



# **Annual Report 2014 – Part 3 of 3**

## **Lockhart Shire Council**

**PO Box 21  
LOCKHART NSW 2656**

### **State of the Environment Report (Group 3 – Supplementary)**

**1 July 2013 to 30 June 2014**

**Ref: s428A, NSW Local Government Act 1993**

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1 July 2013 to 30 June 2014

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## 1. INTRODUCTION

The report aims to provide a basis for the Council and the community to take stock of environmental resources and threats thereto, within our local government area. It proposes to state, at this particular point in time, the pressure that human activities have imposed on our immediate natural environment, the current resultant state of that natural environment, and the response of Council and associated agencies to these pressures and impacts.

In the preparation of this and past reports the facilities of a large number of associated agencies have been utilised either directly or via their input to publications which have been accessed, in addition to information already held at Council. These include:

- NSW Office of Environment & Heritage
- National Parks and Wildlife Service
- NSW Department of Primary Industries
- Bureau of Meteorology
- Riverina Local Land Services
- NSW Department of Primary Industries (Fisheries)
- CSIRO Land and Water
- The National Landcare Program
- National Trust of Australia (Heritage)

This report is presented according to the requirements of Section 428A of the NSW Local Government Act, 1993 as an integral part of Council's Annual Report.

The report is of necessity an evolving and dynamic statement. It will grow in relevance and application as the process of data gathering, presentation, problem isolation and the application of solutions are refined. Council is committed to meeting the following objectives to assist in the refinement of the report and the community's understanding of environmental impacts:

- (1) to develop and streamline a framework for SoE reporting,
- (2) to consolidate existing information available to Council into one document for public use,
- (3) to identify all environmental issues in our local government area,
- (4) to identify data gaps as an on-going imperative for further investigation and data collection, and
- (5) to develop and streamline regional and cooperative partnerships to maximise the environmental benefits of information exchange.

The information collected has been presented according to requirements listed in s428A of the Act. The publications Environmental Guidelines – State of the Environment Reporting by Local Government (and Planning and Reporting Guidelines) have been used to determine appropriate indicators for the assessments required for the report, using the pressure-state-response model.

## 2. LAND

### 2.1 DESCRIPTION

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#### 2.1.1 Soils/Geology

The Rock Hill and Bullock Bullock Range are of Late Devonian origin and consist of conglomerates, shales, sandstones, quartzites, rhyolite, tuffs and breccias. Surrounding this range, and also in the west, are large deposits of sandy loam, clays, red soil, sands and gravels of Pleistocene or recent age. A large swathe through the centre of the Shire and several small patches of Ordovician Age include slates, phyllites, quartzites, schists and pegmatite veins. Small igneous outcrops of granite and porphyry are scattered in the east and south east of the Shire.

### **2.1.2 Landform**

The topography of the area consists of gently undulating hills to the east which form the foothills of the Great Dividing Range, and generally flat terrain/ floodplains to the west. The highest point in the Shire is the summit of The Rock Hill at 554m above mean sea level, and the lowest point of 140m in the western district. Average slopes of 5-10% are recorded in the far east of the Shire, which level out to 1-5% through the middle, and further flatten out to grades of less than 1% in the west.

## **2.2 PRESSURE**

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### **2.2.1 Major Land use**

#### *Urban Development*

Areas for urban development are currently defined in the Lockhart Local Environment Plan (LEP) 2012. Council has just undertaken extensive planning and consultation with the public and relevant state government agencies as part of a proposed amendment to the LEP, which involves the rezoning of exiting rural land to that of Industrial and/or Large lot Residential. These proposed amendments have been adopted by the Council and are currently awaiting approval from NSW State Government Agencies.

#### *Agriculture (crops/pasture/plantations)*

With agriculture being the dominant land use within the area, little information is available regarding the pressures, if any, being exerted by such use. Such pursuits are widespread across this country (the pastoral industry covers approx. 70% of the land area) and there are undoubtedly effects on biodiversity. The effect of tillage on soil structure and health, the long term use of insecticides, herbicides and fertilisers has no doubt had direct and indirect effects in biodiversity although knowledge of the deleterious aspects of such practices is generally becoming more common.

