

Integrated Land Management Plan

Cobbora Coal Project

Prepared for Cobbora Holding Company Pty Limited | 21 October 2014



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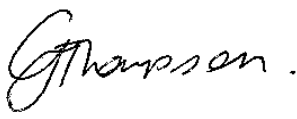

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Integrated Land Management Plan

Final

Report J13104RP3 | Prepared for Cobbora Holding Company Pty Limited | 21 October 2014

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1 Introduction

1.1 The Cobbora Coal Project

Cobbora Holding Company Pty Limited (CHC) has received NSW and Commonwealth project approvals to develop a coal mine known as the Cobbora Coal Project (the Project) in the central west of NSW. The mine will extract 20 million tonnes per annum (Mtpa) of coal, which, after processing, will provide about 12 Mtpa of product coal for the domestic and export markets. The mine will operate for 21 years and will be rehabilitated during and beyond this period.

On 1 July 2013, the NSW Government re-announced that it will not be constructing or operating the Project but that it will be leased or sold. The Project proponent will remain CHC until the completion of the sale or leasing agreement. As it is uncertain when this will occur, in some cases the references to 'CHC' may actually be the 'Project Developer'.

1.2 Project setting

1.2.1 Location

The Project is located about 5 km south of Cobbora, 22 km south-west of Dunedoo, 64 km north-west of Mudgee and 60 km east of Dubbo. The project application area (PAA) defined in the environmental assessment (EA) (EMM 2012a) covers around 274 km² (Figure 1.1).

The Golden Highway is to the north of the PAA and Spring Ridge Road runs through its centre. The Cudgegong River crosses the southern part of the PAA, from where a water supply pipeline to the mine will extend. The PAA and surrounds contain agricultural land, woodland, rural residential properties and Crown land or other reserves. Mine operations are only proposed on land owned by CHC.

The PAA is located within Mid-Western Regional, Warrumbungle Shire and Wellington local government areas (LGAs).

1.2.2 Landscape

The landscape in the PAA is characterised by undulating terrain, with broad valleys and low hills. The maximum elevation is about 600 m above height datum (AHD) in the southern part of the PAA, with a high point of 580 m near to the mining area (in Tuckland State Forest). The area is mainly cleared for agriculture with some remaining areas of native vegetation.

1.2.3 Climate

The Köppen climate classification for the region is 'temperate with hot summer'. The monthly mean minimum temperature ranges from 2°C to 17°C and the monthly mean maximum temperature ranges from 15°C to 32°C. Average climatic conditions recorded at the Dunedoo Post Office, about 22 km north-east of the mining area, are presented in Table 1.1.

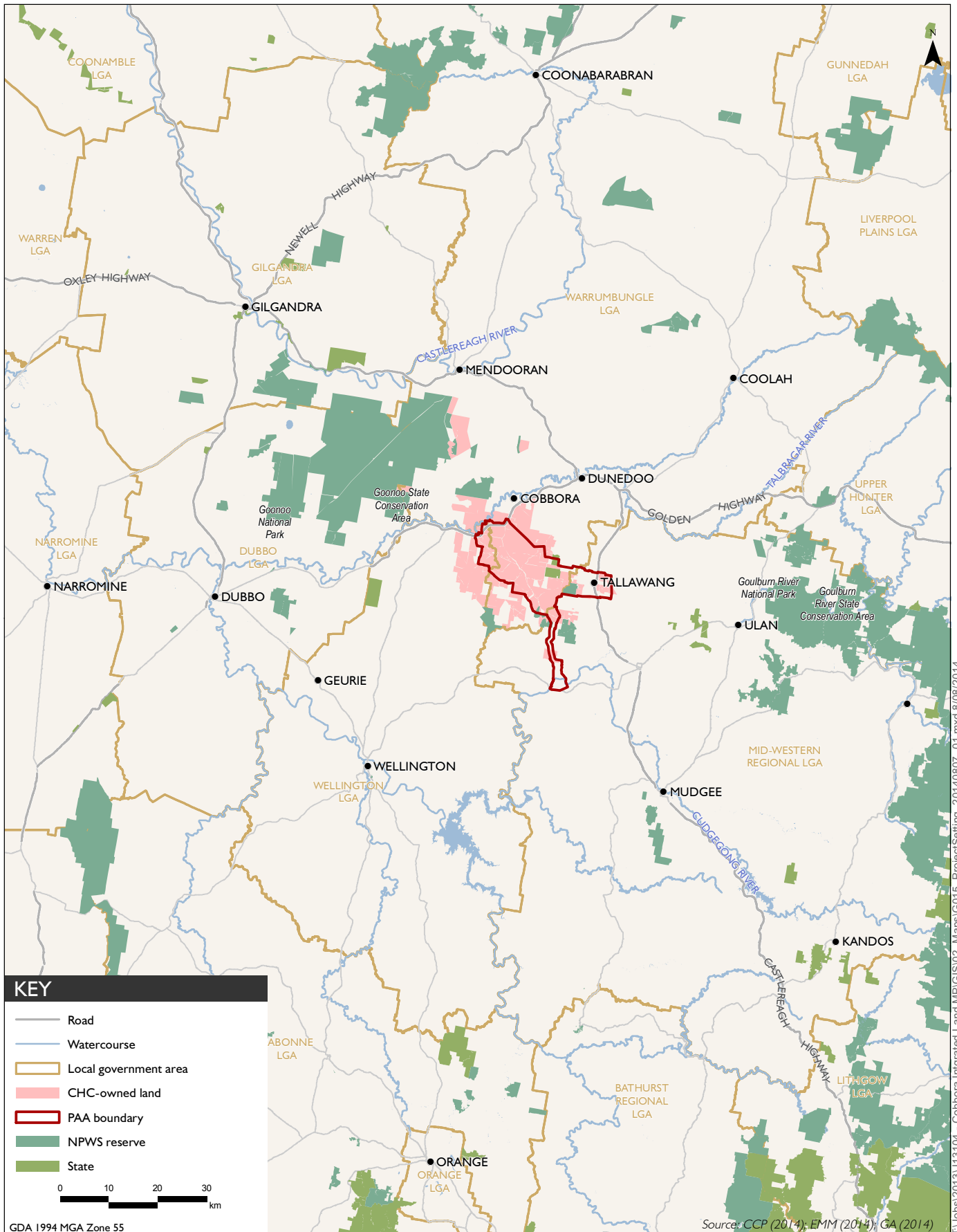


Table 1.1 Climate data for Dunedoo Post Office (1946 to 2011)

Month	Average minimum temperature (°C)	Average maximum temperature (°C)	Median rainfall (mm)	Rain days (>1 mm)	Average 9 am wind speed (km/h)	Average 3 pm wind speed (km/h)
January	16.9	31.9	69.8	5.3	15.4	16.5
February	17.2	30.8	64.3	5.0	14.7	15.6
March	14.3	28.3	52.6	4.3	13.8	15.3
April	9.7	24.2	41.5	3.7	11.8	14.3
May	6.2	19.5	44.4	5.0	10.1	14.8
June	3.6	16.0	44.5	5.6	8.5	14.3
July	2.0	15.3	46.5	5.9	8.0	13.9
August	3.0	17.1	41.0	5.6	10.1	16.0
September	5.8	20.6	43.0	5.3	12.2	16.5
October	9.1	24.2	52.6	5.8	14.1	16.7
November	12.3	27.6	55.5	5.6	14.9	17.1
December	15.0	30.8	62.7	5.7	15.0	17.3
Annual	9.6	23.9	618.6	62.8	12.4	15.7

Source: BoM (2011).

The median rainfall is 619 millimetres (mm) with rain greater than 1 mm on 63 days per year on average. Rainfall generally occurs throughout the year with the highest median rainfall over summer and the lowest median rainfall over winter.

1.2.4 Water resources

The Project is in the NSW Central West catchment at the eastern edge of the Murray-Darling Basin. The Talbragar River, which generally runs to the west, is immediately north of the PAA. The Cudgegong River, which also generally runs to the west, is in the south of the PAA. Both rivers are part of the Macquarie River catchment.

There are two main creeks in the PAA. Sandy Creek runs on the western side of the proposed mining area while its tributary, Laheys Creek runs to the east. Both creeks are ephemeral with vegetated channels. The creeks flow to the north and meet about 7 km south of the Talbragar River. There are a number of smaller creeks and drainage lines in the PAA.

The waterways in the PAA are part of the lower Darling River aquatic ecological community.

1.2.5 Biological environment

The PAA has been extensively cleared for agriculture. Native vegetation is generally confined to road reserves, conservation reserves and isolated patches on farms, particularly next to the creeks. There is a larger contiguous patch of native vegetation on the north-east side of the area owned by CHC. The larger forest and woodland areas generally occur in association with the less fertile rock outcrops on the low hills and ridges.

There are a number of vegetation remnants in the PAA, including ironbark, stringybark and Cypress pine woodlands, box woodlands, red gum woodlands, regenerating scrubland and grasslands (including native pasture). Of these, three are threatened ecological communities listed under the NSW *Threatened Species Conservation Act 1995* (TSC Act) and/or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act):

- the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and derived Native Grassland (Box Gum Woodland);
- the Grey Box Grassy Woodland and derived Native Grasslands of South Eastern Australia (Grey Box Woodland); and
- the Fuzzy Box Woodland on alluvial soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions.

The Goodiman State Conservation Area is wholly within the PAA. Parts of the Yarrobil National Park and the Tuckland State Forest are in the PAA and Cobbora State Conservation Area is to the north-west of the PAA.

1.2.6 Residential land use

The nearest towns are Cobbora, Dunedoo and Gulgong. Larger towns in the region are Dubbo, Wellington Gulgong and Mudgee.

There are no settlements in the PAA. Residences in the PAA and surrounding area are either associated with current or former farming properties or are on 'lifestyle' blocks. The residences range in condition from well-maintained to dilapidated and uninhabitable.

1.2.7 Agricultural land use

Agriculture occupies approximately 66% of the land in the region (Dubbo, Mid-Western Regional, Wellington and Warrumbungle Shire LGAs). Most of this land is used for cattle and sheep grazing with only 8% used for cropping. Only small areas are irrigated, for example, less than 0.1% (some 1,000 ha) of the land in Warrumbungle Shire LGA is irrigated.

1.3 CHC-owned land

As of June 2014, CHC own approximately 45,000 hectares (ha) of land in and surrounding the PAA. Properties have generally been acquired where there will be mining or infrastructure; where noise and/or air quality impacts are predicted to exceed assessment criteria; or the land will form part of the Project's biodiversity offset package.

CHC-owned land includes agricultural land, smaller residential blocks and areas of native vegetation not suitable for agriculture. The majority of the land continues to be managed by individuals or families as part of agricultural enterprises under licence agreements.

1.4 NSW Project Approval conditions

The Project was approved by the NSW Planning Assessment Commission (PAC) On 9 May 2014 subject to a range of conditions that included the preparation of an Integrated Land Management Plan (ILMP) - Condition 1 of Schedule 3 'Environmental Performance Conditions'. The components of this condition and where they are addressed in this ILMP are listed in Table 1.2.

Table 1.2 Project Approval conditions

Number	Condition	ILMP Section
-	The Proponent shall ensure and implement an Integrated Land Management Plan for the project to the satisfaction of the Secretary [of the Department of Planning and Environment]. This plan must:	-
1(a)	be prepared in consultation with WSC, MWRC, WC, OEH, DoE and Agriculture NSW by suitability qualified and experienced persons whose appointment has been approved by the Secretary;	2.1
1(b)	be submitted to the Secretary for approval within 6 months of the date of this approval;	-
1(c)	map the land and soil capability and biodiversity regeneration potential of all of the Proponent's landholdings (including those landholdings in the mining and offset areas), describe the existing land tenure arrangements, and include suitable baseline data on the current condition of the landholdings;	3.3, 3.4
1(d)	include a strategic land use plan for these landholdings that is directed towards: <ul style="list-style-type: none"> • regenerating the biodiversity areas to the maximum extent possible; • improving riparian areas and aquatic habitats; and • maximising sustainable agricultural production on the remaining land, including through the rehabilitation and repair of eroding areas; 	- 5.3.3 5.3.4 4.1, 4.2
1(e)	describe how the implementation of the strategic land use plan would be integrated with the implementation of the Biodiversity Offset Strategy and rehabilitation of the site following mining;	7.3
1(f)	include detailed performance measures and completion criteria for evaluating the performance of the strategic land use plan, and triggering remedial action (if necessary);	10.1, 10.2
1(g)	include a detailed program to implement the strategic land use plan that includes: <ul style="list-style-type: none"> • a land tenure and management program for each of the landholdings at each stage (including prior to the commencement of mining, during mining operations and post mining); • a program to carry out a series of trials of various agricultural and biodiversity rehabilitation and endemic vegetation re-establishment techniques, supported by a local seed bank of endemic species; • a program to fast track the regeneration of biodiversity values in the Group 1 Biodiversity Offset Areas and Northern Restoration Area (see Table 11 [of Project Approval conditions]), and ensure it is trending towards the relevant completion criteria by Year 8 of the mine plan; • an employment, training and skills development program aimed at improving local land management techniques, resources and knowledge; and • an integrated bushfire management plan; 	- 4.1.3 4.2, 5.5 5.3.3 9.2, 9.3 6.2
1(h)	describe the proposed funding arrangements for the implementation of the strategic land use plan;	11.1
1(i)	include a program to monitor and report on the effectiveness to the detailed program to implement the strategic land use plan, and progress against the detailed performance and completion criteria;	10.3
1(j)	identify the risks that could prevent the successful implementation of the strategic land use plan, and describe the measures that would be implemented to mitigate against these risks; and	7.1, 7.2
1(k)	describe who would be responsible for implementing, monitoring, and reviewing the plan.	11.2
1 (l)	include a current, Socio-economic assessment prior to finalisation of the Land	-

Table 1.2 Project Approval conditions

Number	Condition	ILMP Section
	Management Plan. The study is to;	
	<ul style="list-style-type: none"> be prepared in consultation with Warrumbungle Shire Council and Mid-Western Regional Council; 	8.2
	<ul style="list-style-type: none"> contain a special baseline study of the impacted communities of interest including key industries in the region; 	8
	<ul style="list-style-type: none"> assess the social and economic impacts on the local communities that are directly related to the project; 	8
	<ul style="list-style-type: none"> propose mitigation measures to offset any negative socio-economic impacts as a direct result of the project; and 	8.9
	<ul style="list-style-type: none"> recommend a framework that will inform community stakeholders on the progress of the enhancement and mitigation measures. 	2.2

1.5 CHC commitments

The Project commitments are summarised in EMM (2013b) and replicated in Appendix 3 the Project Approval Conditions (9 May 2014). The key project commitments relevant to this ILMP are provided in Table 1.3.

Table 1.3 Summary of key commitments

Item	Commitment	ILMP section
Ongoing		
1	CHC will continue to work closely with local, State and Commonwealth authorities, service providers, community groups and affected landowners so that the Project meets community expectations to the greatest extent practical.	2.1
2	The Project will apply best practice management measures where the application of these measures will reduce risks or impacts to be as low as reasonably possible.	7.1, 7.2
Soils and agriculture		
30	Disruption to agricultural activities outside the disturbance footprint will be minimised by offering long-term licences to affected farmers.	4.1.3
32	A draft Integrated Land Management Plan will be prepared for review by the Director-General of the DP&I within six months of receiving NSW Project Approval.	-
33	The Integrated Land Management Plan will be prioritised and parts will be implemented prior to finalisation of the plan to the satisfaction of the Director-General, eg land improvements.	3.5.1
34	The land tenure and management program will be implemented that aggregates properties into larger parcels for tender for long term licences through an open advertised process. Tenderers will be required to demonstrate their understanding and experience of sustainable land management. Licence agreements will require land managers to implement good land management practises.	4.1
35	A Bushfire Management Plan will be part of the Integrated Land Management Plan.	6.2
36	CHC's land management budget will include funds for the implementation of the Integrated Land Management Plan.	11.1
37	Local land management training opportunities will be developed as part of the Integrated Land Management Plan development.	9.3
38	A Land Care Specialist will be appointed by CHC with particular expertise in land rehabilitation and regeneration of native vegetation.	3.5.1

Table 1.3 Summary of key commitments

Item	Commitment	ILMP section
Ecology		
46	A biodiversity offset package will initially maintain and ultimately improve the ecological values of the region through the permanent conservation of lands that have no potential for coal mining.	Biodiversity Offset Package (EMM 2013a)
47	The biodiversity offset package will create or enhance vegetation corridors between remnant vegetation to the north, east and south of the mining area.	5.3
50	Once the offset package is agreed, a Biodiversity Offset Management plan will be prepared that will detail the regeneration of biodiversity offset areas.	Appendix E
Bushfire		
52	CHC will maintain resources (water, equipment and personnel) for bushfire control.	6.3
53	CHC will relocate the Dapper Brigade Shed in consultation with NSW Rural Fire Service.	6.3
54	CHC is advised that the Dapper Rural Fire Service Brigade may be merging with the Cobbora Rural Fire Service Brigade. Once resolved, CHC will contribute to resourcing the brigade servicing the area surrounding the Project and providing mine personnel to support the brigade for the life of the Project.	6.3
Socio-economic		
89	Local industries and suppliers will be used where cost-effective.	9.2

1.6 Commonwealth approval

The Project was approved by the Commonwealth Minister for the Environment on 10 July 2014 subject to conditions that relate to matters of national environmental significance. The ILMP includes a Biodiversity Management Plan (Appendix F) that will be updated by the Project Developer prior to the start of construction and submitted for the Minister’s approval in accordance with Commonwealth Approval Condition 2.

1.7 Plan objectives

The objective of the ILMP is to guide the management of CHC-owned land to optimise agricultural productivity, native vegetation enhancement and the value of biodiversity offsets.

The ILMP will be implemented over the life of the Project on land outside of the Project disturbance footprint. It will also be applied in the Project footprint (ie land that will eventually be cleared) up to the start of construction. During construction and operations, the management measures specified in the Project’s *Environmental Management Plan* (EMP) will be implemented.

The EMP will include all of the individual management plans specified in the Project Approval conditions. For example, a *Surface Water Management Plan*, including erosion and sediment controls, is required by Schedule 3 Condition 31 (c)(ii). Therefore, the ILMP only provides ongoing erosion and sediment controls where they apply to land that will not be in the Project footprint and will therefore not be addressed in the EMP. The ILMP will be reviewed and updated (see Section 11.1) to reflect the changing Project status, including as it moves into the construction and operations phases.

The Project's *Rehabilitation Management Plan* will describe the rehabilitation of areas disturbed during the construction and operation of the project.

These plans will be prepared to the satisfaction of the Secretary prior to the start of Project construction.

The measures described in the ILMP will continue to be implemented by CHC, or by the Project Developer after the sale or lease of the Project.

1.8 Potential request for modified project approval conditions

Condition 1(c) of Schedule 3 requires that the ILMP map the land and soil capability and biodiversity regeneration potential of all of the Proponent's landholdings (including those landholdings in the mining and offset areas). A potential request to modify this condition is described below.

1.8.1 Land and soil capability mapping

Land and soil capability (LSC) mapping is described in *The Land and Soil Capability Assessment Scheme* (OEH 2012). This report states that:

The context and application of the LSC assessment scheme is largely for:

- regional assessment of land capability; and
- the assessment of land capability for broad-scale, dry-land agricultural land use.

OEH (2012) goes on to state that there are more suitable land assessment schemes for farm level assessments, eg SOILpak (McKenzie 1998 and 2001).

The majority of CHC's landholdings (58%) will be in agricultural aggregations that will be operated as agricultural enterprises by farmers under licence to CHC. As described in Chapter 4, each licence holder will be required to prepare a farm management plan that include practices to maximise the sustainable agricultural production of the aggregation that they manage. CHC will conduct quarterly inspections and annual reviews to determine if the practices described in the farm management plans are being implemented. The licences may be terminated if sustainable agricultural practices are not being implemented.

The assessment of the condition of aggregated agricultural land at a farm level is described in Section 3.4.2. As described above, land and soil capability mapping is a tool for the regional assessment of agricultural areas. It is not appropriate or required to ensure the sustainable agricultural management of CHC-owned agricultural land.

Further, *The Land and Soil Capability Assessment Scheme* is focused on agricultural land use. Land and soil capability mapping of biodiversity offsets (8,827 ha) is not an appropriate or efficient method to inform management of native vegetation in the offsets.

It is anticipated that CHC will request that Project Approval Condition 1(c) of Schedule 3 is modified to remove the land and soil capability mapping requirement.

