation and public access is prohibited.	X	Yes - completed June 2016
1.4 PVP 42	The condition of fencing would be monitored during Council compliance inspections, and timely maintenance undertaken as required.		Yes. Fence maintenance undertaken on East paddock boundary in 2020.
1.5 PVP 49	Where practicable, vehicles will not enter Wet Tussock Grassland areas, or be used at the offset sites when soils are very wet or saturated.		Yes
PVP 44	Council must ensure that perimeter gates are lockable and that gates are locked when Council and the leaseholder are absent from the property.		Yes. Gate lock installed on the southern boundary.
2. Riparian zone, woodland and Small Snake Orchid protection			
2.1 PVP 39	A fence will be constructed protecting a minimum 50 metre buffer from the top water level of Lake Wallace and either side of Pigring Creek. The fence will be sited to avoid the need for tree clearing wherever practicable. Gates will be included to allow management access.	X	Yes - completed June 2016
2.2	Redundant fence sections will be considered for removal following construction of the riparian zone fence.	X	Yes - completed June 2016
2.3 PVP 39	A fence will be constructed protecting the additional area of Wet Tussock Grassland on a tributary in the east of the Southern Blocks site.	X	Yes - completed June 2016
PVP 40	Existing fencing will be upgraded as required to ensure livestock management and vehicle access management in accordance with the OMP.	X	Yes
PVP 41	Fencing will be completed prior to the first rotation of livestock grazing from the commencement of the PVP and establishment of the offset area.		Yes

OMP PVP	Actions and guidelines	Target June 2016	Achieved or on track?
2.4 PVP 53	Subject to consultation and agreement with Fisheries NSW and OEH, a rock bed-level creek crossing will be constructed at the Southern Blocks site to allow stock movement between paddocks on either side of the creek. The approaches will be drained and hardened with gravel.	X	Yes
PVP 53	The creek crossing will be double-gated and only used for moving livestock and vehicles between paddocks.		Yes
PVP 51	No formed tracks or drainage structures will be constructed in watercourses or the Natural Temperate Grassland community with the exception of the stock crossing at PVP 53.		Yes
2.5 PVP 55	The four existing farm dams at the offset sites will be renovated to improve capacity and groundwater interception and repair a spillway. The works would not affect the Natural Temperate Grassland EEC and would not significantly add to the existing dam disturbance footprint.	X	Yes - completed June 2016
2.6	The need for off-stream watering points will be assessed and an off-stream watering system installed if required, using a tank and trough system pumped from Pigging Creek. These works would not affect the Commonwealth Natural Temperate Grassland EEC in zone 2.	X	Yes (not required)
2.7	A suitable gate will be provided in the riparian zone fencing at the Lake Wallace block offset site to allow access to the women's waterhole at the upstream end of the reservoir, in consultation with Registered Aboriginal Parties.	X	Yes - completed June 2016
PVP 42	Council will monitor the condition of fencing and ensure fences are maintained to standard for stock management and vehicle access.		Yes
2.8 PVP 43	A permanent, pig-proof fence would be constructed around the Small Snake Orchid colony in the Lake Wallace Offset site to protect the colony from damage during dam construction and from pig predation.	X	Yes - completed June 2016
3. Stock Management Plan			
PVP 21 PVP 22 PVP 23	Grazing which assists the conservation objectives of the OMP is permitted. Grazing must be in accordance with the OMP. Strategic grazing is permitted in management zones 2 and 3, no grazing is permitted in zone 1.		Grazing in breach of Stock Management Plan (refer section 2.2.1). Lease now terminated.
3.1 PVP 32 PVP 34	<p>The paddocks in the offset sites will be available for stock grazing between 1 February and 30 September to:</p> <ul style="list-style-type: none"> • utilise summer growth of Kangaroo Grass • remove rank growth in autumn • control exotic annuals in early spring if required. <p>Stocking rates during the February-September grazing period will not exceed 4 DSE per hectare of pasture (excluding mapped forest and woodland areas).</p>		

OMP PVP	Actions and guidelines	Target June 2016	Achieved or on track?
3.2 PVP 35	Paddocks in the offset sites will be rested (no grazing) from 1 October to 31 January.		
3.3 PVP 36	If monitoring shows high abundance of exotic annual grasses such as <i>Anthoxanthum odoratum</i> , <i>Vulpia</i> spp and <i>Bromus</i> spp (exotic cover more than 50% in spring), and when seasonal conditions favour high germination and growth of annual exotics, short periods of grazing at no more than 4 DSE per hectare can be undertaken in October and early November to control these species. The timing and intensity of this grazing will be recorded and considered during the analysis of subsequent monitoring results.		Yes (not needed)
3.4 PVP 32 PVP 33 PVP 38	Grazing will not commence, and stock will be removed from the paddocks, during the February-September grazing period when: <ul style="list-style-type: none"> the live pasture cover falls below 80% (excluding surface rock), <u>or</u> the average grass sward height (disregarding the taller <i>Poa labillardierei</i> tussocks) is ≤ 50mm. The lessee/manager will monitor live pasture cover and sward height on a regular basis (fortnightly or more frequently) using an accepted methodology involving at least six representative sample sites distributed throughout each paddock.		Grazing in breach of Stock Management Plan (refer section 2.2.1). Lease now terminated.
3.5 PVP 29	The lessee/manager will aim to maintain 100% ground cover in drainage depressions at all times.		Yes
3.6 PVP 37	Following the implementation of the above rotation for at least 5 years, the management zone 3 paddocks will be available for low intensity set stocking (1-2.5 DSE/ha) for a 20 month period (February to September the following year), at intervals of at least 5 years, subject to the removal of stock if any of the above condition thresholds are met.		Yes
3.7 PVP 27	Protein supplements, such as urea, may be utilised in the stock holding areas on the property that are not within the mapped Conservation area.		Yes
3.8 PVP 25	Cultivation, application of fertilisers and soil ameliorants (such as gypsum and lime), sowing of exotic pasture species or planting of exotic trees will not be undertaken at the offset sites.		Yes
3.9 PVP 31	Stock grazing will be excluded by fencing from within the Lake Wallace - Pigring Creek riparian corridor and from a tributary Wet Tussock Grassland area (zones 1 and 2).		Yes
3.10 PVP 30	Limited, short-duration grazing may be permitted in the fenced riparian area and the tributary Wet Tussock Grassland area in zone 2 in the Southern Blocks offset site during dry weather in Autumn to control grass biomass if necessary subject to monitoring results showing declining condition which is likely to be caused by excessive grass biomass, and subject to recommendations from an ecologist. If practicable, and if necessary, patch burning may be a better method of biomass control in these areas.		Yes

OMP PVP	Actions and guidelines	Target June 2016	Achieved or on track?
3.11 PVP 26	The grazing leaseholder must keep a record of the number and type of animals stocked at the offset sites, the dates they were stocked and de-stocked and the paddocks where they were stocked and de-stocked. If paddocks were destocked because of biomass, grass height or pasture cover criteria, this will also be noted.		No records available for January, May and June.
3.12 PVP 28 PVP 49	Stock will be removed from the offset sites when soils are very wet or saturated if this can be done safely with minimal damage to paddock soils and vegetation. Stock will not be brought into the sites and vehicles will not be used off formed access tracks when soils are very wet.		Yes
4. Fire management			
4.1 PVP 20	If monitoring indicates a decline in the condition of zone 3 Snow Gum Woodland secondary grassland at the sites due to excessive grass growth, and subject to the recommendations by an ecologist, a trial burning program may be designed and implemented in this vegetation. In this case, Council will arrange for up to three 0.04 hectare burns with appropriate monitoring and review prior to any broader scale application of fire to control biomass. The location and design of the burning monitoring program would be developed by an ecologist in consultation with OEH.		NA
4.2	The seasonal timing for ecological burning will generally be autumn-winter. Early spring burns can be used to control exotic annual weeds.		NA
4.3	Any ecologically burning activities undertaken at the offset sites will apply the guidelines contained in this plan.		NA
5. Slashing			
5.1 PVP 19	Slashing may be used to control grassland groundlayer biomass in accessible areas if: <ul style="list-style-type: none"> • monitoring indicates a decline in the condition due to excessive grass growth • other methods of biomass control are not available or appropriate • slashing is recommended by an ecologist. 		NA
5.2 PVP 19	Slashing may be undertaken: <ul style="list-style-type: none"> • in autumn-winter to control grass biomass • in early spring to control annual weeds • in mid-late summer to harvest seed-bearing Kangaroo Grass hay for restoration elsewhere at the offset sites. 		NA
5.3	Grassland will not be slashed below 10 centimetres in height.		NA
5.4	As far as possible, slashing will be minimised in spring, when birds are nesting or where ground birds are dependent on tall grass habitat.		NA
5.5	No slashing will be undertaken in woodland areas or under tree canopies.		NA

OMP PVP	Actions and guidelines	Target June 2016	Achieved or on track?
5.6	Where possible, slashing should proceed from areas of higher conservation value to areas of lower conservation value, and from less weedy to weedier areas.		NA
5.7	All machines and vehicles will be washed down prior to entering the offset sites, and after leaving weedy sites. As far as possible, slashing will be avoided when weed seeds are viable.		NA
5.8	Slashing activities will not allow debris to enter waterways or be left beside stream banks.		NA
5.9	Slashing will not be undertaken in wet conditions when the vegetation and soil could be damaged.		NA
5.10	Clippings may need to be removed after slashing if they are likely to smother established native plants.		NA
5.11	Slashing will not be undertaken in areas where significant native shrubs (such as <i>Discaria pubescens</i>) are likely to be damaged.		NA
6. Weed control			
6.1 PVP 10	African Lovegrass, Briar Rose, Blackberry and Scotch Thistle will be controlled during the establishment phase of the offset sites, and as required thereafter. Briar Rose will be physically removed or treated using the cut stump method with a systemic herbicide in sensitive areas (near water, near <i>Discaria pubescens</i> , in high quality grassland). Blackberry will be controlled in accordance with the CMSC Blackberry Local Management Plan. African Lovegrass and Scotch Thistle will be controlled with herbicide and careful chipping in accordance with the CMSC Annual Noxious Weeds Control Calendar.	X	Offset sites inspected and Priority Weeds (African Lovegrass and Serrated Tussock) controlled in 2020.
6.2 PVP 10	Serrated Tussock will be controlled as soon as possible using careful chipping or spot-spraying plants with a suitable herbicide in spring when tussocks are actively growing but before seed set. Any ripe seed on the plant will be first removed and destroyed. This wind-dispersed species will also be controlled in coordination with neighbouring landowners.	X	Yes. Serrated Tussock mapped and controlled in 2020.
6.3 PVP 10	The noxious and invasive Viper's Bugloss and St John's Wort beside the adjacent highway will be controlled in accordance with the CMSC Annual Noxious Weeds Control Calendar.	X	Yes
PVP 11	Council will prepare a weed control plan to ensure efficient and effective control of noxious and environmental weeds. A copy of the plan will be provided to DPIE.		Weed Control Plan in progress with Council's Noxious Weeds Manager
6.4 PVP 14	Stock moving from pastures outside the offset sites will be yarded or spelled in a clean area for 5 days prior to entering the offset sites to prevent the introduction and spread of weeds.		Yes
6.5	Vehicles and machinery moving from weedy areas will be thoroughly washed down before entering the offset sites.		Yes