1.8.2 Biodiversity regeneration potential mapping

The biodiversity regeneration potential of some grasslands within the PAA and in the offset areas has been mapped. However, the majority of CHC-owned is agricultural land and CHC intends to maximise the area of this land that remains under agricultural production.

However, CHC will manage areas of native vegetation on CHC-owned land to improve its biodiversity potential. The native vegetation management practices described in the Biodiversity Management Plan (Appendix E) will allow natural regeneration of native vegetation. Additional specific areas that may undergo assisted regeneration will be identified as the progress of natural regeneration is monitored. These will be in addition to the Group 1 Formal Biodiversity Offsets that are required to compensate for the unavoidable clearing of native vegetation for the Project.

It is anticipated that CHC will request that Project Approval Condition 1(c) of Schedule 3 is modified so that the biodiversity regeneration potential mapping requirement does not apply to all CHC-owned land but instead applies to selected areas of high biodiversity regeneration potential in areas of low agricultural productivity.

1.9 Staged plan preparation

Project Approval Schedule 2 Condition 14 allows for submission of staged plans. Accordingly, it is proposed that this ILMP and the appended plans will be updated and submitted to the Secretary, by the Project Developer, prior to the start of construction. These updates will include:

- main ILMP report:
 - land and soil capability maps of all of the Proponent's landholdings unless the project approval is modified to remove this requirement;
 - a map of biodiversity regeneration potential of all of the Proponent's landholdings unless the project approval is modified;
 - details of ongoing consultation regarding the ILMP during construction and operations, particularly the mitigation and consultation framework described in Chapter 7 of the SEA;
- Erosion and Sediment Control Works Plan:
 - additional areas for erosion and sediment control works, including consideration of areas within the formal biodiversity offset areas (with appropriate modification of the use of exotic species);
- Bushfire Risk Management Plan:
 - additional details requested in the NSW Rural Fire Service (RFS) letter regarding the Cobbora Coal Project Environmental Assessment (8 November 2014) regarding the construction and operation of the project, eg fire fighting water supplies for each area, storage of fuels and flammable liquids, evacuation procedures, design of the temporary construction accommodation village, designation of asset protection zones and fire fighting vehicle access;

- update to specifically cover all lands within the biodiversity offset strategy; and
- assess existing trails within offset properties to be retained and managed as fire trails.
- Vertebrate Pest and Weed Management Plan:
 - update to specifically cover all lands in the BMP;
 - update classification of vertebrate pest and weed management areas to ensure consistent area definitions are used throughout the ILMP;
 - further details of vertebrate pest and weed monitoring program targets and criteria; and
 - correct errors in table references.
- Biodiversity Management Plan:
 - biodiversity regeneration potential map for all of the Proponent's landholdings unless the project approval is modified (see Section 1.8.2);
 - specific work plans for areas requiring management following the baseline surveys;
 - review of performance criteria based on baseline monitoring results; and
 - update with any new threatened species identified during the baseline monitoring program.

1.10 Plan structure

The ILMP comprises of a series of plans that describe the management of agricultural land, and areas of native vegetation including the biodiversity offsets. This covering report summarises these plans and describes common elements and cross-linkages between the plans. The ILMP structure is summarised in Table 1.4.

Table 1.4 ILMP structure

	Chapter/ management and work plans	Contents	Relevant condition*
Summary report (this report)			
1	Introduction	Overview of the ILMP and its objectives.	-
2	Consultation	Description of the consultation undertaken as part of the preparation of the ILMP and planned consultation.	(a)
3	Land management classification	Classification of CHC-owned land and maps of land capability, soil types, regeneration potential, offsets and agricultural land condition.	(c)
4	Strategic land use plan: agricultural land	Summary of the land aggregation process and the methods to be employed to ensure that agricultural land is managed to maximise agricultural production and minimise and repair erosion.	(c), (d) and (g)

Table 1.4 ILMP structure

Chapter/ management and work plans	Contents	Relevant condition*
5 Strategic land use plan: native vegetation	<p>Summary of the management of areas that contain native vegetation and areas that will be regenerated to improve biodiversity, including habitat connectivity.</p> <p>Summary of the biodiversity offsets management plan.</p> <p>Summary of the measures to improve riparian areas and aquatic habitats.</p> <p>Summary of proposed rehabilitation trials.</p> <p>Program to fast-track regeneration of biodiversity values in the Group 1 Biodiversity Offset Areas.</p>	(d) and (g)
6 Bushfire plan	Summary of the <i>Bushfire Risk Management Plan</i> .	(g)
7 Strategic land use plan implementation and risk assessment	<p>Summary of the risks to the successful implementation of the strategic land use plan and mitigation measures that will be implemented.</p> <p>Description of the implementation of the strategic land use plan including integrated management of each land type and the post-mining final land use based on the integration of agricultural, native vegetation, biodiversity offsets and rehabilitated land disturbed by the mine and work plan schedule.</p>	(e) and (j)
8 Socio-economic assessment	Summary of the socio-economic assessment.	(l)
9 Employment, training and skills program	Outline of the proposed employment, training and skills program.	(g)
10 Performance measures, monitoring and reporting	Summary of the performance measures, completion criteria, monitoring and reporting contained in the management plans.	(f) and (i)
11 Funding arrangements, responsibilities and plan update	<p>Summary of funding for implementation of the ILMP.</p> <p>Responsibilities for implementing, monitoring, reviewing and updating the ILMP.</p>	(h) and (k)
Management and work plans		
A Land tenure package example	Example of an aggregated agricultural property tender package showing the conditions that licensees will be required to meet as part of the tender process and licence agreement. To protect the privacy of former landowners, current licensees and commercial-in-confidence tenders, the <i>Land Aggregation Plan</i> and <i>Land Tenure Plan</i> has not been appended to the publically available ILMP.	(g)
B Erosion and sediment control works plan (E&SCWP)	Description of the erosion and sediment control trials that will be conducted to inform wider erosion and to control measures across CHC-owned land.	(d)
C Bushfire risk management plan (BRMP)	<p>Detailed bushfire risk assessment and mitigation, emergency procedures.</p> <p>Maps for operational use by fire fighters have been provided to RFS.</p>	(g)
D Vertebrate pest and weed management plan (VP&WMP)	<p>Description of weeds and pests management on land actively managed by CHC.</p> <p>Weeds and pests management on agricultural areas will be the responsibility of agricultural licensees who will be required to prepare a Farm Management Plan that addresses these issues.</p>	(d) and (g)

Table 1.4 ILMP structure

	Chapter/ management and work plans	Contents	Relevant condition*
E	Biodiversity management plan (BMP)	Description of the management of native vegetation on CHC-managed land, including biodiversity offsets, and measures to be implemented over the next 3 years.	(d) and (e) **
F	Socio-economic assessment (SEA)	Social baseline of impacted local communities. Description of local socio-economic impacts until the start of construction, mitigation measures and a consultation program.	(l)

Notes: * *Cobbara Coal Project, Project Approval (9 May 2014), Schedule 3 Condition 1.*

** *Cobbara Coal Project, Project Approval (9 May 2014), Schedule 3 Condition 35.*

1.11 Authors

The Project Approval conditions require that the ILMP be prepared by suitably qualified and experienced persons whose appointment has been approved by the Secretary of the Department of Planning and Environment (DP&E). The Secretary has reviewed the information provided by CHC and has approved the appointment of the following experts to prepare the ILMP:

- Philip Towler, Cassandra Thompson and Edward Niembro (EMGA Mitchell McLennan, EMM);
- Murray Fraser and Rod Masters (SLR Australia);
- Chris Botfield and Cameron Chaffey (Western Land Planning, WLP); and
- Robert Gillespie (Gillespie Economics).

2 Consultation

The Project Approval Schedule 3, Condition 1(a) states that the ILMP should be prepared in consultation with Warrumbungle Shire Council (WSC), Mid Western Regional Council (MWRC), Wellington Council (WC), Office of Environment and Heritage (OEH), Commonwealth Department of the Environment (DoE) and Agriculture NSW. Condition 1(l) states that the socio-economic assessment (SEA) must be prepared in consultation with Warrumbungle Shire Council and Mid-Western Regional Council. These, and other stakeholders including Wellington Council, were consulted during the preparation of the draft ILMP. In addition, businesses, service providers and community organisations were consulted during the preparation of the SEA (Appendix F).

This chapter provides an overview of the consultation undertaken and the proposed further consultation. Further details are provided in the specific plans (eg the *Socio-economic Assessment* (Appendix F) and *Bushfire Risk Management Plan* (Appendix E)). A framework for future consultation is also provided.

2.1 Consultation to date

Consultation with government agencies, organisations and individuals regarding the preparation of the ILMP is summarised in Table 2.1. This includes the provision of the draft ILMP to the agencies listed in Project Approval Schedule 3, Condition 1(a).

Table 2.1 Consultation to date

Organisation	Period and methods	Matters	Plans
Commonwealth Department of the Environment	28 May to 8 August 2014	Requested feedback on ILMP structure and contents.	ILMP BMP
	Letters/emails	Requested feedback on draft ILMP. Comments provided noting: <ul style="list-style-type: none"> that Commonwealth approval conditions have largely been met; the draft construction environmental management plan will need to be reviewed by DoE to determine if some conditions will be met; additional information on work stages would be useful; and information is required on corrective actions. 	
Office of Environment and Heritage Planning, North West Region	28 May to 5 September 2014 Letters/emails	Requested feedback on ILMP structure and contents. OEH provided feedback on contents, particularly the BMP. Requested feedback on draft ILMP. Comments and recommendations provided regarding: <ul style="list-style-type: none"> definition of land and management zones; relationships between ILMP sub-plans; 	ILMP BMP VP&WMP

Table 2.1 Consultation to date

Organisation	Period and methods	Matters	Plans
		<ul style="list-style-type: none"> • biodiversity regeneration area identification and selection; • baseline data and monitoring methods • performance and completion criteria; and • proposed management actions and mitigation measures. 	
	2011 to 2014	Ongoing consultation regarding the biodiversity offsets strategy, package and management plan.	ILMP BMP
Agriculture NSW	28 May 2014 to 3 September 2014 Letters/emails	<p>Requested feedback on ILMP structure and contents.</p> <p>Requested feedback on draft ILMP. Comments provided regarding draft ILMP and SEA noting:</p> <ul style="list-style-type: none"> • SEA periods and spatial extent need consideration; • focus is required on working with local communities and Councils; • agricultural performance indicators need review; • agricultural trials should be considered; and • flexibility is required in suggested cropping rotations. 	ILMP SEA
Warrumbungle Shire Council	28 May 2014 to 17 October 2014 Letters/emails	<p>Requested feedback on ILMP and SEA structure and contents.</p> <p>EMM and CHC have liaised with the Council regarding the structure and content of the ILMP along with requesting any information in Council's possession that would be pertinent to the socio-economic assessment. Council has acknowledged correspondence and requested to be included in the preparation and review of the ILMP. WSC provided information on resident numbers and migration.</p>	ILMP SEA

Table 2.1 Consultation to date

Organisation	Period and methods	Matters	Plans
	16 September 2014 ILMP workshop in Dunedoo	<p>Requested feedback on draft ILMP.</p> <p>An ILMP workshop was held in Dunedoo on 16 September 2014. WSC attendees included the mayor and councillors, General Manager, some employees. Also in attendance - CHC Health, Safety, Environment & Community (HSEC) Manager, CHC Land Care Specialist and ILMP report authors.</p> <p>Workshop discussed a range of matters regarding the ILMP over three hours including:</p> <ul style="list-style-type: none"> • status of the sale process; • the SEA; • agricultural land aggregation; • leasing/rental of houses; • bushfire management; • biodiversity land management; • pest and weed management; • funding for implementation of the plans for the above; • performance targets; and • VPA negotiations plans. <p>The AO size laminated Bushfire Management Plan maps were provided to WSC at the meeting.</p>	<p>ILMP</p> <p>SEA</p> <p>VP&WMP</p> <p>Erosion and Sediment Control Works Plan</p> <p>Bushfire Risk Management Plan</p> <p>BMP</p>
	30 September to 17 October 2014 Meeting/emails	<p>WSC Councillor C. Sullivan and CHC Property Manger met to agree to the number of residents that left Warrumbungle Shire LGA after their property was acquired by CHC.</p> <p>Responses to specific questions and comments provided to WSC, including some not directly related to the ILMP.</p>	SEA
Mid Western Regional Council	28 May to 8 August 2014 Letter/emails	<p>Requested feedback on ILMP and SEA structure and contents.</p> <p>MWRC responded on that they had no comment regarding the ILMP at this stage.</p> <p>Requested feedback on draft ILMP.</p> <p>The draft ILMP and SEA was provided to MWRC. No comments were received.</p>	<p>ILMP</p> <p>SEA</p>

Table 2.1 Consultation to date

Organisation	Period and methods	Matters	Plans
Wellington Council	28 May to 25 September 2014 Letters/emails	<p>Requested feedback on ILMP and SEA structure and contents.</p> <p>Information on socio-economic characteristics of the LGA provided.</p> <p>Requested feedback on draft ILMP.</p> <p>Comments provided regarding draft ILMP and SEA noting:</p> <ul style="list-style-type: none"> • Council will consider land swaps if allotment boundary realignments are considered [this is outside of the scope of the ILMP]; and • Council is comfortable with the WSC providing detailed comments on local government issues. 	ILMP SEA
NSW Rural Fire Service	November 2012 to 14 August 2014 Letters/emails/meeting	<p>Discussions in November 2012 and October 2013 requesting the Vertebrate Pest and Weed Management Plan (VP&WMP) try to line up programs with the existing NPWS Northern Plains Pest Management Strategy. Extended discussion to finalise the VP&WMP was completed in June/July 2013.</p> <p>Discussions with Orana, Castlereagh and Cudgegong Zones plus direct discussions with the Dapper Brigade captain in November 2012 and July 2013. All brigades with jurisdiction over some of the CHC land were provided with interim BRMP in December 2012 and extended discussion to finalise the BRMP in June/July 2013.</p> <p>Discussions regarding local RFS brigade membership.</p> <p>Requested feedback on draft ILMP.</p> <p>Comments provided regarding draft Bushfire Risk Management Plan. RFS comment provided noting that additional details requested in the NSW Rural Fire Service (RFS) letter regarding the Cobbora Coal Project Environmental Assessment (8 November 2014) are required. These will be provided in the updated Bushfire Risk Management Plan – see Section 1.9.</p>	Bushfire Risk Management Plan

Table 2.1 Consultation to date

Organisation	Period and methods	Matters	Plans
	July 2014	The final <i>Bushfire Suppression Operational Plan</i> (laminated AO copies) has been provided to WSC and the following brigades: <ul style="list-style-type: none"> • Dapper • Boomley • Cobbora • Elong Elong • Gollan • Goolma • Gulgong • Birriwa • Dunedoo 	Bushfire Suppression Operational Plan
NSW Fire & Rescue Western Zone	November 2012 to July 2013	Discussions in November 2012 and extended discussion to finalise the BRMP in June/July 2013.	Bushfire Risk Management Plan
NSW National Parks & Wildlife Service Coonabarabran and Mudgee Areas	November 2012 to July 2013	Discussions in November 2012 and October 2013 regarding the VP&WMP try to line up programs with the existing NPWS Northern Plains Pest Management Strategy. Extended discussion to finalise the VP&WMP was completed in June/July 2013.	Vertebrate Pest and Weed Management Plan
	2011 to 2014	Ongoing consultation regarding the biodiversity offsets strategy, package and management plan.	Biodiversity Management Plan
Forests NSW Western Region	October 2013	Brief discussion regarding the VP&WMP in October 2013. No specific comments provided.	Vertebrate Pest and Weed Management Plan
Local Land Services (previously Livestock Health and Pest Authority)	2013 to 2014	Discussion with Central West Livestock Health and Pest Authority (Dubbo) on the VP&WMP . Requested feedback on draft ILMP. Comments provided noting: <ul style="list-style-type: none"> • merging of Livestock Health and Pest Authority and Catchment Management Authorities into Local Land Services; • monitoring for specific species requires specific methods; • relationship of regeneration to wet years and hazard reduction burns; and • options available for managing excessive vegetation regrowth. 	Vertebrate Pest and Weed Management Plan
Neighbouring landholders and CHC licensees	November 2012 to July 2013	Informal discussions with landholders and licensees on the properties being assessed regarding bushfire and weed management.	Bushfire Risk Management Plan Vertebrate Pest and Weed Management Plan

2.2 Ongoing consultation

As described in Appendix F, CHC will ensure affected landowners and the local community are kept informed of the Project prior to construction by:

- maintaining open and constructive communication with affected individuals and groups; and
- providing information in a timely manner.

Key activities will include:

- liaison with government agencies, education providers and Councils on relevant topics such as the update of the ILMP, training opportunities, project status (eg anticipated construction start date) and bushfire;
- encouraging liaison and information flow between the RFS Dapper Brigade and WSC as required; (eg attendance by Warrumbungle Shire Councillors at annual general meetings);
- production of an Annual Review that will describe activities and performance in key areas. This document will be publicly available on the website and in hard copy upon request;
- ongoing employment of a full-time property manager and land care specialist, based in the local area, to respond to landowner queries and manage ongoing property issues with CHC-owned land and properties under agricultural licence and residential tenancy;
- maintaining the CHC website (www.cobbora.com) that provides:
 - contact details for CHC's Newcastle and site offices;
 - an electronic contact form;
 - the opportunity for people to register on the website to receive notifications whenever it changes; and
- establishment of an independently chaired Community Consultative Committee (CCC) that will include representatives from:
 - WSC;
 - recognised environmental groups; and
 - the local community, including a representative of the farming/agricultural community; and CHC or the Project Developer.

It is proposed that the socio-economic mitigation and consultation framework described in Chapter 7 of the SEA will be updated and submitted to the Secretary, by the Project Developer, prior to the start of construction. This update will include details of ongoing consultation regarding the ILMP during construction and operations.

3 Land classification

3.1 Background

CHC has purchased land in and around the PAA where there will be:

- direct disturbance due to mining activities or there will be mine-related infrastructure;
- indirect impacts such as noise or dust levels exceeding criteria defined in the Project Approval; and
- biodiversity offsets to compensate for vegetation removed as part of the Project.

Some additional areas have been acquired by CHC in the process of purchasing properties to achieve these objectives. This chapter describes the classification of this land based on how the land will be managed. Subsequent chapters summarise how each of these land types will be managed.

3.2 Land types

A description of each of the land types is provide in Table 3.1 and a map showing each land type is provided in Figure 3.1.

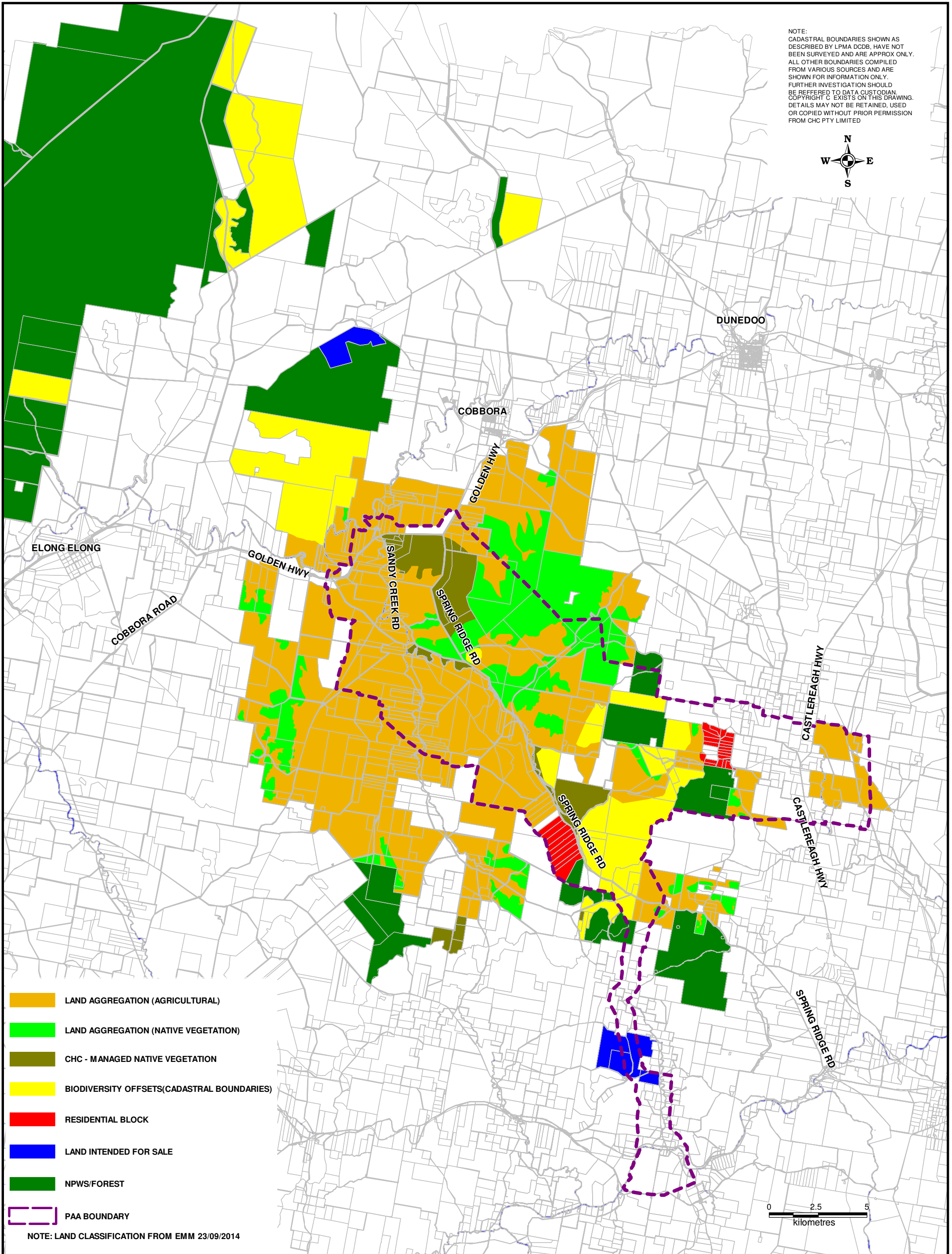
Table 3.1 Land types

Land type	Area (ha) ¹	Description
Land aggregation (agricultural)	25,996	Productive agricultural land that will be part of the land aggregation package (see Section 4.1). This land will be managed by the agricultural licensees within the CHC licence conditions (see Chapter 4).
Land aggregation (native vegetation)	6,332	Native vegetation within the aggregated properties that will be managed by the agricultural licensees within the CHC licence conditions.
CHC-managed native vegetation	2,009	Areas of native vegetation that are not part of the biodiversity offset areas and not included in the land aggregation package. This includes the Northern Restoration Area (185 ha) that is part of the Group 2 additional areas to the formal biodiversity conservation outcomes ² . This land will be managed by CHC (see Chapter 5).
Biodiversity offsets	8,827	Areas of native vegetation that are part of the Group 1 formal biodiversity offset areas ¹ . This land will be managed by CHC unless it is transferred to another owner who takes on the responsibility to protect and manage the vegetation on this land (see Chapter 5).
Residential blocks and	1,096	Residential blocks that are not part of agricultural land aggregations (see Section 3.7).
Land intended for sale	770	Land that has been purchased by CHC as part of property acquisitions but that is not required for the Project (including for buffers) and will therefore be sold (see Section 3.7).
Total	45,030	

Note: 1. As of 30 June 2014.

2. See Project Approval Schedule3, Condition 32.

NOTE:
 CADASTRAL BOUNDARIES SHOWN AS DESCRIBED BY LPIA DCDB, HAVE NOT BEEN SURVEYED AND ARE APPROX ONLY. ALL OTHER BOUNDARIES COMPILED FROM VARIOUS SOURCES AND ARE SHOWN FOR INFORMATION ONLY. FURTHER INVESTIGATION SHOULD BE REFERRED TO DATA CUSTODIAN. COPYRIGHT © EXISTS ON THIS DRAWING. DETAILS MAY NOT BE RETAINED, USED OR COPIED WITHOUT PRIOR PERMISSION FROM CHC PTY LIMITED



- LAND AGGREGATION (AGRICULTURAL)
- LAND AGGREGATION (NATIVE VEGETATION)
- CHC - MANAGED NATIVE VEGETATION
- BIODIVERSITY OFFSETS(CADASTRAL BOUNDARIES)
- RESIDENTIAL BLOCK
- LAND INTENDED FOR SALE
- NPWS/FOREST
- PAA BOUNDARY

NOTE: LAND CLASSIFICATION FROM EMM 23/09/2014



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 CADASTRAL, MINING AND LAND INFORMATION MAPPING
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 11 Seppelt Cl
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Drawn By: MP
 Date: 25/09/14
 Layout: A3
 Projection: MGA 55
 Contour: N/A
 Version: 04

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Figure 3.1
Classification of CHC
Owned Land

Workspace Ref:140925 Classification of CHC Owned Land-EMM.wor
 PDF Ref: 140925 Classification of CHC Owned Land.PDF

3.3 Land tenure

As of 30 June 2014, CHC owned 45,030 ha of land. This consists of:

- 312 freehold titles;
- 34 Enclosure Permits;
- 5 current Crown Licences; and
- 2 easements.

In addition, CHC has 'put and call' options in place over two properties, one in Warrumbungle Shire LGA (737 ha) and one in Mid-Western Regional LGA (17 ha). There is also one residence where noise criteria are predicted to be exceeded during Project development. The owner of this residence may therefore request that CHC acquires the property under Project Approval Schedule 4.

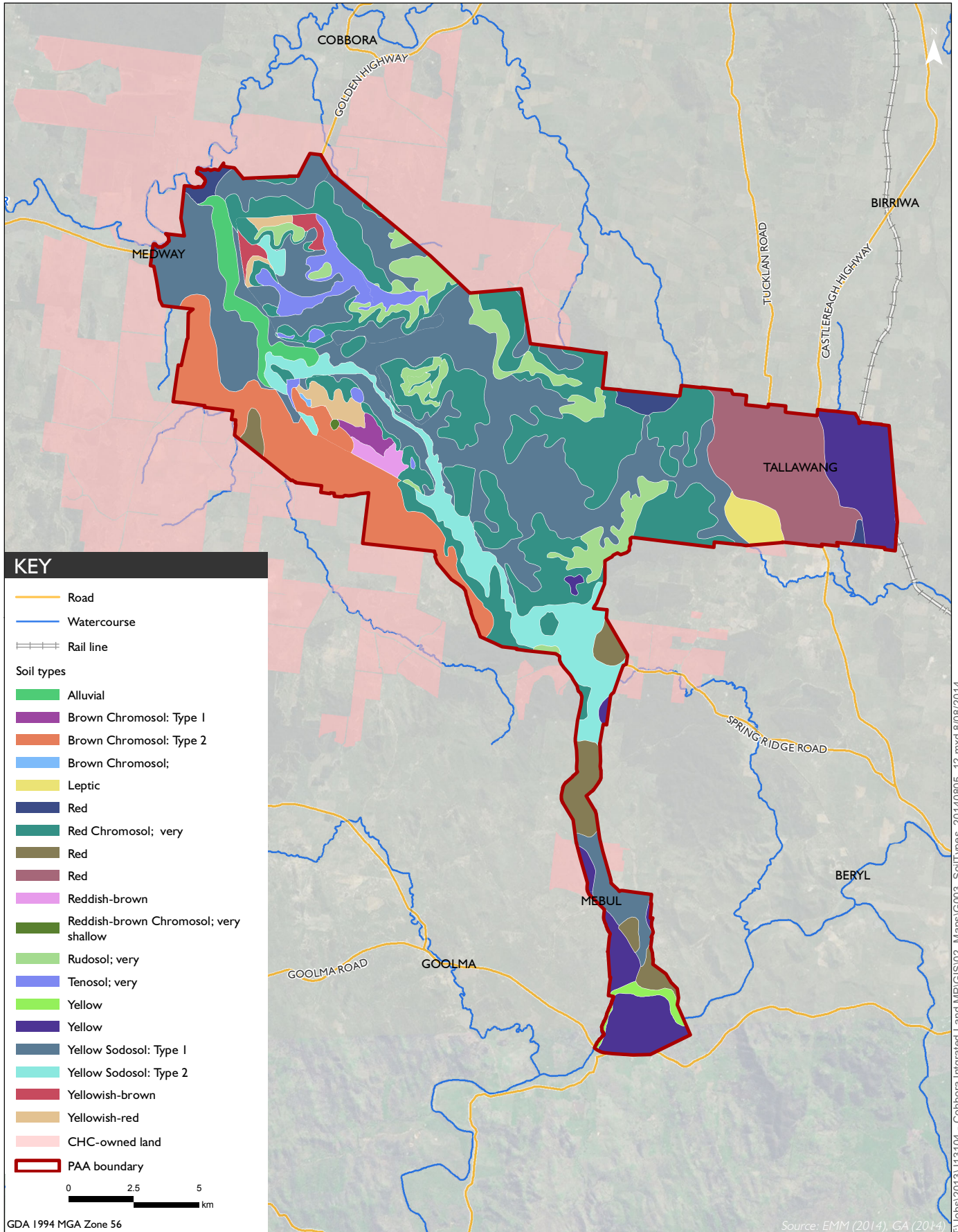
3.4 Soils and land classification mapping

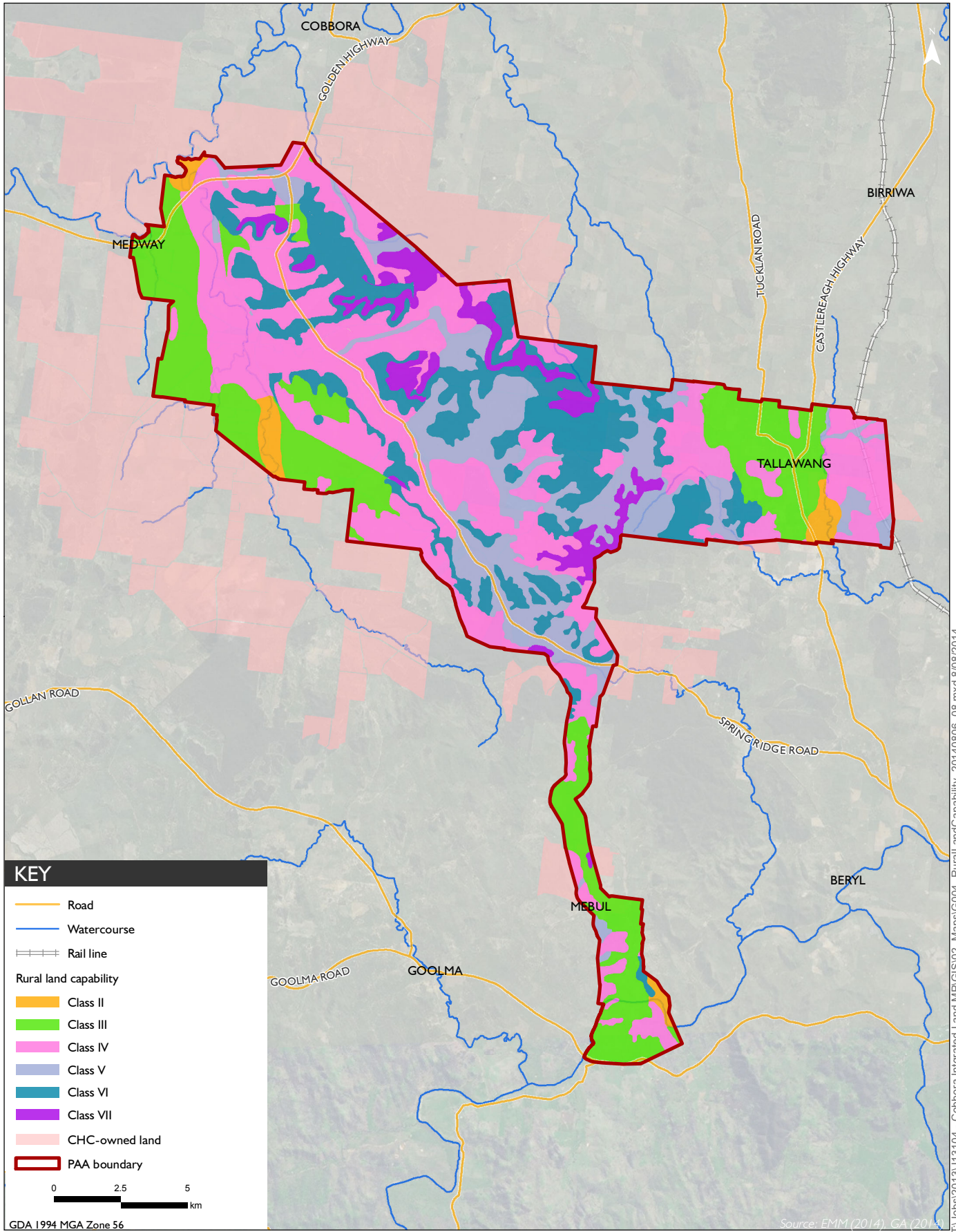
Soil and land classification mapping for the Project was originally undertaken by GSS Environmental in 2009 (GSS Environmental 2012). Additional field sampling and mapping was undertaken in late 2012. This increased the mapping resolution in the mining areas from 1:250,000 to 1:50,000. This mapping extends to the PAA boundary including the Northern Restoration Area. The mapping was used to determine likely agricultural impacts of Project development within the Project footprint and to prepare the mine rehabilitation strategy (GSS Environmental 2013). The soil map is presented in Figure 3.2.

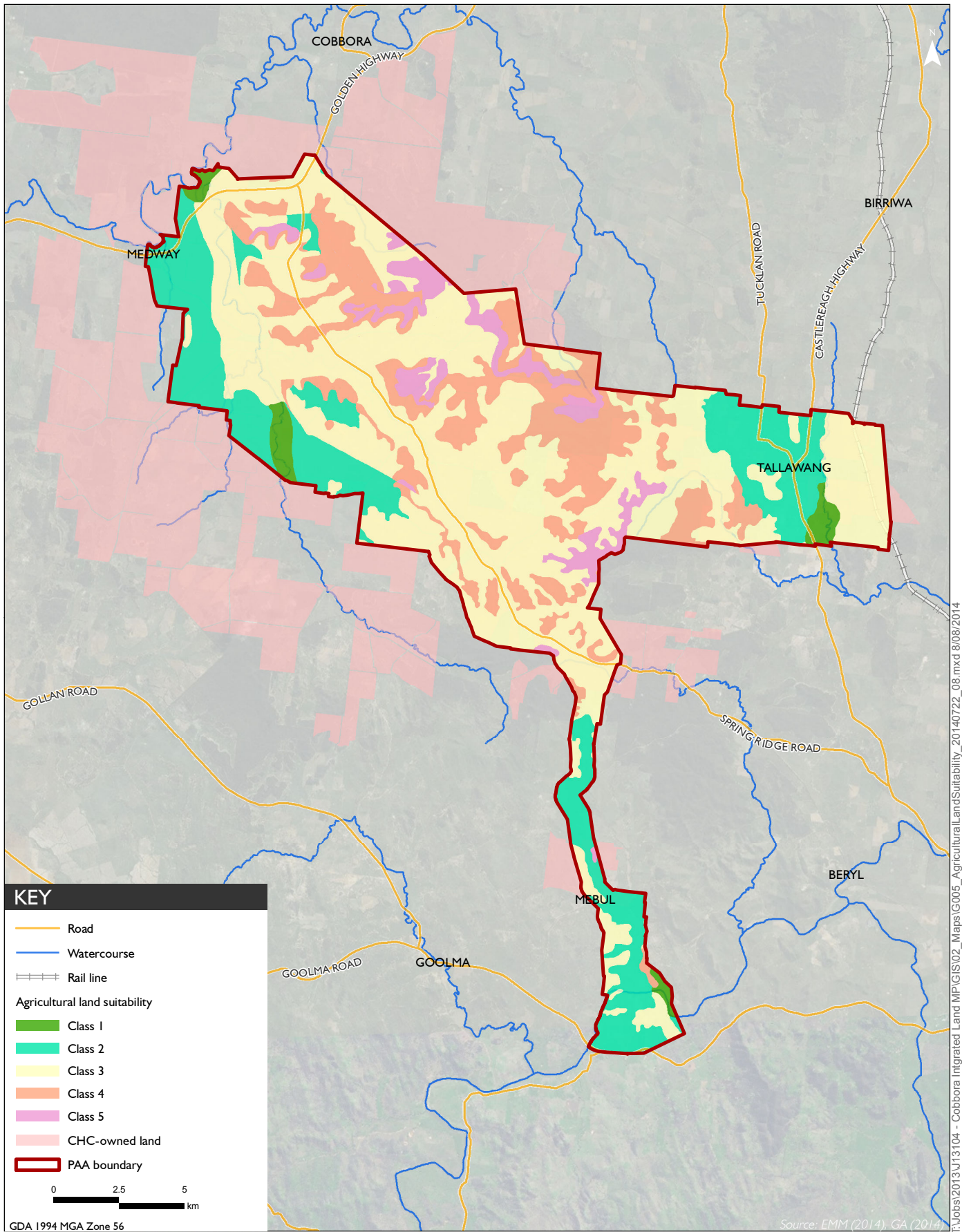
Soil surveys are not required to determine the suitability of properties for agriculture or native vegetation regeneration as these were assessed using alternative methods (see Chapters 4 and 5 respectively). Therefore, detailed soil mapping has not been extended to cover all CHC-owned land.

The soil and land classification mapping for the EA (GSS Environmental 2012 and 2013) included mapping of Agricultural Land Suitability and Rural Land Capability. While similar, these systems predated the Land and Soil Capability classification system.

Mapping of Agricultural Land Suitability and Rural Land Capability was only undertaken within the PAA for the same reason as soils mapping was confined to this area. Agricultural Land Suitability and Rural Land Capability maps are presented in Figure 3.3 and Figure 3.4.







3.4.1 Historic land practices

Historically agricultural land in the PAA and surrounds has been used for traditional farming activities such as sheep grazing, cattle grazing and winter cereal cropping, undertaken generally by small family farm operations. More recently there has been an increase in the number of subdivisions for ‘hobby’ or ‘lifestyle’ blocks of 40 ha or less. Many of these blocks have limited agricultural value due to a combination of small size, vegetation type and soil type.

The majority of the grazing area on CHC-owned land is native grass, primarily red grass although there are some areas of remnant perennial pasture such as lucerne, tall fescue and phalaris. There has been some pasture improvement using phosphorus/sulfur fertiliser and sub clover. There is evidence of previous overgrazing, especially in areas where annual grasses and broadleaf weeds dominate pasture composition.

Some winter cereal cropping also occurs in the area. This includes oats and wheat for grazing; and grain, barley and canola. Areas of winter cereal crop appear to have been sown with little or no fertiliser and have poor weed control.

3.4.2 Agricultural condition

The agricultural condition of agricultural properties was mapped by SLR Australia as part of preparing the *Land Aggregation Plan* (see Section 4.1.1). The agricultural land capability assessment included site visits and discussions with a number of the existing licensees who are also former landowners. The land was classified based on the conditions provided in Table 3.2.

Table 3.2 **Agricultural condition categories**

Category	Condition	Factors or management strategies contributing to condition
Green	Good to excellent	<ul style="list-style-type: none"> legume-based perennial pasture; sustainable crop rotation; groundcover greater than 80%; minimal weeds; use of minimum or zero-till cultivation; techniques for cropping or pasture improvement; and/or use of rotational or time-control grazing.
Amber	Fair to good	<ul style="list-style-type: none"> perennial grass component; no soil compaction; some pasture species diversity; pasture contains legume species; use of minimum or zero-till cultivation; no apparent nutrient deficiency; weeds are present but not dominant; and/or uncontrolled grazing leading to over or under-grazing of pasture.

Table 3.2 Agricultural condition categories

Category	Condition	Factors or management strategies contributing to condition
Red	Poor to fair	<ul style="list-style-type: none"> • over-grazing leading to reduction in perennial grass component and palatable pasture species; • over-grazing leading to soil compaction or erosion; • lack of pasture species diversity; • lack of pasture legumes; • conventional cultivation resulting in soil degradation; • apparent nutrient deficiency; and/or • weeds are the dominant species.

The agricultural assessment found that previous farm management practices have varied widely with some properties in a fair to good condition and others in poor condition. The overall productivity of CHC-owned land was assessed as being below average due to a number of contributing factors including:

- an extended drought (2007 to 2012) followed by two summers of above average rainfall (2012 and 2013) resulting in an increase in summer weeds;
- many of the farms are small by modern agricultural standards, with diminished economies of scale and little scope for re-investment of financial returns into land and pasture management;
- previous provision of short-term licences based on the expected start of Project development that has resulted in some unwillingness to invest in farm improvement strategies; and
- the continuation of poor management practices by some licensees.

The agricultural condition map developed as part of the *Land Aggregation Plan* indicates whether previous agricultural management practises applied on individual properties were appropriate. To protect the privacy of former landowners, current licensees and commercial-in-confidence tenders, the agricultural condition map has not been included within this publically available ILMP. However in summary, no agricultural land was categorised as being in a good to excellent (green) condition and 40% of the land was in fair to good (amber) condition (Table 3.3).