OMP PVP	Actions and guidelines	Target June 2016	Achieved or on track?
PVP 14			
6.6 PVP 13	If spraying is used, selective herbicides will be used on woody weeds where applicable. Care will be taken to avoid overspray and spraydrift, particularly near: <ul style="list-style-type: none"> • aquatic habitat area • threatened, rare and uncommon plants (such as <i>Discaria pubescens</i>) • native shrub habitats for woodland birds. 		Yes
6.7 PVP 13	Spraying will not be undertaken in windy conditions. High volume handgun and boom spray application will cease when wind speed exceeds 8-10kph. Handgun herbicide application for the control of grass weeds can be undertaken up to wind speeds of 13 kph if a 500mm lance is fitted to spray guns.		Yes
6.8 PVP 13	No herbicide other than Roundup Bioactive will be used within 20 metres of Pigring Creek or Lake Wallace.		Yes
6.9	Chemical will be mixed and poured off site, or in a hardstand area or over a spill mat, where this is not possible.		Yes
6.10 PVP 12	Weed control locations, chemicals and rates, target weeds and timing will be recorded to assist management review.		Yes
7. Pest animal control			
PVP 15	Council will implement a pest animal control program as specified in the OMP. Pest animals present on the property include rabbits, pigs, deer and foxes.	X	Goats controlled in 2020 (refer section 2.2.3).
7.1 PVP 16	An integrated approach to rabbit and pig control will be adopted. Control activities will also be coordinated with neighbours and other landholders in the locality. Property owners and public land managers should coordinate pig control actions to ensure that trapping efforts are not targeting the same pigs at the same time, and shooting (with or without dogs) does not occur within 2 kilometres of trapping.	X	No pig or rabbit control undertaken in 2020 (refer section 2.2.3).
PVP 17	Shooting of pest animals is not permitted unless it is undertaken in consultation with Local Land Services.		Yes
7.2	Rabbit populations will be controlled at the sites, using baiting, biological control and low-impact harbour and warren destruction (localised ripping, blasting or fumigation).	X	Yes
7.3	Where warrens extend under mature trees or rock outcrops, fumigation rather than ripping or blasting will be used to minimise environmental impact.		Yes
7.4	Rabbit control will be initiated as required following natural or induced outbreaks of biological control (myxomatosis, rabbit calicivirus disease). Poisoning will be undertaken during periods of relative food stress (Read <i>et al.</i> 2011).		Yes

OMP PVP	Actions and guidelines	Target June 2016	Achieved or on track?
7.5	Ideally, trapping and poisoning in areas regularly visited by pigs should be undertaken when feed is scarce.	X	Yes
7.6	The use of 1080 and other poisons would comply with all regulatory requirements including certification, training, neighbour notification and warning signage, storage and transportation, setbacks from waterways, roads and boundaries and notification of accidents and incidents.		Yes
7.7	Dead animals found during and after the poisoning program, and all unused baits must be collected and destroyed by burning or deep burial outside the offset sites to prevent the secondary poisoning of wildlife.		Yes
7.8	Portable or permanent pig traps and pre-baiting may be used in areas attractive to pigs, such as wet grassland or waterholes, or along trails.		Yes
7.9	Soil and vegetation disturbance will not be used to attract rabbits and other pest animals for baiting.		Yes
7.10 PVP 18	Pest animal control locations, methods and timing will be recorded to assist monitoring and management review.		Yes
8. Track upgrading, and erosion and sedimentation control			
8.1 PVP 46	Access tracks will be upgraded and rollover and mitre drains will be installed on permanent farm tracks, including either side of Pigring Creek crossing (outside the Natural Temperate Grassland EEC). Track design, drainage methods and drain spacing and location would comply with Council's best practice guidelines and OEH (2012) Erosion and Sediment Control on Unsealed Roads. Tracks would generally not exceed 4 metres in width (including table drains).		Yes
PVP 46	Council must remediate the existing access tracks and construct new tracks shown in the OMP within 1 year of the commencement of the PVP.		Yes
PVP 47	Wet drainage line crossings must have appropriate drainage structures in place in order to protect water quality and soil.		Yes
8.2 PVP 48	Any material imported to the sites for track resurfacing or stabilising boggy sections would be non-dispersive and would come from a weed-free source.		Yes
8.3	Native grass cover would be retained on existing track sections wherever possible. The track would be slashed intermittently as required to maintain route visibility.		Yes
PVP 49	Vehicles must remain on constructed tracks when soils are wet or waterlogged.		Yes
PVP 50	Council must ensure that no new tracks are formed through vehicle movements.		Yes

OMP PVP	Actions and guidelines	Target June 2016	Achieved or on track?
8.4 PVP 52	The established or developing erosion gullies at the offset sites would be remediated using 100 millimetre nominal size rip rap, underlain by geotextile, in the actively eroding sections, with jute mesh and coir logs used as necessary to protect exposed soils and slow and divert runoff up to 10 metres upslope of the actively eroding section.		Yes
9. Fauna habitat and vegetation management			
9.1 PVP 56	Eucalypt regeneration within the fenced Pigring Creek riparian corridor (zones 1 and 2) may be progressively thinned as required based on ecologist advice, to achieve an ultimate tree spacing of 10-20 metres to protect groundlayer vegetation. Cut stump herbicide application would be used to minimise non-target impacts.		NA
PVP 56	Thinning of dense eucalypt regeneration to 5-10 metre spacing may be undertaken if required, based on ecologist advice in accordance with the OMP. Thinning is only to be undertaken for ecological purposes. Prior to commencing thinning, Council must consult OEH and LLS.		NA
9.2 PVP 4 PVP 8	Native trees, stags, logs or shrubs will not be damaged or removed, other than for clearing required for fencing and other works specified in this plan, or thinning of regeneration to maintain vegetation cover or diversity.		Yes
PVP 4	No live vegetation (remnant or regrowth) is to be cleared except for thinning in accordance with the OMP, routine agricultural management activities (RAMAs) only specified in the PVP, approved clearing for the Lake Wallace dam.		Yes
9.3 PVP 9	Surface rock will not be removed or damaged, except to undertake the works specified in this plan.		Yes
10. Cultural heritage protection			
10.1	Works at the offset sites would avoid impacts to identified Aboriginal sites, including: <ul style="list-style-type: none"> the Women's Waterhole LW10 stone procurement site Aboriginal artefact sites LW5, LW6 and LW7 LW11 reburial site for salvaged Aboriginal objects (stone artefacts). 		Yes
10.2	Access to the Women's Waterhole will be provided utilising an existing access track along the western fenceline and descending along the crest of a spur to the waterhole. A suitable gate will be provided in the fenceline around the water storage.		Yes
10.3	Any works involving earthworks at the offset sites would be subject to Due Diligence assessment and approval in the form of an AHIP as required.		Yes

OMP PVP	Actions and guidelines	Target June 2016	Achieved or on track?
10.4	If an Aboriginal object is found while undertaking works at the offset sites, works must cease and OEH must be notified; an AHIP may be required. If human skeletal remains are found the proponent must stop work immediately, secure the area to prevent unauthorized access, and contact the NSW Police and OEH.		Yes
11. Inspection and compliance			
11.1	Council will conduct routine inspections of the offset sites at least monthly to ensure the provisions of this plan are being implemented.		Monthly grazing inspection reports completed Feb-June 2020. (Grazing terminated in mid-2020)
11.2	A comprehensive inspection and compliance report will be prepared by Council annually. The report will address approval conditions, including implementation of the plan and any breaches in compliance. The report will be published on the Council website within 3 months of each 12 month anniversary of the commencement of the project. Documentary evidence of the date of publication of the inspection and compliance report, and details of any non-compliance, will be provided to the Commonwealth at the same time as the compliance report is published. Potential or actual contraventions of the conditions must be reported to the Commonwealth within 2 days of Council becoming aware of them, and included in the annual compliance report.		A calendar year cycle rather than works anniversary has been used to capture whole grazing rotations.
12. Monitoring and review			
12.1 PVP 5	Permanent monitoring sites will be established in each EEC vegetation unit targeting groundlayer vegetation composition and cover, and tree and shrub regeneration. Condition monitoring will be conducted in mid-November 2014 by an ecologist at the establishment of the offset sites. Repeat monitoring would be undertaken in mid-November 2015, 2017, 2019, 2021, 2023 and 2025. Monitoring results will be used to evaluate management. Monitoring reports, including Small Snake Orchid monitoring results, will be prepared for Council and sent to OEH, LLS and the Commonwealth Environment Department.		Yes
PVP 6	Monitoring results will be reviewed and adaptive and corrective management measures applied in accordance with the OMP.		Yes
12.2	The colony of Small Snake Orchids will be monitored during the flowering period (mid – November) each year from project approval until the dam has been constructed and operating for 5 years.		Yes
12.3 PVP 7	The Offset Management Plan will be independently reviewed after 10 years of operation, taking into account monitoring results.		Yes

2.3. SUMMARY OF COUNCIL INSPECTIONS

The OMP provides for regular Council inspections of the offset sites to ensure the provisions of the plan are being implemented. Matters to be inspected are listed in the OMP. A copy of the inspection checklist used by Council officers is provided in Appendix B.