Table 3.3 Condition of agricultural land

Condition category	Area ¹ (ha)	Area (%)
Green	0	0%
Amber	10,175	40%
Red	15,039	60%
Total	25,214	100%

Notes: 1. Does not include 6,332 ha of native vegetation on aggregated properties.

2. At assessment in 2013.

3.4.3 Agricultural land capability assessment

Land capability was assessed based on a series of criteria including:

- current land use and suitability of the land for that use (including pasture composition, pasture condition, soil type and slope);
- condition of fencing, gates and grids;
- condition of infrastructure for cropping or grazing enterprises (including shearing sheds, cattle and sheep yards, grain storage, and watering points); and
- the spectrum of weeds present and any limitations these weeds may have on potential agricultural enterprises.

3.5 CHC-owned properties

As CHC acquired agricultural land, it licenced the majority of these properties back to the former owners. All acquisitions have relied on private treaty negotiations, with the treaties providing vendors the opportunity to remain on the property by way of a licence, usually for a minimum period of two years following settlement (some longer). Following expiration of those licences, the licencees have been offered the opportunity to extend their period of occupation for an indefinite period, with CHC providing 3 months notice of termination. All current licences provide CHC the right to terminate the agreement if mining commences. The land aggregation tender process commenced in March 2014 and is expected to be completed by the end of 2015 (see Section 4.1.3).

3.5.1 CHC land management activities

CHC has implemented land tenure and management strategies to maximise the sustainable commercial return to the licensees of CHC-owned agricultural land and to improve land management practices, including installation of new fencing; weed and pest animal control; erosion control initiatives; and a land aggregation program.

Since CHC was formed in January 2011, it has been actively involved in the management of the properties that it has acquired. This has included:

- replacing rural fencing (approximately 55 km of new fencing at a cost of around \$590,000 since June 2011);
- repair and maintenance of buildings (more than \$110,000 since June 2012);
- identification and repair of electrical risks associated with houses and sheds, including replacing non-compliant and faulty wiring, fuses and smoke detectors (approximately \$40,000 since September 2013);
- upgrading driveways, access tracks, culvert drains and cattle grids;
- a comprehensive survey of all buildings to establish an asbestos register;
- demolition and removal of unsound and derelict buildings, many of which contained large amounts of asbestos¹ (in excess of \$590,000 since early 2012);

¹ Asbestos was removed and disposed by a Class A registered asbestos remover and demolisher, with the necessary WorkCover and planning approvals. It was disposed at EPA licensed disposal sites. There are two EPA approved asbestos

- removal of rubbish and unsafe building materials from properties following the departure of previous owners;
- identification and removal of disused and unlicensed underground fuel storage tanks and subsequent soil testing and remediation (approximately \$57,000);
- weed identification, database preparation and eradication (more than \$80,000 since March 2012);
- sub-surface soil and water quality testing at the two former piggery sites;
- working with Livestock Health and Pest Authority (now Local Land Services) in the control of feral pigs;
- installation of three new continuous air quality monitors, ongoing equipment calibration and monthly reporting;
- ongoing monthly surface water quality sampling and reporting;
- ongoing six monthly groundwater quality sampling and reporting;
- dam safety surveys and identification of engineering works to rectify issues (see Section 11.1); and
- identification of priority areas for erosion and sediment control (see Section 4.2.1).

The CHC Property Manager is responsible for the management of agricultural licence agreements, agistment and residential tenancy agreements, and the maintenance of CHC-owned land and buildings (see Section 11.2). The CHC Land Care Specialist is responsible for the management of natural resources on CHC-owned land.

CHC continues to manage the land that it owns directly and through the existing agricultural licence agreements, together with the tender process for new long term licences (see Chapter 4).

3.6 Native vegetation and biodiversity offset areas

3.6.1 Native vegetation communities

Native vegetation has been surveyed for the Project since 2009. Survey methods are described in EMM (2012b) with updated survey effort described in EMM (2013a). Areas that have been surveyed include: those to be impacted by the Project, adjoining areas, areas considered when developing the biodiversity offset package, as well as the approved biodiversity offset areas. Almost all of the vegetation communities on CHC-owned land in the PAA, and the majority of those outside of the PAA, have been mapped and classified (see Figure 3.5). Management measures have been developed that cover all vegetation communities on CHC-owned land.

waste facilities in WSC LGA, one near Coonabarabran and one near Dunedoo. The Coonabarabran facility is too far from the Project area to be used economically while the smaller Dunedoo facility does not have a weigh bridge is therefore not suitable for the contractor's use. Further, the WSC website states (14 October 2014) "Council advise all users of the Coonabarabran Landfill site that the site will not be receiving asbestos waste for disposal until further notice."

The closest suitable EPA licensed facilities are in Mid-Western Regional and Dubbo local government areas (LGAs).

3.6.2 Vegetation regeneration potential

Vegetation mapping has been completed in the Project footprint, the Formal biodiversity offset areas and in many of the surrounding areas. This allows for biodiversity regeneration potential to be determined in these areas.

Regeneration of low condition native pasture to native woodland in the Northern Restoration Area (185 ha) will provide additional habitat for fauna impacted by the project and improve vegetation connectivity. The Northern Restoration Area and other native vegetation management areas in the Formal biodiversity offset areas which have the potential to develop (with or without assistance) to high quality woodland are shown in Figure 3.6.

There is the potential to regenerate additional areas in other CHC-owned land. If required, additional biodiversity regeneration potential mapping will be completed within these areas. Mapping results will form the basis for the identification of areas requiring specific management for which work plans will be prepared.

3.6.3 Management of native vegetation

The ongoing management of native vegetation on CHC-owned land is described in Chapter 5.

3.7 Residential land

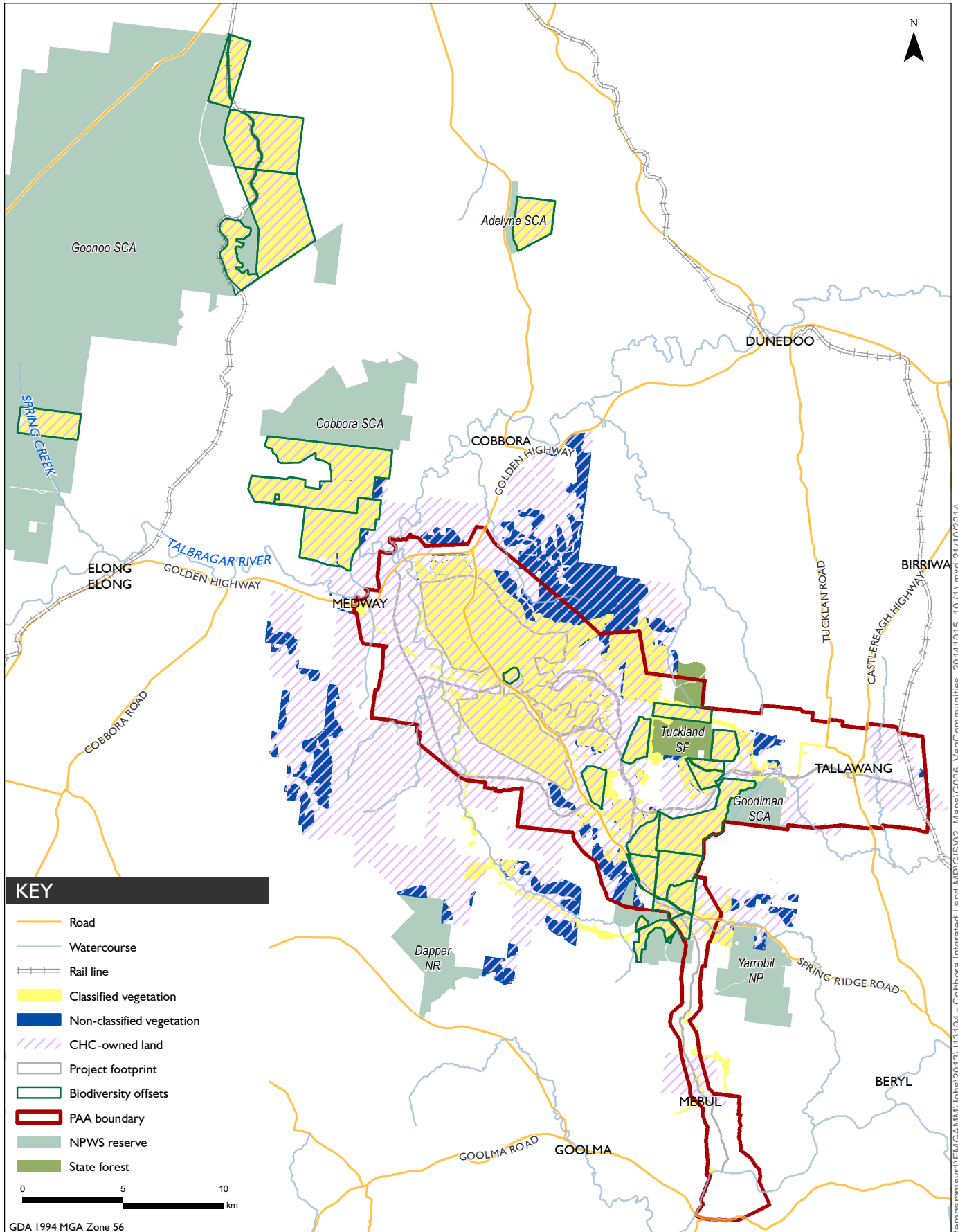
CHC has acquired 114 houses since the start of the acquisition program, although not all of these were occupied. Approximately 59 of these houses were on agricultural properties and 55 were on 'lifestyle' blocks (about 40 ha or less with limited agricultural capability).

Some CHC-owned residences have been rented by previous owners and others placed on the open rental market through a local real estate agent. There were 41 residential properties acquired that are not in an appropriate or safe condition to be rented. These have been, or will be, demolished. There are 72 habitable houses that can be rented. As of June 2014, 55 are occupied leaving 17 available for rent.

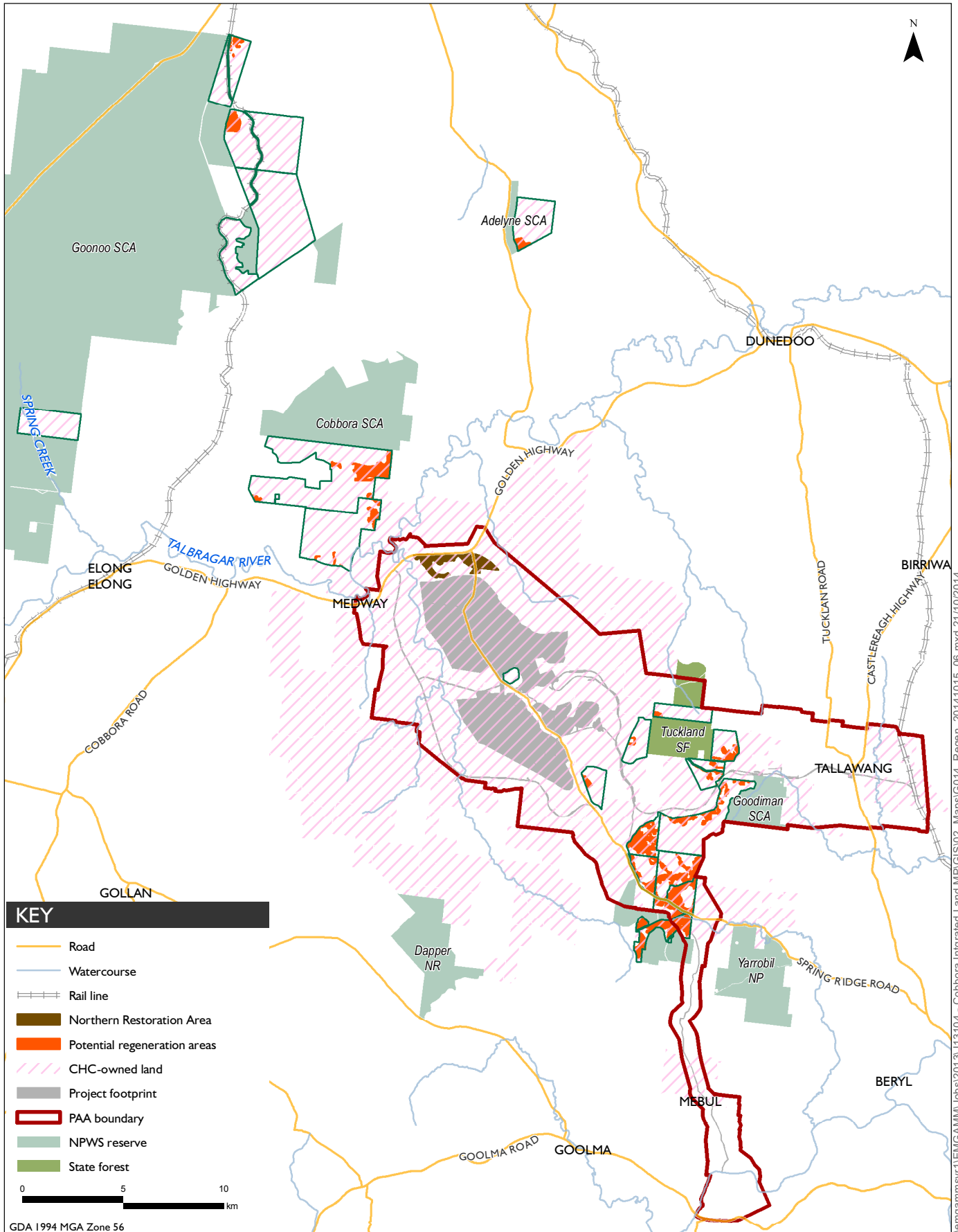
Residential tenancy agreements are typically for less than two years and provide CHC the right to terminate the lease with one months notice. All residential tenancy agreements are managed by a local real estate agent.

Further information regarding residential properties is provided in Appendix F.

CHC also own some land that was purchased by CHC as part of land acquisitions but that is not required for the Project (including for buffers) and will therefore be sold.



Vegetation communities on CHC-owned land
 Cobora Integrated Land Management Plan
 Figure 3.5



Potential regeneration areas
 Cobora Integrated Land Management Plan
 Figure 3.6

4 Strategic land use plan: agricultural land

4.1 Overview

The PAC Review Report (PAC 2013) recommended that for agricultural land, the ILMP should aim to:

- maximise sustainable agricultural production of the agricultural land; and
- develop a land tenure and management program, considering the existing land tenure arrangements, detailing the mechanisms and timetable for transitioning to active land management.

CHC commissioned an external agronomist, SLR Australia², to identify how to best achieve this objective. The agricultural assessment was undertaken between July and December 2013 and included site visits to assess the condition of the properties and discussions with a number of the existing licensees who are also former landowners. The resulting *Land Aggregation Plan* identified the need to merge the existing properties into 13 larger aggregated parcels to improve the economic viability and sustainable use of the land (see Section 4.1.1).

CHC is in the process of tendering for long term licences to occupy the aggregated agricultural land via a two stage process described in the *Land Tenure Plan* (Section 4.1.3).

The development and application of the *Land Aggregation Plan* and *Land Tenure Plan* involves the following stages:

- agricultural land suitability assessment (complete);
- land aggregation to form properties that best meet the agricultural land management objective (complete);
- tendering of aggregated agricultural properties and selection of licensee farmers (ongoing); and
- management of properties by licensees (ongoing).

An Independent Regional Land Management Expert separate from SLR Australia was selected from external applicants and candidates nominated by the Cobbora Transition Committee (Dubbo MP Troy Grant, Orange MP Andrew Gee, and Barwon MP Kevin Humphries). The Independent Regional Land Management Expert reviewed the *Land Aggregation Plan* and the *Land Tenure Plan*. The plans were updated based on the comments received.

² SLR Australia acquired GSS Environmental who prepared the Cobbora Coal Project *Agricultural Impact Assessment* (GSSE 2012).

4.1.1 Land Aggregation Plan

i Method

Factors examined to identify the optimal agricultural aggregations included:

- the current agricultural condition of the land as determined by the land capability assessment (see Section 3.4.3);
- the most appropriate type of agricultural production for the land (see Section 4.1.1ii);
- the size of each aggregation so that it can support an economically viable agricultural enterprise (see Section 4.1.1iii);
- the available of farm infrastructure for the aggregation based on the available infrastructure in each of the individual properties;
- the proximity of the constituent properties to each other for optimum stock and machinery access; and
- avoiding aggregations being split by heavily traversed roads.

These factors are documented in the *Land Aggregation Plan*. To protect the privacy of former landowners, current licensees and commercial-in-confidence tenders, the *Land Aggregation Plan* will not be made publically available and is not appended to this ILMP. The methods used to determine land aggregations and a summary of the outcomes is provided below.

ii Agricultural land suitability

Selection of properties for aggregation considered the suitability of land to carry out one or more of the following agricultural enterprises:

- Winter cropping land — generally restricted to Land and Soil Capability (LSC) class 2 and 3 land. These areas may include some small areas of LSC class 4 which is suited to zero-till or minimum-till cropping. Internal fencing and livestock infrastructure are only of minor importance for winter cropping. Boundary fence condition, grain storage and weed spectrum are of moderate importance.
- Mixed farming land — generally restricted to LSC class 4 and 5 land, but may include some area of LSC class 6. These areas are suited to grazing sheep or cattle on improved pastures, with some areas suited to cropping, which are often used to grow forage crops for livestock. Internal fencing, weed spectrum, livestock infrastructure and grain storage are of moderate importance for mixed farming. Boundary fencing and watering points are of high importance.
- Grazing land — generally restricted to LSC class 6 and some class 7 land. These areas are suited to sheep grazing, and to a lesser extent cattle grazing, often on native grass-based pastures. Grain storage is of minor importance. Internal fencing, weed spectrum and livestock infrastructure are of moderate importance for grazing. Boundary fencing and watering points are of high importance.

- Native vegetation land — generally restricted to LSC class 8 land, with some LSC class 7. These areas are not suited to agricultural production and would offer no value if included in an agricultural land aggregation due to very limited income generation potential. Boundary fencing and weed spectrum are of moderate importance. These areas may be suited to native vegetation regeneration.

iii Economic viability

Aggregation economic potential was determined using the NSW Department of Primary Industries (DPI) *Farm Enterprise Budget Series*, which is released each year to allow producers to calculate individual enterprise budgets. The series does not contain fixed costs (such as council rates, electricity, wages, machinery purchase or maintenance of assets) but provides the variable costs associated with each individual enterprise (such as fertiliser, harvesting, supplementary feeding and animal husbandry).

Agricultural enterprises suitable for the district were analysed and the most profitable enterprise for each aggregation was selected to determine an overall potential gross income. The *Farm Enterprise Budget Series* has been used as a guide but it can be influenced by a number of factors including seasonal conditions, crop and pasture yields, commodity market fluctuations, and changing input costs such as fuel and fertiliser.

The gross margins for nine different agricultural enterprises suited to the PAA and surrounds, some of which are already carried out by existing licence holders on CHC-owned land, are provided in Table 4.1.

Table 4.1 Agricultural enterprise gross margins

Enterprise type ¹	1. WCR	2. GWPL	3. YC	4. DLHPL	5. PLGL	6. FXE	7. MEML	8 MEW	9. EPP
	\$/ha	\$/ha	\$/ha	\$/ha	\$/ha	\$/ha	\$/ha	\$/ha	\$/ha
Gross income	\$796	\$1,212	\$273	\$2,679	\$4,206	\$509	\$555	\$406	Nil
Variable costs	\$446	\$465	\$108	\$2,481	\$3,638	\$317	\$334	\$220	\$222
Gross margin	\$350	\$747	\$165	\$198	\$568	\$192	\$221	\$186	-\$222

Note: 1. See text below for abbreviations.

A brief description of the potential agricultural enterprises that were used in determining the optimal land aggregations shown in Table 4.1, is provided below.

1. Winter Crop Rotation (WCR). The winter crop rotation gross margin is the average over a seven-year cropping cycle and concludes with the establishment of a perennial pasture. The crop rotation cycle alternates between cereal and broadleaf crops (Table 4.2) to avoid build-up of crop diseases and also allows weed control using a broad range of Herbicide Modes of Action groups. Yields are estimated for triazine-tolerant canola and field peas at 2.5 tonnes/ha and wheat at 3.2 tonnes/ha. A winter cropping rotation serves the dual purpose of income generation while preparing the cropped area for establishment of a perennial pasture.