Council monitoring data sheets were available for February - July 2020. The January 2020 inspection was not able to be conducted because of the prevailing fire hazard. Inspection notes were taken in August, after the withdrawal of grazing. The results of the inspections are summarised in Table 2-6 below. The monitoring shows that stock grazing breached maximum stocking rates and grassland condition rules each month between February and June (refer section 2.2.1). Large numbers of goats were recorded at the offset sites and pigs remain active.

The grazing lease was terminated at the end of June 2020. During site inspection conducted on 27 August; no lessee stock were sighted, although approximately 10 sheep were counted in the East paddock. Using ear tags, Council was able to identify the owner of the sheep; a neighbour adjoining the East paddock. The owner was contacted and the sheep removed. The East paddock boundary fence was subsequently repaired (in September-October 2020) to exclude the neighbour's sheep.

Table 2-6 Summary of 2020 monthly Council compliance inspections
(✓ - meets target, x – below target)

2020	Grass height	Grass cover	Stock observed	Comments - summarised from inspection checklists
25/02	North - ✓ West - x East - x South - ✓	North - x West - x East - x South - x	North - 0 West - 0 East - c. 17 sheep South - 28 heifers	North: 30+ goats South: 10+ goats East: new pig diggings 10mx10m
10/03	North - x West - x East - x South - x	North - x West - ✓ East - ✓ South - x	North - 0 West - 0 East - 0 South - c.30 heifers	North: fence on left needs restraining
28/04	North - x West - x East - x South - ✓	North - x West - x East - x South - x	North - 0 West - 0 East - 0 South - 32 heifers	North: fence on left of second gate needs repair, 26 goats.
28/05	North - x West - x East - x South - x	North - x West - x East - x South - x	North - 0 West - 0 East - 0 South - 30 heifers	North: fence on left of second gate needs repair. East: may need more gravel on creek crossing
26/06	North - x West - x East - x South - x	North - x West - x East - x South - x	North - 0 West - 0 East - 40+ sheep South - 0	North: fence on left of entry gate needs repair East: 2 deer sighted South: fresh cowpats sighted. Gate between paddock and lessee closed but not padlocked. Older pig diggings throughout.
21/07	All - x	All - x	Nil	Gates locked. Grass not yet responded to rain. Many kangaroos sighted.

2.4. SUMMARY OF LEASEHOLDER RECORDS

Leaseholder fortnightly stock and pasture monitoring records were submitted for February, March and April 2020. The records indicate adequate grass height and cover for grazing according to the OMP grazing rules, which conflicts with Council monitoring results.

Table 2-7 Summary of 2020 leaseholder fortnightly stock and pasture monitoring

2019	Grass height	Grass cover	Stock type and number	Comments
8/02	South/West – ‘sufficient growth to allow grazing to commence’, meets cover and height rules		33 x 250kg heifers	Goats seen.
23/02	South/West – meets cover and height rules		33 heifers	Goats seen.
8/03	South/West –meets cover and height rules		33 heifers	Goats seen.
22/03	South/West –meets cover and height rules		33 heifers	South and West used as one paddock. Goats seen.
11/04	South/West – ‘good ground cover and very good feed length’, meets cover and height rules		33 heifers	South and West used as one paddock. Goats seen.

3. CONCLUSION

Council is required to comply with Commonwealth and State approval conditions for Lake Wallace dam, and the provisions of the Lake Wallace Offset Management Plan (OMP) and Property Vegetation Plan (PVP). Council has largely complied with these requirements since the creation of the Lake Wallace offset sites.

Council inspections indicate a number of incidences of non-compliance in relation to stock grazing in 2020, including recurring breaches of OMP stock grazing rules. Ecological monitoring at the offset sites has shown a steady decline in condition, likely due to grazing pressure under drought conditions prior to February 2020. The 2019 ecological monitoring report recommended cessation of stock grazing and control of pest animals. The grazing lease was terminated in mid-2020.

The monitoring records indicate a persistent goat population at the sites, which would be contributing to overall grazing pressure and may be damaging wet soils at the sites. Goats have been controlled through live capture using dogs. Priority weeds appear to have been effectively monitored and controlled. Pest plant and animal control is likely to be an ongoing requirement at the offset sites.

With reduced grazing pressure and better rainfall through the 2020 La Nina year, the grassland and woodland at the offset sites are better placed for recovery in the 2021 growing season.

4. REFERENCES

- Agriculture Victoria (2018) Sustainable carrying capacity <<http://agriculture.vic.gov.au/agriculture/farm-management/business-management/ems-in-victorian-agriculture/environmental-monitoring-tools/sustainable-carrying-capacity>>
- Department of Primary Industries (DPI) (2006) Beef stocking rates and farm size - Hunter Region <http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0014/70610/Beef-stocking-rates-and-farm-size--Hunter-region.pdf>
- Hurford, K (2020) Priority Weed - Property Inspection Report. Unpublished report to Council 18 August 2020.
- NGH Environmental (2013) Species Impact Statement Lake Wallace Water Storage Dam and Associated Infrastructure. Prepared for Cooma-Monaro Shire Council
- NGH Environmental (2015a) Offset Management Plan Lake Wallace Storage Dam and Associated Infrastructure. Prepared for Cooma-Monaro Shire Council
- NGH Environmental (2015b) Offset Monitoring Report 2014. Lake Wallace Storage Dam and Associated Infrastructure. Prepared for Cooma-Monaro Shire Council.
- NGH Environmental (2015c) Offset Monitoring Report 2015. Lake Wallace Storage Dam and Associated Infrastructure. Prepared for Cooma-Monaro Shire Council.
- NGH Environmental (2016) Offset Monitoring Report 2016. Lake Wallace Storage Dam and Associated Infrastructure. Prepared for Snowy Monaro Regional Council.
- NGH Environmental (2018a) Offset Monitoring Report 2017. Lake Wallace Storage Dam and Associated Infrastructure. Prepared for Snowy Monaro Regional Council.
- NGH Environmental (2018b) Small Snake Orchid monitoring report 2018 Lake Wallace 5 Year Monitoring Plan 2018. Prepared for Snowy Monaro Regional Council. December 2018.
- NGH Environmental (2018c) Compliance report Lake Wallace Biodiversity Offset Sites. Prepared for Snowy Monaro Regional Council.
- NGH Environmental (2019a) Offset Monitoring Report 2019. Lake Wallace Storage Dam and Associated Infrastructure. Prepared for Snowy Monaro Regional Council.
- NGH Environmental (2019b) Compliance report Lake Wallace Biodiversity Offset Sites. Prepared for Snowy Monaro Regional Council.
- NGH Environmental (2020a) Compliance report Lake Wallace Biodiversity Offset Sites. Prepared for Snowy Monaro Regional Council.
- NGH Environmental (2020b) Small Snake Orchid monitoring report 2020 Lake Wallace 5 Year Monitoring Plan 2018. Prepared for Snowy Monaro Regional Council. November 2020.
- South East Local Land Services (SELLS) (2017) South East Regional Strategic Weed Management Plan 2017-2022. <http://southeast.lls.nsw.gov.au/__data/assets/pdf_file/0006/722706/South-East-Regional-Weed-Mgmt-Plan.pdf>

APPENDIX A OFFSET SITE PHOTOGRAPHS



Eroding drainage line, West paddock 2019



Rock on access track to flow monitoring station, North paddock



Small Snake Orchid colony enclosure fence with new gate 2020



Ecological monitoring plot 2019, East paddock

APPENDIX B COUNCIL AND LEASEHOLDER PRO FORMA CHECKLISTS

Leaseholder management records

Fortnightly checklist

Date:/...../.....

Test/check	Results/comments	
Number and type of animals in each paddock. Rule: must not exceed 4 DSE/ha of pasture for each paddock.		
Dates each paddock stocked and de-stocked. Rule: grazing not permitted 1 October to 31 January.		
Reasons for de-stocking (eg seasonal rotation, biomass, grass height or pasture cover, wet soils, fence damage)		
Stock spent at least 5 days in weed-free yard or paddock prior to entering offset site?		
Live pasture cover $\geq 80\%$ (100% in drainage lines) at half or more sample points? (include results for ≥ 6 points/paddock). Rule: grazing to stop when half or more of the points are $< 80\%$.		
Grass height $\geq 50\text{mm}$ (disregarding Poa tussocks and inflorescences) at half or more sample points? (include results for ≥ 6 points/paddock) Rule: grazing to stop when half or more of the points are $< 50\text{mm}$.		
Any weed or pest animal control undertaken? Note methods, chemicals and rates, target species, locations, timing.		
Any new weed or pest animal sightings?		
Any erosion control or fencing works required?		
Any other management action or issue which might affect the grassland or woodland at the sites?		
Name (please print)	Signature	Date

Stock Management Plan – rules and trigger points

Zone 3 is available for grazing between 1 February and 30 September – stock to be removed from 1 October to 31 January.

No grazing is permitted in the zone 1 and 2 riparian areas.

Grazing will not commence, and stock will be removed from the paddocks when:

- live pasture falls below 80% (excluding surface rock), or
- the average grass height (leaf height, disregarding inflorescences and the taller *Poa labillardierei* tussocks) is $\leq 50\text{mm}$.

The lessee/manager will aim to maintain 100% ground cover in drainage lines at all times.

Stocking rates during the grazing period should not exceed 4 DSE per hectare of pasture (excluding forest and woodland areas). Information on DSE and stocking rates for various types of stock can be found at:

<http://mbfp-pastoral.mla.com.au/Managing-your-feedbase/4-Determine-carrying-capacity-and-stocking-rate>

<http://aimsag.com.au/software/FactSheet4.pdf>

No cultivation, liming, fertilizing, sowing of exotic species or protein supplements are allowed within the offset sites.