Table 4.2 Winter crop rotation

Cropping year	Winter crop rotation	Yield/ha (tonnes)	Gross Margin (\$/ha)
1	Triazine-tolerant canola	2.5	\$547
2	Wheat	3.2	\$419
3	Field peas	2.5	\$317
4	Wheat	3.2	\$419
5	Triazine-tolerant canola	2.5	\$547
6	Wheat	3.2	\$419
7	Establish perennial pasture	Not applicable	-\$222

2. **Grazing Wheat and Prime Lambs (GWPL).** Grazing wheat and prime lambs involves planting grazing wheat (also known as dual-purpose wheat) in February/March. The wheat is grazed with lambs, either purchased or bred on farm, from May until July. The lambs are sold through the saleyards or by private treaty, and the crop is subsequently harvested in December/January (yield estimated at 3.2 tonne/ha).
3. **Yearling Cattle (YC).** Yearling cattle are bred on farm and grown out on improved pasture for 12 to 15 months, after which time they are sold through the saleyards or private treaty.
4. **Dry Land Lucerne Hay and Prime Lambs (DLHPL).** Dry land lucerne hay and prime lambs involves one cut of lucerne hay per season, with the area used to graze prime lambs (farm bred or purchased) for the remainder of the year. The lambs are sold through the saleyards or private treaty before they reach 12 months of age.
5. **Prime Lambs Grazing Lucerne (PLGL).** Prime lambs grazing lucerne gives quicker growth rates and allows lambs to reach marketable weights more quickly. Prime lambs (farm bred or purchased) are grazed on lucerne and sold through the saleyards or private treaty before they reach 12 months of age.
6. **First-cross Ewes (FXE).** First-cross ewes involves breeding prime lambs from a first-cross ewe (Border Leicester-Merino cross) mated with a terminal meat ram (Poll Dorset or White Suffolk). Prime lambs are grown out on improved pasture and sold before 12 months of age.
7. **Merino Ewes and Meat Lambs (MEML).** Merino ewes and meat lambs involves breeding terminal meat lambs from Merino ewes mated with a terminal meat ram (Poll Dorset or White Suffolk). The prime lambs are grown out on improved pasture and sold before they reach 12 months of age. Extra income is derived from this enterprise due to the Merino ewes' fleeces being more valuable than first-cross fleeces, though lamb growth rates can often be lower when compared with a first-cross ewe operation.
8. **Merino Ewes Wool (MEW).** Merino ewes for wool production involves breeding sheep for wool production and selling surplus offspring (lambs and hoggets) as wool-producing sheep.
9. **Establish Perennial Pasture (EPP).** Establish perennial pasture shows the costs associated with sowing a perennial pasture. Due to the large variance in pasture mixes, the cost of pasture seed is not included in this gross margin.

Composition of the perennial pasture to be sown is dependent on a number of factors, which include:

- the soil type/s the pasture is planted in;
- the livestock enterprise and palatability of pasture plants;
- the persistence of pasture plants;
- the summer or winter dormancy of pasture plants; and/or
- the weeds present and herbicide tolerance of pasture plants.

Ideally a perennial grass pasture would remain productive for a minimum of five years. The perennial grass species is selected from phalaris, tall fescue, cocksfoot and perennial ryegrass, using varieties with a winter-active/summer-dormant growth pattern. Lucerne varieties in the pasture mix will be selected for winter dormancy. This will result in the perennial pasture producing high quality growth all year round. Clover varieties will be selected for high hard-seed percentage and disease resistance.

Gross margins were determined using crop yield and stocking rates for an average rainfall season in the district of 650 mm/year.

The *Land Aggregation Plan* identifies the following agricultural enterprises as the most suitable, sustainable and profitable for the aggregated land:

- winter crop rotation;
- grazing wheat and prime lambs;
- prime lambs grazing lucerne;
- Merino ewes and meat lambs; and/or
- establish perennial pasture.

Three or more of the identified enterprises were recommended in the *Land Aggregation Plan* for each aggregation.

4.1.2 Land aggregation

The *Land Aggregation Plan* provides a detailed description of each aggregated property to be licenced including the following:

- agricultural condition description of the main properties which comprise that aggregation, with their corresponding traffic light rating;
- agricultural enterprises best suited to that aggregation, including potential gross margin of these enterprises;
- specific performance indicators for enterprises recommended for that aggregation; and
- plates showing typical areas of each described property.

CHC-owned agricultural properties were combined into 13 aggregations based on the agricultural assessment. The productive agricultural areas in the aggregations range from 457 ha to 3,026 ha (Table 4.3). The agricultural condition of each aggregated property (see Section 3.4.1) and the agricultural enterprises suitable to the property described in the *Land Aggregation Plan* are also provided in Table 4.3.

Table 4.3 Aggregation summary

Aggregation	Area (ha)	Traffic light rating ¹	Recommended agricultural enterprises
1	2,013		Winter crop rotation Grazing wheat and prime lambs Prime lambs grazing lucerne Merino ewes meat lambs Establish perennial pasture
2	3,026		Grazing wheat and prime lambs Merino ewes meat lambs Establish perennial pasture
3	1,546		Grazing wheat and prime lambs Merino ewes meat lambs Establish perennial pasture
4	2,887		Winter crop rotation Grazing wheat and prime lambs Merino ewes meat lambs Establish perennial pasture
5	1,911		Winter crop rotation Grazing wheat and prime lambs Merino ewes meat lambs Establish perennial pasture
6	2,136		Winter crop rotation Grazing wheat and prime lambs Merino ewes meat lambs Establish perennial pasture
7	2,730		Winter crop rotation Grazing wheat and prime lambs Merino ewes meat lambs Establish perennial pasture
8	2,934		Winter crop rotation Grazing wheat and prime lambs Merino ewes meat lambs Establish perennial pasture
9	2,343		Winter crop rotation Grazing wheat and prime lambs Merino ewes meat lambs Establish perennial pasture
10	856		Grazing wheat and prime lambs Merino ewes meat lambs Establish perennial pasture

Table 4.3 Aggregation summary

Aggregation	Area (ha)	Traffic light rating ¹	Recommended agricultural enterprises
11	1,450		Winter crop rotation Grazing wheat and prime lambs Merino ewes meat lambs Establish perennial pasture Winter crop rotation Grazing wheat and prime lambs Merino ewes meat lambs Establish perennial pasture
12	925		Grazing wheat and prime lambs Prime lambs grazing lucerne Merino ewes meat lambs Establish perennial pasture
13	457		Grazing wheat and prime lambs Prime lambs grazing lucerne Merino ewes meat lambs Establish perennial pasture
Total	25,214		

Notes: 1. See Section 3.4.1.
2. At assessment in 2013.

The performance indicators for CHC-owned agricultural land are presented in Section 10.1.1.

4.1.3 Land Tenure Plan

i Overview

The *Land Tenure Plan* describes a two stage tender processes for aggregated property licences. The *Land Tenure Plan* provides commercial-in-confidence information and will not be publically available. The processes in the *Land Tenure Plan* are described below.

ii Stage 1 closed tender

Stage 1 offers former owners of agricultural land the first opportunity to enter a closed tender process for a licence for the aggregated property which their former property is now included. Former landowners can partner with others, provided the former landowner retains the controlling share.

If no acceptable tenders are received Stage 1, the Stage 2 open advertised tender process is run. If unsuccessful at Stage 1, current licensees and former landowners can still participate in the open tender.

iii Stage 2 open tender

In Stage 2, any party (including all previous landowners and external parties) can apply to tender for the licence for the aggregated property. The open tender is advertised in *The Land*, *Western Magazine*, *Dunedoo Diary*, *North West Magazine* and on CHC's website for a minimum of two weeks.

The successful tenderer will be awarded a licence to occupy and manage CHC-owned agricultural land.

iv Request for proposal and property inspection

A request for proposal (RFP) is provided to all prospective tenderers (see Appendix A). This contains:

- the main body of the RFP, including the steps required to submit a proposal;
- the tender process timetable;
- evaluation criteria (including requirement to demonstrate financial capability);
- the draft licence agreement;
- a summary of the aggregated property;
- a map of the property;
- a satellite image of the property;
- a proposal template; and
- a farm management plan template.

The licence terms and conditions describe permitted land uses and other land management requirements. Licencees are required to live on the property or in the local area.

Tenderers are required to provide a farm management plan describing the proposed agricultural activities and land management practices. The following issues need to be addressed in the farm management plan:

- weed management;
- bushfire management;
- feral animal control;
- pasture improvement;
- cultivation techniques;
- stocking rates;
- infrastructure management;
- crop rotation;
- cultivars;
- soil improvement strategies;
- salinity management; and
- acidic soil management.

These issues will form part of the agricultural performance indicators that will be measured annually (see Section 10.1.2).

All tenderers, whether former licensees or not, are required to comply with the terms and conditions for the tender, to ensure compliance with CHC's commercial and probity requirements.

Property inspection days are held for prospective tenderers.

v Tender evaluation

Complying proposals will be evaluated by a Tender Evaluation Committee based on the evaluation criteria that include an assessment of the tender's proposal describing:

- sustainable farm management;
- farm management plan;
- local farming knowledge;
- living location;
- financial capability;
- departures from the RFP process;
- departures from the licence agreement;
- licence fee; and
- probity.

The tender process is being overseen by CHC's probity advisor (currently IAB Services).

The tender evaluation committee comprises the following members:

- CHC representative (Chair);
- CHC Land Care Specialist;
- Independent Regional Land Management Expert; and
- CHC's probity advisor.

vi Term of licences

Licences for the aggregations will be offered for five years, with an option for the licensee to extend for a further five years. The licence agreement includes the right to terminate the licence (with due compensation) with six months notice if the land is to be disturbed by Project development.

vii Tender process status

The tender process commenced in March 2014. CHC invited expressions of interest for closed tenders from 33 former land owners on seven aggregations and received expressions of interest from 12 former owners. As a result (as of 19 October 2012):

- 5 + 5 year licences have been executed with former land owners over three aggregations and a fourth is currently being finalised;
- no acceptable tenders were received for the remaining three aggregations and open tenders have been run, resulting in:
 - receipt of 66 expressions of interest and 21 people attending the site visits, followed by the receipt of 17 tender proposals; and
 - completion of long term licences with the preferred tenderers for each of the three aggregations.

The tender process for the aggregated properties is expected to result in over 70% of agricultural land being tendered by the end of 2014, and over 95% by the end of 2015.

viii CHC-owned houses

CHC-owned houses will be available to rent under residential tenancy agreements which will be separate from agricultural licence agreements. If houses on the aggregated properties are not rented by the licensee, they will be available to rent by other individuals or families (see Appendix F).

ix Improvement of land condition

The term of the licences (5 + 5 years) provide an incentive for licence holders to improve the condition and long-term productivity of the land to increase their long-term agricultural economic returns from the land. The agricultural licence agreements provide for the reimbursement of agreed land improvement expenses up to an amount agreed in the licence.

4.2 Erosion and sediment control trials

Erosion and sediment control trials will be conducted at three sites on CHC-owned land where significant land degradation occurred prior to CHC purchasing the land. These trials are described in the *Erosion and Sediment Control Work Plan* that is provided in Appendix B. The results of the trials will be used to inform further rehabilitation of CHC-owned land.

A detailed erosion and sediment control works design package will be prepared prior to execution of the works. The package will include figures, construction notes, electronic design surface and references to the Blue Book standard drawings or diagrammatical representations of controls.

The treatment and repair works will be staged over three years to allow for success monitoring and to refine the works program based on the monitoring results.

4.2.1 Site selection

Gully erosion and dry land salinity are the two most detrimental forms of land degradation in the district and are responsible for significantly reducing agricultural productivity and having a negative impact on the local and regional environment.

Potential trial sites were identified using aerial photographs followed by field inspections based on the following criteria:

- significant gully erosion and/or dry land salinity present at the site;
- located outside the planned Project disturbance area;
- good visibility and access (ie close to public roads) for mobilising plant and equipment and suitable for potential future field days for demonstration of site rehabilitation techniques;
- opportunities for the trial at the site to inform restoration of other CHC-owned land and regional sites; and
- site fulfils CHC's commitment to land degradation restoration.

The following three trial sites have been selected that are typical of moderate to severe land degradation that occurs sporadically throughout the region (see Appendix B):

- Site 1 – Glenroy;
- Site 2 – Spring Ridge; and
- Site 3 – Yukon Paradise.

These sites are representative of land degradation in the region that occurs from overgrazing or other forms of intensive land use (eg past excessive cultivation) combined with dry land salinity, unstable soil types and feral animal impact which has resulted in significant sheet and gully erosion.

4.2.2 Works program

The trials will assist natural rehabilitation processes by removing mechanisms leading to erosion and sedimentation and selectively repairs to stabilise eroded areas. This will include:

- reviewing farming practices in the area;
- repairing or removing modifications to topography (eg some of the existing graded banks and dams);
- constructing graded banks (often referred to as contour banks) above the eroded areas to protect them from runoff;
- deep ripping to increase water infiltration;
- shaping and trimming to achieve stable slopes;
- fertilising and sowing the area with suitable species; and

- fencing to exclude stock and feral animals in combination with feral animal management.

The rehabilitation concepts provided in Appendix B have been prepared in accordance with the NSW Department of Primary Industries (Soil Conservation Service) standards and comply with “Blue Book” requirements.

4.2.3 Ongoing rehabilitation

Rehabilitation of the three sites will be a pilot scheme and additional sites will be identified, assessed and rehabilitated in future years, as part of a continued effort to rectify land degradation resulting from historic land management practices.

5 Native vegetation areas management

5.1 Overview

The *Biodiversity Management Plan* (BMP) was prepared by EMM and is provided in Appendix E. It describes the short, medium and long-term management of biodiversity on CHC-owned land, including the biodiversity offsets. It describes measures to be implemented prior to construction and any potential future transfer of the offset areas to other land managers.

The majority of remnant native vegetation in the Project area occurs to the east of the proposed mining area. This area has been used for wood collection and grazing and is currently impacted by feral herbivores. There are smaller patches of remnant native vegetation to the south and west of the Project footprint.

Despite avoidance, minimisation and mitigation measures, some biodiversity impacts from the Project are unavoidable and offsets are required to compensate for these. An offsets package has been developed in consultation with the NSW and Commonwealth governments and forms part of the approved Project (NSW Project Approval Schedule 3 Condition 32 and Commonwealth Approval Condition 8). The offset package for the Project includes both direct (land-based) and indirect offsets to compensate for the impacts of the Project on biodiversity.

The proposed offsets provide similar vegetation types and habitat to those that will be disturbed in the Project footprint. More than four times the woodland area that will be impacted by the Project will be protected and managed for conservation. Supplementary measures to offset the impact on cave-roosting bats and threatened ecological communities (TECs) are also required to meet the approval conditions. A translocation program has also been prepared for Ingram's *Zieria* and *H. darwinioides*.

In general, remnant native vegetation on CHC-owned land is in moderate condition. The BMP aims to maintain and enhance the condition and diversity of vegetation in these areas in the long-term. This will in turn enhance the fauna habitat provided in these areas.

5.2 Biodiversity management zones

In order to allocate resources and actions appropriately, biodiversity management zones (BMZ) and areas have been identified in the Project area. These zones/areas are based on the Project offset package components and have been delineated based on habitat and vegetation condition, and the level of management intervention likely to be required.

Group 1 – Formal biodiversity offset areas are:

- Zone 1.1 Remnant native vegetation;
- Zone 1.2 Derived native grassland; and
- Zone 1.3 Native pasture.

Group 2 - Additional areas to the formal biodiversity offset areas to provide biodiversity conservation outcomes are:

- Zone 2.1: Mine rehabilitation;

- Zone 2.2: Northern Restoration Area; and
- Zone 2.3: Regeneration areas in other landholdings owned by the proponent.

Native vegetation on CHC-owned land outside of these areas is classified as:

- CHC-managed native vegetation;
- Agricultural native vegetation; and
- Riparian areas.

Some of these areas currently outside the BMZs may be used as part of Zone 2.3 regeneration areas to form part of the Group 2 offset areas.

5.3 Management methods

Biodiversity management methods described in the BMP include:

- fencing/access control;
- weed and pest management (which integrates with the VP&WMP);
- rehabilitation and regeneration;
- heritage management;
- erosion and salinity management; and
- preparation of specific area management plans following the completion of baseline surveys.

Management methods for each of the BMZs and management areas are discussed in the following sections.

5.3.1 Management hierarchy

Management of areas of remnant native vegetation, or identified as having regeneration potential (including the Northern Restoration Area), will be undertaken in accordance with the hierarchy of controls shown in Figure 5.1.

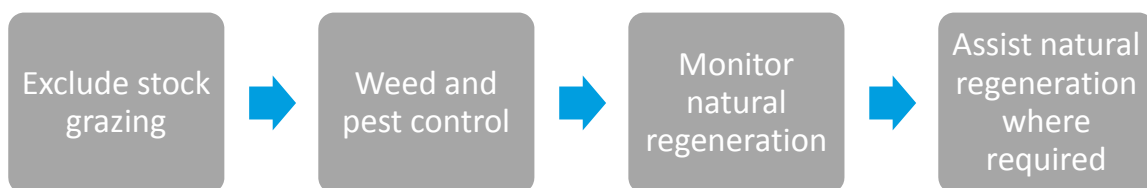


Figure 5.1 Vegetation management hierarchy

5.3.2 Group 1 – Formal biodiversity offset areas

Management methods described in detail in the BMP for the Formal biodiversity offset areas (Zone 1.1, 1.2 and 1.3) will include:

- exclusion of grazing stock;
- bushfire management;
- threatened flora population management;
- habitat augmentation and creation;
- weed control and pest management; and
- assisted natural regeneration.

A *Translocation Management Plan* (Appendix A to the BMP) has been prepared to provide the methods required to achieve a net gain in the numbers and sub-populations of threatened flora species to be impacted, and to improve the long-term viability and protection of existing sub-populations. The *Translocation Management Plan* includes specific procedures for:

- collection and propagation of seeds and cuttings from areas to be impacted (donor sites);
- translocation site selection (recipient sites);
- procedures for translocation of plants and propagated material; and
- maintenance and monitoring.

5.3.3 Group 2 – Additional areas to the formal biodiversity offset areas to provide biodiversity conservation outcomes

Management methods described in detail in the BMP for the Additional areas to the formal biodiversity offset areas will include:

- mine rehabilitation (Zone 2.1);
- assisted natural regeneration in the Northern Restoration Area (Zone 2.2); and
- identification and specific planning for other regeneration areas (Zone 2.3).

5.3.4 Other CHC-owned land

The BMP describes actions that will be taken within areas of CHC-managed vegetation and actions to protect threatened species habitat on land managed by agricultural licence holders. CHC will manage riparian areas on CHC-owned land along, or adjacent to, waterways outside the aggregation areas. Specific riparian management areas may be identified where management is required (which may be within agricultural aggregations).

5.4 Monitoring program

Monitoring activities will be undertaken to determine the success of the BMP strategies and to guide the adaptive management process. Key indicators will be selected to monitor the relationship between sites and to detect changes in areas adjacent to future Project activities and completed management actions.

Monitoring will include:

- fence and stock grazing inspections;
- native vegetation and natural regeneration condition monitoring;
- threatened flora monitoring;
- threatened fauna and fauna recruitment monitoring; and
- riparian protection monitoring.

See Table 10.3 for the timing of monitoring and Chapter 4 of the BMP (Appendix D) for detailed monitoring methods.

5.5 Biodiversity trials

The Northern Restoration Area was identified by the PAC as the north-western extent of the main woodland corridor on site (PAC 2013). This 185 ha area links remnant native vegetation to the east of the Project footprint to the Talbragar River floodplain and to vegetation in the Cobbora State Conservation Area (SCA), and biodiversity offset areas.

The Northern Restoration Area currently contains a mixture of remnant native vegetation, naturally regenerating vegetation and improved and native pasture. A number of weeds occur in the areas of improved pasture, particularly thistles, and some patches of Prickly Pear (*Opuntia stricta*). Surrounding vegetation suggests that this area once supported a mixture of Inland Grey Box Woodland and Box Gum Woodland TECs. This area will be managed to promote natural regeneration of the seedbank.

If natural regeneration in the Northern Restoration Area does not meet completion criteria by year 3 (see Section 10.1), assisted regeneration trials will commence. These trials may include planting of canopy, shrub and ground species in the areas that contain exotic and improved pasture — generally in the lower-lying areas.

6 Bushfire plan

6.1 Overview

The *Bushfire Risk Management Plan* prepared by WLP is provided in Appendix C. The plan assesses bushfire risks and assets on CHC-owned land and adjacent areas. Implementation of the plan will ensure CHC minimises the risk of a bushfire igniting and that CHC's property and staff are prepared if a bushfire occurs on CHC-owned land. The plan provides practical measures to reduce the risk of fire to life, property and the environment. The principal objectives of bushfire management are to:

- reduce the occurrence of bushfires on CHC-owned land by reducing human-induced bushfire ignitions;
- minimise the danger of the spread of bushfires on or from CHC-owned land; and
- reduce CHC's vulnerability to bushfires by improving preparedness.

Secondary objectives are to:

- protect significant flora, fauna and vegetation communities within CHC-owned land from inappropriate fire regimes and unplanned fire events;
- protect Aboriginal sites, historic places and culturally significant features on CHC-owned land from damage by bushfires;
- reduce the potential environmental impacts from bushfire suppression activities; and
- utilise fire as a management tool to maintain and enhance native ecosystems, where possible.

The land purchased as biodiversity offsets adjoining Goonoo SCA and Adelyne SCA are not included in the *Bushfire Risk Management Plan*. The long-term management of these offsets will be determined by the Project Developer. The *Bushfire Risk Management Plan* will be extended to cover these areas if they are to be managed by the Project Developer.

Bushfire management on privately owned land, in conservation reserves and state forest will remain the responsibility of private landowners and the government land managers.

The *Bushfire Risk Management Plan* provides a framework to ensure that CHC meets its fire management obligations under section 63 of the *Rural Fires Act 1997* (RF Act), *National Parks and Wildlife Act 1974* (NPW Act), *Threatened Species Conservation Act 1995* (TSC Act) and other associated legislation. It has been prepared in accordance with:

- the bushfire risk management methods and standards detailed in the Bushfire Coordinating Committee (BFCC) *Policy No. 1/2008 – Bushfire Risk Management* (BFCC 2008);
- the bushfire risks, risk management strategies and cooperative firefighting agreements outlined in the Orana, Castlereagh and Cudgegong Bushfire Risk Management Plans and section 52 RF Act Operations Plans; and
- RFS recommendations and in consultation with the RFS and OEH.

Consultation undertaken during the preparation of the *Bushfire Risk Management Plan* is summarised in Table 2.1.

The final BMP maps (laminated A0 copies) have been provided to Warrumbungle Shire Council and the following brigades:

- Dapper;
- Boomley;
- Cobbora;
- Elong Elong;
- Gollan;
- Goolma;
- Gulgong;
- Birriwa; and
- Dunedoo.

6.2 Bushfire management plan contents

The Plan consists of two components:

- the *Bushfire Suppression Operational Plan* in three A0 size posters (provided on the CD version of this report); and
- the *Bushfire Risk Management Plan* (that is provided in Appendix C of this report).

6.2.1 Bushfire suppression operational plan

The *Bushfire Suppression Operational Plan* poster displays relevant information to guide emergency response to any bushfires that occur on the CHC-owned land. This document can be used strategically but it is primarily a first response operational document that will be displayed and carried by the CHC, RFS and other emergency services staff to increase their response effectiveness. The *Bushfire Suppression Operational Plan* has been developed to address the requirements of CHC, neighbouring landholders, NPWS and RFS.

The north-west area map and the south-east area map show the locations of:

- CHC-owned land;
- water points including suitability for vehicle and/or helicopter use;
- fire trails, their suitability to Category 1, 7 and 9 firefighting units and whether they are 'essential' or 'important';
- fire-exclusion zones (regeneration areas);

- management trails and roads;
- assets including residences;
- powerlines, watercourses and contours; and
- conservation areas.

An overview map provides a series of maps and insets showing:

- an overview map showing the north-west area map and south-east area map information but on a smaller scale;
- inset maps showing details around Spring Ridge Road/Montaza Estate and Suzanne Road;
- fire seasons;
- LGA boundaries;
- CHC and emergency services contact details;
- communication information, including radio channels and service locations;
- a summary of preparedness and response for fire danger ratings from 'Low-moderate' to 'Catastrophic';
- locations of areas of Aboriginal Cultural heritage sensitivity and a summary of management measures;
- locations of areas with historic heritage significance and a summary of management guidelines;
- locations of areas of threatened flora, fauna and vegetation communities and a summary of management guidelines;
- a summary of management guidelines for properties threatened by wildfire;
- summary guidelines for:
 - aerial water bombing;
 - command and control;
 - containment equipment;
 - earthmoving equipment;
 - fire suppression chemicals;
 - recovery and smoke management; and
- fire suppression strategies by vegetation type.

6.2.2 Bushfire risk management plan

The *Bushfire Risk Management Plan* describes bushfire management and prevention, providing the following:

- an introduction describing the purpose, scope, aims and format of the plan;
- the administrative framework and consultation undertaken;
- a description of CHC-owned land including:
 - the location;
 - the fire environment – bushfire prone land, slopes, climate, vegetation and fuel, fire season, fire history, potential bushfire behaviour and rate of spread;
 - economic assets at risk of fire – residential dwellings, agricultural infrastructure, transport infrastructure, powerlines, and proposed mine infrastructure;
 - environmental assets at risk of fire – flora, threatened flora, fauna, threatened fauna, endangered ecological communities, biodiversity offsets and biodiversity corridors;
 - cultural assets at risk of fire – Aboriginal and historic;
- a bushfire risk assessment;
- description of bushfire risk management strategies, including:
 - reducing the vulnerability of residential dwellings;
 - ignition management;
 - fire management zones;
 - fuel management;
 - improving access;
 - ensuring an adequate water supply; and
 - community consultation and education.
- preparedness and response strategies;
- a bushfire risk management strategies implementation plan (see Chapter 7.2); and
- a bushfire evacuation plan for the CHC office on Spring Ridge Road.

6.3 Work program

A 1,000 L fire trailer is permanently stored at CHC site office, 2068 Spring Ridge Road. This is within Warrumbungle Shire and Dapper RFS zone, and is approximately 6 km from the Dapper RFS shed. In collaboration with the Dapper RFS, CHC organised fire training in basic grass fire techniques for members and CHC staff.

Fire trails on CHC-owned land are in various states of repair and require varying levels of work to achieve required fire trail specifications. Work on nine fire trails will be undertaken in Financial Year (FY) 2014/15:

- Karoola Downs Fire Trail;
- Medway Park Fire Trail;
- Nebraska Fire Trail;
- Wattlevale Fire Trail;
- Brooklyn Fire Trail;
- Mt Dapper Fire Trail;
- Tooloon Fire Trail;
- Spring Ridge South Fire Trail; and
- Marawaka Fire Trail.

CHC has recently received a series of proposals to undertake the following activities on these bushfire trails:

- constructing new fire trails using material sourced from directly along the fire trail route or importing material such as crushed sandstone;
- re-grading of existing fire trails and other tracks;
- re-grading, slashing and removal of vegetation to achieve the fire trail specifications;
- constructing fire trail drainage works (wo-boys);
- constructing passing/turn around bays;
- upgrading creek and gully crossings; and
- erecting fire trail signs (including signs indicating water point locations if feasible).

As of October 2014, around 29 km of bush fire trails have either been constructed or upgrades carried out on existing trails. This is 84% of the high priority trails identified during the development of the *Bushfire Risk Management Plan*.

The Dapper RFS (located at Laheys Creek) shed will not need to be moved until mining operations result in road closures that impinge on the ability of the RFS to respond to emergencies from the shed's current location. CHC will contribute to resourcing the Dapper Brigade, and providing mine personnel to support the brigade for the life of the Project.

Licencees will also invest in the fire risk management of the CHC-owned land on the properties that they are managing.

CHC will:

- encouraging liaison and information flow between the RFS Dapper Brigade and WSC as required; (eg attendance by Warrumbungle Shire Councillors at annual general meetings); and
- facilitate local RFS training for Dapper Brigade members as an alternative to local members attending two days of training in Coonabarabran.

7 Strategic land use plan: implementation and risk assessment

7.1 Risk assessment

Bushfire, and vertebrate pest and weed risk assessments were used to prioritise land management activities (see Appendix C and Appendix D respectively). Each involved identifying the assets, the threats to the asset and establishing the level of risk. These assessments are outlined below.

7.1.1 Bushfire risk assessment

A bushfire risk assessment was undertaken by WLP in accordance with the *Bushfire Risk Management Planning Guidelines for BFMC* (RFS 2008). The assessment considered risks to the identified assets (excluding environmental assets) from:

- major bushfire and bushfire suppression operations (historically bushfires occur in the area every 10 to 15 years);
- manual hazard reduction using handtools, herbicides or light machinery (eg slashing);
- manual hazard reduction using heavy machinery (eg bulldozer);
- hazard reduction burning (including burn preparation); and
- fire trail maintenance activities (including but not limited to grading, slashing and spraying).

Risks to environmental assets considered the following:

- inappropriate fire regimes impacting the lifecycle or altering habitat;
- loss of local populations due to large high intensity bushfires;
- loss of key habitat (eg hollow bearing trees) due to bushfire activity or fire management activities;
- degradation of habitat due to manual hazard reduction activities; and
- damage to individuals or populations during manual hazard reduction activities.

In all, 85 scenarios were assessed and allocated a risk rating of low, medium or high. The bushfire risk assessment determined that there are 9 high risks and 29 medium risks relating to bushfire management on the CHC landholding. The principal assets at high risk include Aboriginal sites, which are vulnerable to fire and disturbance by heavy machinery, and dwellings (Bushfire Attack Level 40) that are vulnerable to direct attack from fire. Medium risks are varied and include numerous asset types and potential incidents. The *Bushfire Risk Management Plan* (Appendix C) provides a range of measures to address the high and medium risks and these form the basis for the bushfire implementation actions (see Table 7.1). Assets assessed as having low risk will be managed by routine procedures and generally do not require a specific application of resources.

7.1.2 Vertebrate pest and weed risk assessment

A vertebrate pest and weed risk assessment was undertaken by WLP. This assessment considers the management of vertebrate pest and weeds on CHC-owned and managed land. Vertebrate pests and weeds on CHC-owned agricultural land will be managed by licence holders based on the agreed farm management plan for each aggregation (see Section 4.1.2). Aggregations will be inspected quarterly and reviewed annually to determine if the farm management plan has been implemented (see Section 10.1.1).

The assets at risk from vertebrate pests and weeds were identified to be:

- vegetation regeneration;
- economic productivity;
- biodiversity (including to threatened species and habitat);
- land (through physical degradation);
- national parks and state forest;
- human and animal health;
- cultural heritage; and
- waterways.

The risk assessment was based on an analysis of known vertebrate pest and weed populations (rather than generalisations) and considered the potential impact to assets in mapped areas. The priority of controls were determined to be high, medium or low based on the following:

- High priority:
 - programs addressing new occurrences of highly invasive pest or weed species with potential for significant impacts;
 - programs targeting pests or weeds which are, or are likely to be, significantly impacting on biodiversity;
 - programs targeting pests or weeds that may impact significantly on agricultural production; and
 - programs targeting pests or weeds to ensure that legislative responsibilities are met;
- Medium priority:
 - community or cooperative programs targeting pests or weeds that impact significantly on biodiversity or agricultural production and that have ongoing, proven effectiveness and participation;
 - programs targeting pests or weeds which are, or are likely to be, moderately impacting on biodiversity;

- programs targeting pests or weeds that may impact moderately on agricultural production; and
- programs targeting pests or weeds that may impact on important cultural heritage values;
- Low priority:
 - programs targeting pests or weeds that may have a minor impact on biodiversity; and
 - programs targeting pests or weeds that may have a minor impact on agricultural production.

In some cases, program priorities are higher than the potential risk rating due to legislative requirements to control certain pests or weeds (eg rabbits) or due to the species being a new occurrence of an invasive weed (eg *Cineraria*).

In total, 6 vertebrate pest programs and 26 weed control programs were identified. Of these, 15 are considered high priorities, 14 are medium priorities and 3 are low priorities. These formed the basis for the vertebrate pest and weed implementation actions (see Table 7.1). These priorities will continued to be reviewed based on the implementation and results of the programs; meteorological factors (eg drought or high rainfall); stakeholder feedback; and any relevant policy changes.

7.2 Implementation plan

The ILMP will be implemented over the life of the Project. The planned work program over the next three years, or until the Project commences (whichever is first), is summarised in Table 6.1. An indication of the year in which measure will be implemented is provided. However, activities may be reprioritised based on monitoring results or external factors. The work program will be reviewed in the third year (FY16/17) and a program covering the next three years will be prepared.

Table 7.1 Implementation of strategic land use plan

ID	Aim/purpose	Action and location	Year			Frequency	Responsibility
			1	2	3		
Vertebrate pest and weed management							
1	Determine the success of the pest control program	Fox control and monitoring in native vegetation areas	x			March and June	Land Care Specialist
2	Determine the success of the pest control program and protect regeneration areas, Box Woodland EECs, livestock, waterways, fences and crops	Pig control and monitoring in Whaka, Nebraska, Woolandra and riparian areas	x			January and July	Land Care Specialist
3	Protect Box Woodland EEC, threatened species and crops	Rabbit control in all native vegetation areas	x			February, March and April	Land Care Specialist
4	Protect Box Woodland EEC, Yarrobil National Park	Blackberry control in Greywood-Adelong, Glenroy, Springbrook, Timberlight and The Old Station	x			October to April	Land Care Specialist
		Cineraria control in Spring Ridge Road area	x			September and October	Land Care Specialist
5	Remove pest harbour	African Boxthorn control in Nebraska	x			March to September	Land Care Specialist
6	Protect waterways	Willow control in Wattlevale	x			December to March	Land Care Specialist
7	Protect Box Woodland EEC, <i>Zieria ingramii</i> and <i>Homoranthus darwinioides</i>	St John's Wort control in Sonoma	x			November to December	Land Care Specialist
8	Determine the weed load in biodiversity areas	Weed monitoring in regeneration areas, biodiversity offsets, waterways, Sonoma and various	x	x	x	October, November and December	Land Care Specialist
9	Protect Box Woodland EEC	Spiny burr Grass control in Karoola Downs	x			October, November and December	Land Care Specialist
		Mother of Millions control in Spring Ridge Road area	x			June, July and August	Land Care Specialist
		Sweet Briar control in Greywood-Adelong		x			November to February

Table 7.1 Implementation of strategic land use plan

ID	Aim/purpose	Action and location	Year			Frequency	Responsibility
			1	2	3		
10	Protect Yarrobil National Park	Bridal Creeper control in The Old Station	x			June, July, August	Land Care Specialist
		Tree of Heaven control in The Old Station			x	September to January	Land Care Specialist
11	Protect Box Woodland EEC, <i>Zieria ingramii</i> and livestock	St John's Wort control in Danabar, Avalon, Dunadam, Yukon Paradise, Suzanne's Road, Glenroy and Spring Ridge Road area	x			November and December	Land Care Specialist
12	Identify new infestations, determine program success, protect Box Woodland EEC, threatened species, livestock, fences and crops	Goat control and monitoring in Woolandra and Eagle View	x			Throughout year	Land Care Specialist
13	Identify infestations and determine program requirements	Rabbit monitoring in native vegetation areas	x			July and Dec	Land Care Specialist
14	Protect Box Woodland EEC, threatened species, livestock, fences and crops	Goat fencing (one off program) in Woolandra	x			Once	Land Care Specialist
15	Protect Box Woodland EEC and regeneration	Bathurst Burr control in Whaka and Eurama Downs	x			December, January and February	Land Care Specialist
16	Protect livestock	Bathurst Burr control at Nebraska and Wattlevale			x	December, January and February	Land Care Specialist
Bushfire risk management							
17	Provide site specific solutions to the bushfire hazards at each residence	Building assessment for high and moderate risk dwellings	x			Once	Property Manager
18	Allow the RFS to respond rapidly to fire within the CHC landholding	Current copy of the BMP to be held by the local RFS brigades	x			Once	Property Manager
19	Ensure adequate access for emergency response and management tasks in accordance with specifications	Construct or upgrade trails in areas with inadequate access as per priorities	x			Once	Property Manager
20	Accompany any hazard reduction works and to control small fires	Purchase a water tank or fire tanker slip-on unit	x			Once	Property Manager

Table 7.1 Implementation of strategic land use plan

ID	Aim/purpose	Action and location	Year			Frequency	Responsibility
			1	2	3		
21	Raise awareness amongst CHC employees and contractors of Extreme and Catastrophic fire days to help prevent fire ignition	Provide fire weather information at the CHC site office.	x			Once. To be updated daily	Property Manager
22	Ensure equipment is in proper working order and condition, and to identify any logistical changes that need to be made	Audit firefighting equipment	x	x	x	Annually	Property Manager
23	Maintain fire trails in accordance with BFCC specifications	Fire trail maintenance	x	x	x	Biannually	Land Care Specialist
24	Ensure information is current for land managers and emergency response personnel	Review the Bushfire Risk Management Plan	x	x	x	Annual (minor review), every 5 years (major review) or whenever there are significant changes to the landscape	Property Manager
25	Provide a defensible space and increase the durability of the dwellings	Prepare & maintain APZs around residential dwellings	x	x	x	Ongoing	Property Manager, licensees
26	Provide access and egress to residential properties in emergency situations	Maintain residential access roads	x	x	x	Ongoing	Property Manager, licensees
27	Prevent a small fire getting larger	Respond to bushfires on the CHC landholdings as per the response guidelines	x	x	x	Ongoing	CHC Staff, licenses, RFS
28	Reduce fuel strategically across the landscape	Undertake SFAZ hazard reduction activities	x			Once per SFAZ	Property Manager, RFS
29	Ensure residents in CHC dwellings are contactable in the case of an emergency	Maintain residential dwelling status list (eg vacant and occupied) and contact list for residents	x	x	x	Ongoing	Property Manager
30	Reduce the vulnerability of residential dwellings to fire	Ensure services meet the minimum standards for dwellings on bushfire prone lands		x		Once	Property Manager

Table 7.1 Implementation of strategic land use plan

ID	Aim/purpose	Action and location	Year			Frequency	Responsibility
			1	2	3		
31	Reduce the vulnerability of residential dwellings in high risk areas.	Assist the RFS with hazard reduction activities around the Suzanne Road and the Montaza Road Estates	x	x	x	Ongoing	Property Manager
32	Aid emergency navigation	Install trail name signage at every key intersection for all Essential and Important trails		x		Once	Property Manager
33	Ensure there is a pool of trained and equipped personnel to assist the RFS with response to bushfires on the CHC landholdings	Provide training for staff and licensees in collaboration with the RFS and maintain a list of trained personnel and provide them with suitable personal protective equipment		x		Ongoing	Property Manager
34	Reduce the chance of ignition caused by licensees	Communicate to licensees that there must be no burn-off without the prior authorisation of CHC	x	x	x	Annually	Property Manager
35	Reduce the vulnerability of residents in bushfire prone areas	Provide assistance to licensees to prepare individual Emergency Response Plans	x	x	x	Ongoing	Property Manager, licensees
36	Ensure potential ignition sources are mitigated and to also locate fires quickly to allow for a quick response	Patrol site or go to a vantage point, when available, at key times on Extreme and Catastrophic bushfire weather days and check for smoke or risks	x	x	x	Daily	Property Manager
37	Raise awareness amongst CHC employees and contractors to help prevent fire ignition	Raise awareness of ignition risk	x	x	x	Ongoing	All managers and wardens
38	Monitor condition of tracks and accessibility	Fire trail monitoring	x	x	x	Biannually	Land Care Specialist
39	Foster fire prevention and cooperation between CHC and the RFS	Invite RFS to inspect fire controls, access etc	x	x	x	Annually	Property Manager
40	Assess the need for Hazard Reduction Activities	Review fuel loads and any required fuel reduction		x		As per Management Zone	Property Manager
41	Reduce vulnerability of economic assets to fire	Prepare and maintain APZs around agricultural assets		x		Ongoing	Property Manager, licensees
42	Reduce ignition potential	Liaise with power providers regarding above ground powerline maintenance		x		Ongoing	Property Manager