Fortnightly pasture assessment

The leaseholder needs to monitor live pasture cover and grass height on a fortnightly basis using an accepted methodology. At least six representative sample points distributed throughout each paddock should be assessed. A majority of the points should be in middle and upper slope and ridge crest areas. Avoid areas with tree and rock cover. One set of methods is described at:

<http://mbfp.mla.com.au/Pasture-growth/Tool-22-Assessing-ground-cover>

<http://mbfp.mla.com.au/Pasture-growth/Tool-27-Field-based-pasture-measurements>

A modified and simplified set of methods is outlined below.

Live pasture cover

A 30 centimetre quadrat frame is thrown over the shoulder at ≥ 6 representative points within each paddock. If the frame lands on a *Poa* tussock or rock, throw again. Sample points can be regularly spaced along one or more imaginary straight transect lines across the paddock that is representative of the paddock as a whole. Pace an even distance between the points.

At each frame landing point, visually estimate and record whether live grass cover is at least 80% (yes/no).

If half or more of the sample points are less than 80%, stock must be removed from that paddock.

Example 80% cover photographs are attached. The cover estimate includes live plants, with apparently dead leaves attached to a live plant, but excludes litter, bare soil and cryptogams (mosses, lichen and fungi). Note that 1% of a 30cm quadrat is 30mm square, 20% is 134mm square and 25% is a quarter of the square.

Grass height

At each frame landing point, place a ruler vertically on the soil surface in the centre of the quadrat frame. Visually estimate and record whether the average live leaf height in the quadrat is at least 50mm (yes/no).

If the average grass height in half or more of the sample points is less than 50mm, stock must be removed from that paddock.

A recording data sheet is attached.

Example 80% cover images



Pasture assessment data sheet

Date:

	Grass height $\geq 50\text{mm}$?	Live cover $\geq 80\%$?
Paddock	NORTH	
Point 1	yes / no	yes / no
Point 2	yes / no	yes / no
Point 3	yes / no	yes / no
Point 4	yes / no	yes / no
Point 5	yes / no	yes / no
Point 6	yes / no	yes / no
	Half or more sites $\geq 50\text{mm}$? yes / no	Half or more sites $\geq 80\%$? yes / no

	Grass height $\geq 50\text{mm}$?	Live cover $\geq 80\%$?
Paddock	SOUTH	
Point 1	yes / no	yes / no
Point 2	yes / no	yes / no
Point 3	yes / no	yes / no
Point 4	yes / no	yes / no
Point 5	yes / no	yes / no
Point 6	yes / no	yes / no
	Half or more sites $\geq 50\text{mm}$? yes / no	Half or more sites $\geq 80\%$? yes / no

	Grass height $\geq 50\text{mm}$?	Live cover $\geq 80\%$?
Paddock	EAST	
Point 1	yes / no	yes / no
Point 2	yes / no	yes / no
Point 3	yes / no	yes / no
Point 4	yes / no	yes / no
Point 5	yes / no	yes / no
Point 6	yes / no	yes / no
	Half or more sites $\geq 50\text{mm}$? yes / no	Half or more sites $\geq 80\%$? yes / no

	Grass height $\geq 50\text{mm}$?	Live cover $\geq 80\%$?
Paddock	WEST	
Point 1	yes / no	yes / no
Point 2	yes / no	yes / no
Point 3	yes / no	yes / no
Point 4	yes / no	yes / no
Point 5	yes / no	yes / no
Point 6	yes / no	yes / no
	Half or more sites $\geq 50\text{mm}$? yes / no	Half or more sites $\geq 80\%$? yes / no

Lake Wallace Offset Management Plan (Section 7)

Inspection and compliance

Monthly inspection checklist

Date:/...../.....

Test/check	Results/comments	
Grazing period only: check pasture cover at representative points in paddocks. Sample ≥ 6 points in each paddock. Rule: at least 80% at half or more of the points for grazing.		
Grazing period only: check grass height (leaf height, disregarding inflorescences and Poa tussocks), measured with a ruler at representative points (mostly ridge crest, upper slope and midslope locations). Sample ≥ 6 points in each paddock. Rule: at least 50mm at half or more of the points for grazing.		
Grazing period only: check locations, type and visible no. of stock. Rules: - must not exceed 4 DSE/ha, must match leaseholder records. - grazing not permitted 1 October to 31 January.		
Check condition of fences and gates, especially riparian. Ensure gates can be/are locked when landholder and lessee are absent.		
Check condition of Pigring Creek stock crossing (after storms).		
Any active erosion areas (tracks, drainage lines, drains, farm dam spillways, Lake Wallace shoreline and spillway)?		
Any adverse impacts of the use of the property (including any new tracks, off-track vehicle damage during wet weather)?		
Any new noxious weed or pest animal infestations?		
Any soil or vegetation disturbance or activities not permitted under the OMP (including feeding, sowing of exotics and fertiliser use)?		
Any evidence of burning (pile or broadscale)?		
Any other management issues?		
Confirmation of exotic grass cover $>50\%$ <u>if required</u> – see over.		
Name (please print)	Signature	Date

Stock Management Plan – rules and trigger points

Zone 3 is available for grazing between 1 February and 30 September – stock to be removed from 1 October to 31 January. No grazing is permitted in the zone 1 and 2 riparian areas.