Table 7.1 Implementation of strategic land use plan

ID	Aim/purpose	Action and location	Year			Frequency	Responsibility
			1	2	3		
43	Reduce the vulnerability of residential dwellings in these high risk areas	Assist the RFS with community education activities around the Suzanne Road and the Montaza Road Estate			x	Ongoing	Property Manager
44	Reduce ignition risks	Secure landholdings from trespass			x	Once	Property Manager
45	Reduce the chance of ignition caused by licensees	Facilitate a FireWise training session with the Coonabarabran Castlereagh RFS and encourage all licensees to attend			x	Bi-annually	Property Manager
46	Ensure an adequate water supply for firefighting use	Confirm adequacy of water supply and onsite firefighting resources and implement appropriate works where deemed inadequate			x	Monthly during fire season	Property Manager
47	Enhance biodiversity and/or assist regeneration and to compliment other regional burning proposals	Consider the need for an ecological burn within LMZs 2 and 3			x	Annually	Property Manager
48	Reduce the ignition potential of grassland within LMZ1 and risks to adjoining assets/values	Consider the need for a strategic burns within LMZ1			x	Annually	Property Manager
49	Foster fire prevention and cooperation between CHC, the local community and WSC	Undertake community consultation with neighbouring landholders and licensees Facilitate liaison between the RFS Dapper Brigade and WSC	x	x	x	Annual and as needed	Property Manager
50	Enhance training of RFS Dapper Brigade members	CHC will assist to facilitate local RFS training for Dapper Brigade members as an alternative to local members attending two days of training in Coonabarabran	x	x	x	Annual or as needed	Property Manager
Biodiversity management							
51	Prevent impacts from agricultural grazing on remnant vegetation	Progressively remove stock grazing from remnant native vegetation outside agricultural licence areas in the Formal biodiversity offsets, Northern Restoration Area, threatened flora populations and natural regeneration areas	x	x	x	Throughout year	Property Manager

Table 7.1 Implementation of strategic land use plan

ID	Aim/purpose	Action and location	Year			Frequency	Responsibility
			1	2	3		
52	Identify weak spots in existing fencing	Inspection of boundaries between agricultural, remnant native vegetation areas and threatened flora populations	x	x	x	Annually	Property Manager
53	Control of high priority weeds and pests to an acceptable level	Remove weed and pest species as per the <i>Vertebrate Pest and Weed Management Plan</i> in the Formal biodiversity offsets, Northern Restoration Area and threatened flora populations	x	x	x	Throughout year	Land Care Specialist
54	Educate contractors on native vegetation and its importance	Conduct site inductions for all contractors including information on remnant native vegetation and habitat at all remnant native vegetation areas	x	x	x	Throughout year	Land Care Specialist
55	Complete detailed work plans for identified areas requiring specific management actions	Work plans and management actions completed for Formal biodiversity offsets, Northern Restoration Area and Other CHC-owned land as required				Once prior to construction	Land Care Specialist
56	Measure the success of management activities	Monitor the condition of natural regeneration areas, areas of remnant vegetation and threatened flora populations where stock has been removed	x	x	x	Ongoing	Land Care Specialist
Erosion and sediment control trials							
57	Trials for the treatment and repair of eroded sites	Fencing, construct graded banks and gully control structures, implement gully shaping and revegetate at Spring Ridge	x			Throughout the year	Land Care Specialist
		Fencing, implement gully shaping, trimming and revegetate, construct gully control structures, construct graded banks at Glenroy	x	x		Throughout the year	Property Manager
		Remove dam wall, construct graded banks, revegetate areas of dry land salinity, implement gully trimming and revegetate at Yukon Paradise	x	x	x	Throughout the year	Property Manager
Socio-economic							
58	CHC-owned residence rental	Maximise the number of CHC-owned houses that are offered for rent	x	x	x	Ongoing	Property Manager

Table 7.1 Implementation of strategic land use plan

ID	Aim/purpose	Action and location	Year			Frequency	Responsibility
			1	2	3		
59	Maximise sustainable agricultural production	Implement the land aggregation and land tender plans to maximise sustainable agricultural production from CHC-owned land Offer agricultural licenses for five years with the opportunity to renew for a further five years	x	x	x	Ongoing	Land Care Specialist
60	Maximise local business opportunities	Continuation of CHC's commitment to use local industries and suppliers where cost-effective	x	x	x	Ongoing	Administration and Procurement Manager
		Advertise all commercial tender work locally in The Land, Western Magazine, Dunedoo Diary and North West Magazine	x	x	x	Ongoing	Administration and Procurement Manager
61		Facilitate potential local supplier briefings and training sessions	x			Once	HSEC Manager
62	Community enhancement	Continuation of the eight apprenticeships sponsored by CHC	x	x	x	Ongoing	HSEC Manager
		Continuation of the CHC community support program	x	x	x	Ongoing	HSEC Manager
63	Socio-economic monitoring	CHC will monitor and review potential impacts associated with the Project over time to ensure that: <ul style="list-style-type: none"> it understands community issues and the perceived impacts of CHC activities; it maintains working partnerships with stakeholders to address community needs; and it effectively manages impacts prior to the start of construction 	x	x	x	Ongoing	HSEC Manager
Consultation							
64	Government agencies, education providers and Councils	Ongoing liaison with government agencies, education providers and Councils	x	x	x	Ongoing	HSEC Manager
65	Annual Review report	Production of an Annual Review that will describe activities and performance in key areas	x	x	x	By 30 March each year	HSEC Manager

Table 7.1 Implementation of strategic land use plan

ID	Aim/purpose	Action and location	Year			Frequency	Responsibility
			1	2	3		
66	Local consultation	Employment of locally-based full-time property manager and land care specialist to respond to community and landowner queries	x	x	x	Ongoing	HSEC Manager
		Maintain the CHC website	x	x	x	Ongoing	HSEC Manager
67	Community Consultative Committee (CCC)	Establish a CCC and meet at a frequency to be determined	x	x	x	By 9 November 2014 and then ongoing	HSEC Manager
Training							
68	Improve land management	Support of land management training programs to improve local skills	x	x	x	Ongoing	HSEC Manager
69	Foster good regional land management	Investigate agricultural vocational training support	x			Once	Property Manager
70	Support RFS Dapper Brigade members	Facilitate local RFS training for Dapper Brigade members as an alternative to local members attending two days of training in Coonabarabran	x			Once	Property Manager

Abbreviations: APZ: Asset Protection Zone, BFCC: Bushfire Coordinating Committee, CHC: Cobbora Holding Company, EEC: endangered ecological community, LMZ: land management zone, RFS: Rural Fire Service, and SFAZ: Strategic Fire Advantage Zone.

7.3 Integrated implementation

The strategic land use plan combines and integrates measures to manage agricultural land, native vegetation (outside the offsets and agricultural land), biodiversity offsets, residential land and in the future, the rehabilitation of the Project area. In order to achieve this, the strategic land use plan integrates measures from a number of management plans including the:

- *Land Aggregation Plan*;
- *Land Tenure Plan*;
- *Erosion And Sediment Control Works Plan* (Appendix B);
- *Bushfire Risk Management Plan* (Appendix C);
- *Vertebrate Pest and Weed Management Plan* (Appendix D);
- *Biodiversity Management Plan* (Appendix E); and
- *Mine Rehabilitation Strategy* (GSSE 2013) (that will be converted to a rehabilitation management plan prior to the start of construction).

Agricultural land management measures aim to maximise sustainable agricultural production and commercial return for licensees of CHC-owned land. The *Land Tenure Plan* has been developed to achieve this goal, with the *Vertebrate Pest and Weed Management Plan* and *Erosion and Sediment Control Works Plan* integrating with the package to assist in the management of agricultural land.

The *Biodiversity Management Plan* (Appendix E) describes the strategic methods to manage native vegetation and fauna habitat on CHC-owned land that are not licensed for agriculture. It also details the management of the biodiversity offsets. The BMP aims to maintain and enhance the condition and diversity of vegetation on non-agricultural CHC-owned land and the biodiversity offsets in the long-term. This will in turn enhance the fauna habitat provided in these areas.

The *Mine Rehabilitation Strategy* (GSSE 2013), details the rehabilitation of the disturbed land that will result from the construction and operation of the Project. Specifically, the plan provides the measures to meet the long-term objectives to reinstate agricultural land and areas of native vegetation within the Project footprint. These measures will be included in the *Rehabilitation Management Plan* that will be prepared and submitted to the Executive Director Mineral Resources prior to the start of construction.

The ILMP implementation plan (Table 6.1) combines the management measures of these key plans for the integrated management of CHC-owned land over the next three years or until construction commences. The ILMP and the strategic land use plan will be continuously updated, according to changes in the implementation plan, to span the life of the Project.

8 Socio-economic assessment

8.1 Introduction

The EA prepared in 2012 included social and economic assessments of the Project's impacts during the construction and operation of the Project. EMM prepared an SEA in July 2013 (Appendix F) that considers the period between the start of the CHC property acquisition program in October 2008 and June 2014 (baseline conditions) and between June 2014 and the start of construction (predicted impacts). This considered the matters raised by the PAC and was prepared to meet NSW Project Approval Schedule 3, Condition 1.

8.2 Method

Preparation of the SEA involved reviewing background socio-economic information, regional and local socio-economic data and policies; consulting with key stakeholders (in June and July 2014); developing a socio-economic baseline; assessing the potential impacts of the Project delay on the assessment areas; and developing a framework of measures to minimise any adverse social impacts and to enhance positive impacts. The SEA is based on two geographical scales to reflect the different baseline conditions and likely impacts: the primary assessment area (CHC-owned land) and the secondary assessment area (the towns closest to the Project).

The baseline socio-economic assessment considered the socio-economic changes at a regional and local scale between 2008 and June 2014, both as a result of the Project and as a result of broader demographic and economic trends.

A total of 24 individuals and organisations were consulted as part of preparing the SEA, including local councils, businesses, government agencies, community organisations and community members. Socio-economic data from these stakeholders were used to inform the SEA, including demographic data for the primary assessment area provided by WSC. The perceptions of these stakeholders are also reported.

8.3 Population

The populations of Mid-Western Regional and Wellington LGAs have grown over the last decade while the population of Warrumbungle Shire LGA has declined. The DP&E (2013) forecast that the population of Mid-Western Regional LGA will continue to grow but that the populations of Wellington and Warrumbungle Shire LGAs will decline over the next 15 years.

8.4 Housing

Between 2008 and 2014, CHC acquired 114 houses as part of the property acquisition program for the Project and the population in the primary assessment area has decreased as a result. It is estimated that 97 people (67 adults and 30 children) have moved away from the Warrumbungle Shire LGA following CHC acquisition of their property. A net of 41 people (25 adults and 16 children) have moved into CHC-owned properties.

There are 72 CHC-owned houses that will be available for rent, of which 55 are currently rented. A number of CHC-owned houses have been, or will be, demolished because they are uninhabitable.

In the secondary assessment area, median house prices generally increased until 2013 and then declined. This was most evident in Dunedoo and Gulgong. The peak in quarterly median house prices in Dunedoo occurred shortly after the Project delay was announced in July 2013, indicating that house prices were elevated, at least in part, in anticipation of the Project proceeding in 2014.

8.5 Education

The number of children enrolled at local schools has fluctuated in recent times but is generally declining. The Project has made a minor contribution to this decline, it is estimated that there are 25 less children in the primary assessment area in June 2014 than at acquisition. This decline is equivalent to about one class of children distributed across all school years and across a number of schools. It is part of a wider trend in the secondary assessment area. This decline is evident in the number of children using the school bus in the primary assessment area. The number of children using the bus has shown long-term decline that was accelerated during the acquisition program. The number of children using the bus increased in 2014 due to more families renting CHC-owned houses.

8.6 Rural Fire Service

Membership levels in the local Rural Fire Service (RFS) brigades (Dapper and Cobbora) have not declined as a result of the acquisition program. There are over 20 members of the Dapper Brigade (in the primary assessment area) (C. Philip, District Manager – Castlereagh Zone, pers comm., 5 August 2014). Brigade membership has increased by two since the start of the acquisition program while the Cobbora Brigade membership has been stable. With the completion of the acquisition program, no impacts to emergency services membership are predicted as a result of the Project.

8.7 Economic impacts

The Warrumbungle Shire LGA is the most likely LGA to be economically impacted prior to the start of construction because of the underlying trend of declining population and because 'agriculture, forestry and fishing' is the largest industry in the LGA. An assessment of the economic impacts of the acquisition program on Warrumbungle Shire LGA considered the gross number of people who moved away from the Warrumbungle Shire LGA following CHC acquisition of their property. This assessment was based on CHC and WSC data and the net decline of the number of people residing in the primary assessment area. Input-output economic modelling considered the loss of household expenditure (within and outside of Warrumbungle Shire LGA) from residents in the primary assessment area. This estimated that between \$275,000 and \$503,000 per annum of annual household expenditure has been removed from the Warrumbungle Shire LGA as a result of CHC acquisitions. This may be partially or completely offset by annual expenditure by CHC on environmental monitoring, land management, housing management and engineering works. CHC are budgeting to spend approximately \$7.9 million in the region in 2014/15, approximately \$1.7 million in 2015/16 and approximately \$1.5 million in 2016/17 (see Section 10.4). The distribution of this spending between the LGAs will be largely determined by the commercial tender process for this work, the evaluation of which has, and will continue to, consider CHC's commitment to use local industries and suppliers where cost-effective. There are currently three full-time CHC employees and one part time contractor living in Mid-Western Regional LGA. This level of employment is expected to be maintained until the start of construction.

The *Land Aggregation Plan* will combine the CHC-owned agricultural properties into larger aggregated parcels to improve the economic viability and sustainable use of the land to address a PAC recommendation. The transition to management of aggregated properties should be largely complete by the end of 2015. This aggregation process is expected to increase agricultural production and hence increased regional expenditures as a result of investment to allow maximum agricultural production. However it may also decrease regional expenditures per unit of agricultural output as a result of improved economic efficiencies and economies of scale in production. Overall, acquired agricultural properties will continue to be used for agricultural enterprises (under licence) although agriculture will be ceased in the Northern Restoration Area (185 ha) as required by the PAC. This is Agricultural Suitability Class 3 and 4 land with low agricultural productivity.

8.8 Community

Since 2010, CHC has donated approximately \$265,000 to a range of organisations including schools, preschools/childcare, sporting groups, art and cultural groups, children's charities, men's health and community events. The CHC community support program remains in place. However, reflecting the Project delay, the budget for the program has been reduced since July 2013. CHC will continue to support eight apprentices until they complete their apprenticeships.

The Project has impacted the local community, with members of the community reporting that it has affected the way of life, culture, values and community cohesion. With the acquisition program complete, these impacts are not predicted to increase.

Agricultural licenses are now being offered for five years with the opportunity to renew for a further five years which will improve community stability compared to the shorter-term licences offered during the acquisition program. Further, CHC-owned houses will be available to rent under residential tenancy agreements which will be separate from agricultural licence agreements. If houses on the aggregated properties are not rented by the licensee, they will be available to rent by other individuals or families. Maximising the rental of CHC-owned residences provides the opportunity for modest population growth in the primary assessment area. The certainly provided by the land aggregation program and the rental of CHC-owned houses will provide an opportunity for improving community life.

CHC will implement a range of measures to minimise socio-economic impacts that are commensurate with the level of Project activity prior to the start of construction. These include implementation of the land management activities described in the ILMP; the implementation of the *Land Aggregation Plan*; maximising the number of CHC-owned houses that are offered for rent; continuation of the eight apprenticeships sponsored by CHC; continuation of CHC's commitment to use local industries and suppliers where cost-effective; facilitating potential local supplier briefings and training sessions; investigating agricultural vocational training support; and continuation of the CHC community sponsorship program. CHC will monitor and review potential impacts associated with the Project and will continue a consultation program that will include liaison with key stakeholders; production of an Annual Environmental Management Report; ongoing employment of a full-time property manager and land care specialist available to respond to community and landowner queries; and maintaining the CHC website.

8.9 Summary

Overall, the Project has had a socio-economic impact on the region, in part as a result of the acquisition program which is now complete. While the Project is delayed, there will be ongoing impacts that are minor regionally but will be felt more acutely in the primary and secondary assessment areas particularly where populations are forecast to continue to decline (Warrumbungle Shire and Wellington Shire LGAs). However, there will be significant socio-economic benefits when construction of the Project starts.

9 Employment, training and skills program

9.1 Background

The PAC review (PAC 2013) recommended that the ILMP include:

an employment, training and skills development program aimed at improving local land management techniques, resources and knowledge. This should include adaptive land management, informed by a system of trial of various agricultural and biodiversity rehabilitation and endemic vegetation reestablishment techniques, supported by local seed bank of endemic species.

An outline of the proposed employment, training and skills program is provided below. This will necessarily need to be further developed by the Project Developer.

Agricultural management is described in Chapter 4, long-term salinity and erosion and sediment control trials are described in Section 4.2.2 and biodiversity trials are described in Section 5.5.

9.2 Employment program

CHC has sponsored eight apprentices which are currently placed with businesses in the region. They will continue to be supported until their apprenticeships are finished (see Appendix F). These were aimed at improving the local skill base to reduce the potential impact of Project construction on the local availability of skilled tradespeople.

It is not proposed to offer further employment programs as part of the land management program. However, land management activities will be undertaken by contractors selected by a commercial tender process. The evaluation of tenders will consider CHC's commitment to use local industries and suppliers where cost-effective. All tenders for land management work to date have been awarded to local companies, and this is expected to largely continue. The land management activities will provide local contractors' employees the opportunity to build experience and skills in the delivery of these services.

9.3 Training and skills program

The CHC training and skills program will offer sponsorships to agricultural licence holders to attend land management courses to build on their existing agricultural skills. The appropriate courses will be selected in consultation with the licencees and it is anticipated that they will be conducted in conjunction with Local Land Services and Tocal College, Paterson.

One day land management courses offered may include:

- Paddock Plants;
- Introduction to Soils and Fertility;
- Introduction to Pastures;
- Introduction to Grazing Management; and
- Introduction to Farm Planning.

CHC will also provide a scholarship to attend a farm business management course at Tocal College.

Safety orientated courses (eg chemical handling and machinery operation) and longer courses over a number of days or months will also be considered.

As noted in Section 6.3, CHC will assist to facilitate local RFS training for Dapper Brigade members as an alternative to local members attending two days of training in Coonabarabran.

10 Performance measures, monitoring and reporting

10.1 Performance indicators and completion criteria

This ILMP provides performance indicators and completion criteria as follows:

- Completion criteria are provided for activities that will progress to eventually reach a point where they are considered complete and no further management is required (eg land degradation rehabilitation, mine rehabilitation and the development of fully functioning ecosystems);
- Performance indicators are provided for:
 - the activities described above that require interim indicators to determine their progress towards meeting completion criteria; and
 - activities where ongoing management will be required to achieve ongoing sustainable outcomes (eg agricultural activities and socio-economic measures).

10.1.1 ILMP performance indicators

The objectives of the ILMP plans and performance indicators are summarised in Table 10.1.

Table 10.1 ILMP performance indicators

Management aspect	Performance indicator
Vertebrate pest and weed management	Damage from vertebrate pest and weed species to be reduced to an acceptable level. Acceptable levels will be determined based on monitoring of pest and weed numbers and the changes in the level damage (eg crop damage, pasture damage, livestock predation, or soil erosion). Annual completion of activities 1 to 16 in Table 7.1.
Bushfire risk management	Bushfire risks minimised on CHC-owned land. Practical management measures implemented to reduce the risk of fire to life, property and the environment by: <ul style="list-style-type: none">• minimising the occurrence of bushfires on the CHC landholding by reducing human-induced bushfire ignitions;• minimising the danger of the spread of bushfires on or from the CHC landholding; and• optimising CHC's preparedness for bushfires. Annual completion of activities 17 to 50 in Table 7.1.

Table 10.1 ILMP performance indicators

Management aspect	Performance indicator
Biodiversity management	<p>Determine progress towards performance target.</p> <p>Enhance the biodiversity value of retained and non-agricultural lands of the Project area to:</p> <ul style="list-style-type: none"> • protect and enhance remnant native vegetation and fauna habitat; • protect and enhance threatened flora populations and increase the number and viability of Ingram’s Zieria and <i>H. darwinioides</i> populations; • assist the recovery of threatened cave-roosting bats and threatened ecological communities (TECs); • establish functioning ecosystems on disturbed areas through natural regeneration; and • enhance waterway health and aquatic habitats. <p>Annual completion of activities 51 to 56 in Table 7.1 and achieving the performance targets detailed in Table 5.2 of the BMP.</p>
Agricultural land management	<p>Maximising sustainable agricultural production on CHC-owned agricultural land to achieve agricultural performance indicators required in the farm management plan for the aggregation (see Section 10.1.2).</p>
Erosion and sediment control	<p>Prevent further land degradation by erosion and salinity and rehabilitate areas where this has occurred on CHC-owned land using methods demonstrated to be successful.</p> <p>Annual completion of item 57 in Table 7.1 and ensuring that erosion and sediment control trial areas are rehabilitated is tracking to meeting completion criteria included in the <i>Mine Rehabilitation Strategy</i> (GSSE 2013) as summarised in Section 10.2 below.</p>
Socio-economic	<p>Monitor and review potential socio-economic impacts associated with the Project over time to ensure that CHC or the Project Developer:</p> <ul style="list-style-type: none"> • understands community issues and the perceived impacts of CHC activities; • maintains working partnerships with stakeholders to address community needs; and • effectively manages socio-economic impacts prior to the start of construction. <p>Annual completion of activities 58 to 63 in Table 7.1.</p>
Consultation	<p>Achieves socio-economic objectives (see row above).</p> <p>Annual completion of activities 64 to 67 in Table 7.1.</p>
Employment and training	<p>Increase land management skills and knowledge of agricultural licence holders and contractors undertaking land management activities.</p> <p>Investigate agricultural vocational training support.</p> <p>Facilitate local RFS training for Dapper Brigade members.</p> <p>Completion of items 64 to 70 in Table 7.1.</p>

10.1.2 Agricultural performance indicators

At the start of the licensing period the condition of each aggregated agricultural property is reviewed and recorded, by CHC and the licensee, in a condition report. The licensee is also required to prepare a farm management plan for their aggregation and update it annually (see Section 4.1.3). Quarterly inspections and annual reviews will be undertaken to determine if the agricultural performance indicators summarised in Table 10.1 are met (see Appendix A, Schedule 8). The licence agreement includes obligations for the licensee to rectify detrimental changes to the property if they occur as a result of not complying with the licence conditions.

Table 10.2 Agricultural performance indicators

Performance indicator
Property condition to be improved from current level
Sustainable farming practices to be carried out as defined in the <i>Policy for Sustainable Agriculture in New South Wales (DPI 1998)</i> including preparation and implementation of a Farm Management Plan
Adoption of a weed management plan as an overarching weed control mechanism for declared and non-declared weed species
Application of recommended farm enterprises in operations (eg grazing and cropping), or justification why they have not been applied in the operational plan
Continued exclusion of livestock from designated erosion and salinity control areas, native vegetation and biodiversity offset areas
Control of vertebrate and invertebrate pests
Use of minimum or zero-till crop and pasture establishment techniques
Retention of groundcover/stubble on cropping land
Minimum of 80% groundcover maintained on grazing land
Livestock operations to be conducted in a humane manner
Use of grazing techniques that utilise available dry matter and enhance groundcover and pasture composition
Sound work health and safety practices
Detailed farm management records to be kept, including enterprises undertaken, inputs, production, weed and pest management control
Sound assessment result in quarterly aggregation inspections

10.2 Completion criteria

The Cobbora Coal Project *Mine Rehabilitation Strategy* (GSSE 2013) describes proposed mine rehabilitation but also provides criteria that are applicable to other areas managed by CHC that have been disturbed by other processes (eg erosion and clearing). These will form the basis for defining detailed completion criteria for disturbed areas.

The performance of erosion and sediment control trials and vegetation restoration activities will be monitored against the rehabilitation performance/success criteria provided in the *Rehabilitation Strategy* (GSSE 2013) for Rural Land Capability Class IV to VIII Land. The preliminary success criteria are provided in Table 10.3.

The success criteria comprise indicators for vegetation, fauna, soil, stability, land use and safety on a landform-type basis that reflects the nominated post-mine land use of a mosaic of native woodland, and open grasslands with selective grazing opportunities. The woodland success criteria integrate with long-term aims for natural regeneration areas identified in the BMP.

Each criterion will be further developed to be specific, measurable, achievable, realistic and outcome based, and to reflect the principle of sustainable development. This will be based on results of further research, baseline and ongoing monitoring of disturbed areas. Completion criteria for biodiversity offset areas will be developed based on the mechanism(s) used to protect them in perpetuity – particularly the requirements of the ultimate land manager.

Table 10.3 Preliminary completion criteria

Item	Element	Indicator	Completion criteria
1	Domain 1: In-pit Overburden		
1.1	Landform stability	Slope gradient	At least 75% of the area has overall slopes $\leq 3H:1V$ Where the slopes are steeper, additional water management structures will be utilised as required
		Erosion control	Erosion control structures are installed at intervals commensurate with the slope of the landform Average soil loss per annum is <40 t/ha/yr (sheet erosion) Dimensions and frequency of erosion rills and gullies are generally no greater than that in reference sites that exhibit similar landform characteristics
		Surface water drainage	Contour banks and diversion drains are used to direct water into stable areas or sediment control basins All landforms are free-draining except where specific structures (eg dams) have been constructed for the storage of water as required for sediment and erosion control or some post-mining land use
		Water quality	Run-off from rehabilitation areas has water quality limits within an acceptable range
1.2	Water quality	Water quality	Run-off from rehabilitation areas has water quality limits within an acceptable range
1.3	Soil	Soil depth	Class IV land: minimum of 300 mm Class VI land: minimum of 200 mm
		Salinity (electrical conductivity)	Soil salinity content is <0.6 dS/m
		pH	Soil pH is between 5.5 and 8.5
		Sodium content	Soil ESP is $<15\%$
		Nutrient cycling	Nutrient accumulation and recycling processes are occurring, as evidenced by the presence of a litter layer, mycorrhizae and/or other microsymbionts Adequate macro- and micro-nutrients are present
1.4	Vegetation: woodland	Land use: woodland	Area accomplishes and remains as a healthy stand of shrubs, trees and grass species The site can be managed for its designated land use without any greater management inputs than other land in the area being for a similar purpose
		Surface cover	Minimum of 70% vegetative cover is present (or 50% if rocks, logs or other features of cover are present) No bare surfaces >20 m ² in area or >10 m in length down slope
		Species composition	A mixture of native trees, shrubs and grasses representative of regionally occurring vegetation are present subject to proposed land use Vegetation communities are developed to attract and support recolonisation by native flora and fauna species found in the area
		Resilience to disturbance	Established species survive and/or regenerate after disturbance Weeds do not dominate native species after disturbance or after rain Pests do not occur in substantial numbers or visibly affect the development of native plant species

Table 10.3 Preliminary completion criteria

Item	Element	Indicator	Completion criteria
		Sustainability	Species are capable of setting viable seed, flowering or otherwise reproducing; evidence of second generation of shrub and understorey species Vegetation develops and maintains a litter layer evidenced by a consistent mass and depth of litter over subsequent seasons More than 75% of shrubs and/or trees are healthy when ranked healthy, sick or dead
1.5	Vegetation: pastoral agricultural land	Land use	Land is useable as functioning agricultural system as per the Rural Land Capability Class IV parameters The site can be managed for its designated land use without any greater management inputs than for land in the area being used for a similar purpose
		Surface cover	Minimum of 70% vegetative cover is present (or 50% if rocks, logs or other features of cover are present) No bare surfaces >20 m ² in area or >10 m in length down slope
		Species composition	Subject to proposed land use, comprise a mixture of native trees, shrubs and grasses representative of regionally occurring vegetation where possible Pastoral lands are developed to attract and support the recolonisation of target pastures grasses
		Resilience to disturbance	Established species survive and/or regenerate after disturbance Weeds do not dominate native species after disturbance or after rain Pests do not occur in substantial numbers or visibly affect the development of native plant species
		Sustainability	Grass species are capable of setting viable seed, flowering or otherwise reproducing; evidence of second generation of shrub and understorey species All areas disturbed by Project activities are regraded to the agreed landform and revegetated to a self-sustaining condition similar to vegetation in comparable local areas and to a standard consistent with data obtained from pre-mining baseline environmental studies
1.6	Fauna: woodland	Vertebrate species	A range of representative species characteristics from each faunal assemblage group (eg reptiles, birds and mammals) are present, based on pre-mine fauna lists and fauna sighted within the three-year period preceding mine closure The number of vertebrate species does not show a decrease over a number of successive seasons prior to mine closure
		Invertebrate species	Presence of representatives of a broad range of functional indicator groups involved in different ecological processes
		Habitat structure	Typical food, shelter and water sources required by the majority of vertebrate and invertebrate inhabitants of that ecosystem type are present, including: a variety of food plants Evidence of active use of habitat provided during rehabilitation such as nest boxes and logs, and signs of natural generation of shelter sources including leaf litter
1.7	Visual	Visual amenity	Long-term visual impact is minimised by creating acceptable landforms, preferably compatible with adjacent landscape

Table 10.3 Preliminary completion criteria

Item	Element	Indicator	Completion criteria
1.8	Safety	Physical	Excavations are rendered safe All drill holes, pits, open cuts and other openings are securely capped, filled or otherwise made safe Access by members of the public and livestock is restricted as appropriate to site conditions No rubbish remains at the surface, or is at risk of being exposed through erosion
2	Mining Operations Domain: Final Void (including ramps and highwalls)		
2.1	Landform stability	Stability	Inspection undertaken by a qualified geotechnical engineer to ensure that there is no subsidence or slipping of the pit walls present or that is a threat to the long-term stability of the pit abandonment bunds
2.2	Safety	Risk assessment	Risk assessment undertaken in accordance with relevant guidelines and Australian Standards and risks at levels agreed with the stakeholders
		Physical	As per Item 1.8
3	Mine Infrastructure Domain and Auxiliary Infrastructure Domain		
3.1	Landform stability	Slope gradient	Regraded batters consistent with surrounding area
		Erosion control	Erosion mitigation measures have been applied Average soil loss per annum per domain unit is <40 t/ha/yr (sheet erosion)
		Surface water drainage	Use of contour banks and diversion drains to direct water into stable areas or sediment control basins
3.2	Water quality	Water Quality	As per Item 1.2
3.3	Soil	Soil Depth	As per Item 1.3
		Salinity (electrical conductivity)	
		pH	
		Sodium content	
		Nutrient cycling	
3.4	Vegetation: agricultural land use	Land use	As per Item 1.5
		Surface cover	
		Species composition	
		Resilience to disturbance	
		Sustainability	
3.5	Visual	Visual amenity	As per Item 1.7
3.6	Safety	Physical	As per Item 1.8

10.3 Monitoring program

Monitoring forms an integral part of this ILMP to ensure that performance indicators are being met, and to identify where additional measures may be required so that land management is trending toward the completion criteria. Each of the ILMP plans include specific monitoring requirements to measure the performance of the management activities and a program for implementation (key monitoring activities are summarised in Table 6.1). A summary of the monitoring program is provided in Table 10.4.

Table 10.4 Monitoring program summary

Management aspect	Monitoring focus	Year			During construction	During mine operation
		1	2	3		
Vertebrate pest and weed management	Annual weed monitoring in Box Woodland EEC, threatened flora populations, regeneration areas and biodiversity offsets	x	x	x	x	x
	Annual pest species counts including fox, pig, goat and rabbit	x	x	x	x	x
	Weed monitoring in waterways and livestock areas during normal land management activities	x	x	x	x	x
	Monitoring treated areas 12 months after treatment	x	x	x	x	x
Bush fire	Firefighting equipment audit	x	x	x	x	x
	Adequacy of fire trails, access roads and APZs	x	x	x	x	x
	Fuel loads		x		x	x
Biodiversity management	Fence and stock grazing inspections in and along boundaries with remnant native vegetation and regeneration areas	x	x	x		x
	Native vegetation and natural regeneration monitoring in remnant native vegetation and regeneration areas				x	x
	Threatened fauna diversity and use in remnant native vegetation and regeneration areas				x	x
	Riparian condition in riparian protection areas				x	x
Agricultural land management	Quarterly inspections and annual reviews to determine if the agricultural performance indicators summarised in Table 10.1 are met	x	x	x	x	x
Erosion and sediment control	Ongoing monitoring of weather at a weather station	x	x	x	x	x
	Monitoring of water quality from sedimentation dams during selected overflow events	x	x	x	x	x
	Visual inspections for sediment dam capacity	x	x	x	x	x
	Visual inspections of sediment and erosion control safeguards after heavy rainfall	x	x	x	x	x
Mine rehabilitation	Monitoring of rehabilitated areas during and after initial vegetation establishment 12 months after establishment then every two years					x
Socio-economic and consultation	Monitoring of socio-economic mitigation and consultation framework implementation			x		
	Land management, safety and bushfire training records	x	x	x	x	x

10.4 Reporting

ILMP monitoring results will be reported in the Annual Review report required by Project Approval Schedule 5, Condition 4. In accordance with this condition, the Annual Review will provide the following information as relevant to the implementation of the ILMP:

- a description of the ILMP activities carried out over the past calendar year (based on Table 7.1);
- a description of the proposed ILMP activities to be over the next year (based on Table 7.1);
- a comprehensive review of the monitoring results and complaints over the year, including a comparison of the results against:
 - relevant statutory requirements, limits or performance measures/criteria including any non-compliances over the last year and a description of the actions that were, or are being, taken to ensure compliance;
 - trends in monitoring results from previous years;
 - relevant predictions in the EA, identifying any discrepancies between the predicted and actual impacts of the Project, and analysing the potential cause of any significant discrepancies; and
- a description of any additional measures that will be implemented over the next year to improve the environmental performance.

The Annual Review will be submitted to the Secretary by 30 March each year and will be placed on CHC's website.

11 Funding, responsibilities and review

11.1 Funding

Activities described in this ILMP will be funded by CHC or the Project Developer. The three year budget for land management activities, including training, is provided in Table 11.1. These activities will be completed by contractors based on commercially awarded tenders. The further breakdown of these budgeted amounts is therefore commercially sensitive. Satisfactory completion of these contracts will be determined based on achieving land management activity specifications. Therefore the actual amount spent on land management activities may vary from the budgeted amount.

Table 11.1 Land management budgets

Program	Activities	CHC budget		
		FY14/15	FY15/16	FY16/17
Environmental monitoring	Erosion monitoring	\$193,000	\$225,000	\$225,000
	Farm plan compliance monitoring			
	Monitoring equipment maintenance			
	Meteorological, air, groundwater and surface water monitoring			
Land management	Weed spraying	\$1,447,000	\$816,000	\$714,000
	Vertebrate pest management			
	Soil conditioning (eg addition of lime and fertiliser)			
	Earthworks			
	Bushfire trail establishment and maintenance			
	Erosion and sediment control trials			
	Land Survey and mapping			
	New and replacement farm infrastructure			
	Fencing			
	Land management training and development			
	Reimbursable costs on agricultural licences			
Total		\$1,640,000	\$1,041,000	\$939,000

In addition to the ILMP activities listed in Table 11.1, CHC will pay for the following housing management tasks for its properties:

- property and grounds maintenance, including plumbing, electrical, cleaning and slashing;
- pest inspection and control;
- house demolition, including asbestos management and removal; and
- real estate management.

The financial year budgets for these works are:

- FY14/15: \$662,000;
- FY15/16: \$675,000; and
- FY16/17: \$543,000.

There is a budget of \$5,616,000 for the following engineering works in FY14/15, but no further engineering works are planned prior to the start of construction:

- Cobbora road MR353 (in Wellington LGA);
- Saxa Bridge (in Wellington LGA);
- Engineering works (in Warrumbungle Shire LGA):
 - Woolandra Dam West safety works;
 - Woolandra Dam East safety works;
 - core shed construction; and
 - borehole rehabilitation.

The monitoring, land management, housing management and engineering activities will largely be spent within the region. They will have combined financial year budgets of:

- FY14/15: \$7,918,000;
- FY15/16: \$1,716,000; and
- FY16/17: \$1,482,000.

The salaries of the three full-time CHC employees and one part time contractor working on site and the CHC site office expenses are not included in these projected expenditures.

Agricultural licencees will also invest in the management of CHC-owned land as part of their ongoing agricultural enterprise.

11.2 Responsibilities

Overall CHC personnel and contractors responsibilities for implementing the ILMP are provided in Table 11.2. Specific responsibilities for implementing ILMP actions are provided in Table 7.1.

Table 11.2 ILMP responsibilities

Title	Responsibilities
Chief Executive Officer (CEO)	Ensure resources and funding are available to implement the ILMP and associated plans.
HSEC manager (HSECM)	<p>Ensure the ILMP is implemented including the specific actions in Table 7.1.</p> <p>Identify land management risks and devise and implement management measures.</p> <p>Ensure that monitoring and reviews occur.</p> <p>Environmental reporting within CHC and to regulatory bodies.</p> <p>Resolve complaints from the community.</p> <p>Review and authorise the updates to the ILMP and associated plans .</p>
Property Manager	<p>Manage agricultural licence agreements, including:</p> <ul style="list-style-type: none"> • weed surveys and spraying; • fencing; and • farm infrastructure management. <p>Manage residential tenancy agreements.</p> <p>Maintain of CHC-owned properties that are not part of agricultural licence agreements.</p> <p>Report to HSECM on performance and implementation of ILMP.</p> <p>Respond to queries from the local community.</p> <p>Register and investigate environmental complaints.</p> <p>Ensure contractors fulfil their environmental obligations.</p>
Land Care Specialist	<p>Manage natural resources on CHC-owned land: biodiversity offsets, restoration areas and native vegetation areas but excluding agricultural properties. This includes management of:</p> <ul style="list-style-type: none"> • biodiversity; • vertebrate pests and weeds; • bushfire trail establishment, upgrade and maintenance; • erosion and sediment control works; • environmental monitoring; and • environmental compliance of farm management plans. <p>Report to HSECM on performance and implementation of ILMP.</p> <p>Register and investigate environmental complaints.</p> <p>Ensure contractors and contractors fulfil their environmental obligations.</p>
Contractors	<p>Comply with all environmental requirements in the ILMP.</p> <p>Immediately notify the Property Manager or Land Care Specialist if an environmental issue is identified.</p> <p>Rectify environmental issues independently or at the direction of the Property Manager or Land Care Specialist.</p> <p>Provide adequate equipment/facilities on site to protect the environment during works or at the request of the HSECM.</p>

11.3 ILMP review

The ILMP and associated plans will be reviewed annually until the start of construction when the project EMP will be implemented.

The ILMP will be updated prior to the start of construction as described in Section 1.9. This will include reviewing and updating the mitigation measures and consultation framework so that they reflect the large increase in Project activity during construction and operations.

The ILMP will be reviewed on the same cycle as the EMP during construction and operations. Performance will be reviewed against the following criteria:

- implementation of the ILMP as described in Project Approval Schedule 3, Condition 1 (see Section 1.4);
- CHC's relevant project commitments (see Section 1.5); and
- the performance criteria specified in Section 10.1.

The following actions will be undertaken where one or more of these criterion/criteria are not met:

- determine the cause and whether CHC actions need to be revised;
- revise ILMP actions and/or implement new actions;
- update the ILMP or associated plan to reflect the planned actions if appropriate;
- report which criteria have not been met and planned actions in the annual review in accordance with Project Approval Schedule 5, Condition 4; and
- review actions annually until criteria are met.

The ILMP will be updated to address any material issues identified during the annual reviews. The updated ILMP will be provided to the Secretary and placed on the CHC website.

Abbreviations

AHD	above height datum
APZ	asset protection zone
BFCC	Bushfire Coordinating Committee
BMP	<i>Biodiversity Management Plan</i>
BMZ	biodiversity management zone
BRMP	<i>Bushfire Risk Management Plan</i>
CCC	Community Consultative Committee
CEO	Chief Executive Officer
CHC	Cobbora Holding Company Pty Limited
DLHPL	Dry Land Lucerne Hay and Prime Lambs
DoE	Commonwealth Department of the Environment
DP&E	NSW Department of Planning and Environment
DPI	NSW Department of Primary Industries
EA	environmental assessment
EEC	endangered ecological community
EMM	EMGA Mitchell McLennan Pty Ltd
EMP	<i>Environmental Management Plan</i>
EPBC Act	<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>
EPP	Establish Perennial Pasture
ESCWP	<i>Erosion and Sediment Control Works Plan</i>
FXE	First-cross Ewes
FY	Financial Year
GWPL	Grazing Wheat and Prime Lambs
ha	hectares
HSECM	HSEC manager
ILMP	<i>Integrated Land Management Plan</i>
LGA	local government area
LMZ	land management zone
LSC	Land and Soil Capability
m/s	metres per second
MEML	Merino Ewes and Meat Lambs
MEW	Merino Ewes Wool
Mtpa	million tonnes per annum
MWRC	Mid Western Regional Council
NPW Act	<i>National Parks and Wildlife Act 1974</i>
OEH	NSW Office of Environment and Heritage
PAC	NSW Planning Assessment Commission
PLGL	Prime Lambs Grazing Lucerne
RF Act	<i>Rural Fires Act 1997</i>
RFP	Request for Proposal
RFS	Rural Fire Service

SCA	State Conservation Area
SEA	socio-economic assessment
SFAZ	Strategic Fire Advantage Zone
TSC Act	<i>NSW Threatened Species Conservation Act 1995</i>
VP&WMP	<i>Vertebrate Pest and Weed Management Plan</i>
VP&WOP	<i>Vertebrate Pest and Weed Operations Plan</i>
WC	Wellington Council
WCR	Winter Crop Rotation
WLP	Western Land Planning
WSC	Warrumbungle Shire Council
YC	Yearling Cattle

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