Grazing will not commence, and stock will be removed from the paddocks when:

- the live pasture cover falls below 80% (excluding surface rock), or
- the average grass height (leaf height, disregarding inflorescences and the taller *Poa labillardierei* tussocks) is $\leq 50\text{mm}$.

The leaseholder/manager must aim to maintain 100% ground cover in drainage lines at all times. No cultivation, liming, fertilizing, sowing of exotic species or protein supplements are allowed within the offset sites.

Stocking rates during the grazing period should not exceed 4 DSE per hectare of pasture (excluding forest and woodland areas). Information on DSE and stocking rates for various types of stock can be found at:

<http://mbfp-pastoral.mla.com.au/Managing-your-feedbase/4-Determine-carrying-capacity-and-stocking-rate>

<http://aimsag.com.au/software/FactSheet4.pdf>

Checking grass height and pasture cover (monthly during grazing period)

Check live grass cover at 6 representative points in each grazed paddock, with most points being on ridge crest, upper slope and midslope locations. A 30cm quadrat frame can be used at survey points evenly spaced along a transect across the paddock. Avoid areas with tree and rock cover. Also check grass height at each point (leaf height, disregarding inflorescences and *Poa* tussocks). Place a ruler vertically on the soil surface in the centre of the quadrat frame and visually estimate average leaf height in the quadrat. If half or more of the points are below 50mm grass height and/or 80% cover, stock must be removed from the paddock. Example 80% cover photographs and a recording data sheet are attached. The cover estimate includes live plants, with apparently dead leaves attached to a live plant, but excludes litter, bare soil and cryptogams (mosses, lichen and fungi). Note that 1% of a 30cm quadrat is 30mm square, 20% is 134mm square and 25% is a quarter of the square.

Confirmation of exotic grass cover (if required)

The leaseholder may request an extension of grazing until 7 November to control a high density (>50% live cover) of spring-active exotic grasses (such as Sweet Vernal Grass, *Vulpia*, Bromes). In this case, the inspecting officer will need to confirm the cover percentage during the September inspection using an accepted field method. The officer will need to be able to distinguish exotic grasses from native species during the early spring period. The officer should also photograph the groundcover at the survey quadrats or transects. Extended grazing is intended to be a special, infrequent measure to deal with a spring flush of exotic grasses. The trade-off is that it will set back the flowering and seeding of native species for that season.

Methods

Exotic cover will only need to be quantitatively checked if the leaseholder requests extended grazing due to high exotic grass cover. Exotic cover can be measured using:

- Visual assessment of 30 centimetre quadrat frames at 6 representative points in each paddock. Sample points can be regularly spaced along an imaginary straight transect line across the paddock that is representative of the paddock as a whole, with points at paced intervals, or
- Step point transect(s) sampling at least 100 points along a line across each paddock which is representative of the paddock as a whole. Can use measuring tape and wire, or marked boot methods.

Method descriptions and more example % cover photographs are available from the following websites:

<http://agriculture.vic.gov.au/agriculture/farm-management/soil-and-water/erosion/groundcovering-measuring-tool>

<http://mbfp.mla.com.au/Pasture-growth/Tool-22-Assessing-ground-cover>

<http://www.fscla.org.au/Sustainable-land-management-practices-for-graziers.pdf>

Example 80% cover images



Pasture assessment data sheet

Date:

	Grass height $\geq 50\text{mm}$?	Live cover $\geq 80\%$?
Paddock	NORTH	
Point 1	yes / no	yes / no
Point 2	yes / no	yes / no
Point 3	yes / no	yes / no
Point 4	yes / no	yes / no
Point 5	yes / no	yes / no
Point 6	yes / no	yes / no
	Half or more sites $\geq 50\text{mm}$? yes / no	Half or more sites $\geq 80\%$? yes / no

	Grass height $\geq 50\text{mm}$?	Live cover $\geq 80\%$?
Paddock	SOUTH	
Point 1	yes / no	yes / no
Point 2	yes / no	yes / no
Point 3	yes / no	yes / no
Point 4	yes / no	yes / no
Point 5	yes / no	yes / no
Point 6	yes / no	yes / no
	Half or more sites $\geq 50\text{mm}$? yes / no	Half or more sites $\geq 80\%$? yes / no

	Grass height $\geq 50\text{mm}$?	Live cover $\geq 80\%$?
Paddock	EAST	
Point 1	yes / no	yes / no
Point 2	yes / no	yes / no
Point 3	yes / no	yes / no
Point 4	yes / no	yes / no
Point 5	yes / no	yes / no
Point 6	yes / no	yes / no
	Half or more sites $\geq 50\text{mm}$? yes / no	Half or more sites $\geq 80\%$? yes / no

	Grass height $\geq 50\text{mm}$?	Live cover $\geq 80\%$?
Paddock	WEST	
Point 1	yes / no	yes / no
Point 2	yes / no	yes / no
Point 3	yes / no	yes / no
Point 4	yes / no	yes / no
Point 5	yes / no	yes / no
Point 6	yes / no	yes / no
	Half or more sites $\geq 50\text{mm}$? yes / no	Half or more sites $\geq 80\%$? yes / no

APPENDIX C Paddock Map