#### *Native Vegetation Communities*

The remaining pockets of remnant vegetation are subject to constant threat from fires, introduced animals (rabbits), weed invasions, recreation pressures, grazing, and further land clearing for broadacre agriculture - which are all likely to reduce the quality of the resource. Due to ongoing education and awareness, people are becoming increasingly conscious of the importance of native flora and fauna. Problems with erosion, water tables and salinity can be reduced or slowed with natural regeneration or with organised tree planting; an area where Landcare play a very valuable role.

#### *Waste Disposal*

Within the Shire there are five (5) operating Council landfill sites within the Shire, these are:

- Lockhart Garbage Depot – 9.417 Ha
- The Rock Garbage Depot – 4.16 Ha
- Milbrulong Garbage Depot – 4.9 Ha
- Pleasant Hill Garbage Depot – 4.148 Ha
- Yerong Creek Garbage Depot – 4.05 Ha

The Milbrulong landfill site has an expected life of 5 years, while the remaining sites have an expected life of more than 15 years. Problems previously encountered at landfill sites included the spread of windblown litter and dumping of illegal wastes, although this latter problem is greatly minimized through supervised screening of loads by operating staff, and locking of sites at all times other than scheduled opening times.

### **2.2.2 Contaminated Sites**

There are two contaminated sites notified by statute under EPA legislation, these are: The Rock Tip (4.16 Ha) and the Lockhart Tip (9.417 Ha). Council maintains a register of sites that may be recognized as contaminated in the Shire, and includes night soil disposal areas, and current and former refueling stations.

### **2.2.3 Land Clearing and Land Drainage**

Council has made no proposals relating to land clearing or drainage. Requirements for clearing rural lands are contained in the Native Vegetation Act 2003 (the Act) and consultation with the Office of Environment and Heritage (OEH) should take place prior to any clearing works. Some clearing of native vegetation does not require approval under some circumstances, and these are also specified under the Act.

### **2.2.4 Urban Construction (housing and road works)**

Amendments to Council's LEP are currently underway as part of a planning report which is now in the processing stage with the NSW Planning Department. The report proposes rezoning of land from Rural to Large Lot Residential, with the land in question as being already heavily cleared and pre-destined of urban development.

As development of this land proceeds, land use planning ensures that access through road networks will continue from existing roads, and cause minimal disruption to services.

Council has a total road length of approximately 1,656.42km, divided as follows:

Main Roads (sealed)	121.30km
Sealed Local Roads	387.77km
Gravel Local Roads	718.93km
Formed or unconstructed Local Roads	428.42km

## **2.3 STATE**

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### **2.3.1 Land Degradation**

There are a number of major land degradation types existing in the Lockhart Shire, and these are listed below.

#### *Wind Erosion*

No specific information is available; however, a land degradation survey conducted by the Soil Conservation Service in 1987-88 (Graham *et al*, 1989) indicated that the Shire is in a severe wind erosion area.

#### *Sheet/Rill Erosion*

Minor erosion exists on The Rock Hill and the Bulloc Range, with extensive erosion in the Wattle Creek catchment area. From Galore Hill to south of Pleasant Hills there are frequent patches of erosion. The effects of streambank erosion have been much reduced due to the current extended period of drought.

#### *Gully Erosion*

Minor to extreme cases are evident around The Rock Nature Reserve (The Gap Road and alongside the Olympic Way) and the Bulloc Range. South and south-east of Lockhart erosion is minor to moderate.

#### *Streambank Erosion*

The Upper Urangeline Creek, north-west to south-west of Pleasant Hills has severe erosion, as well as the tributary of the Burkes Creek which flows through The Rock Hill Travelling Stock Reserve off Braithwaites Lane. There is also moderate erosion to the Burkes Creek downstream of the Rock, where landholders permit grazing of the riparian zone by cattle and livestock.

#### *Dryland Salinity*

Only two saline outbreaks have been identified from OEH (formerly Department of Environment, Climate Change and Water) maps, these being small pockets south of The Rock. In the Brookong Landcare Catchment area, possible discharge sites are located in the lower regions of the catchment, approximately 13km west of Lockhart, along Spanish Avenue. Earlier studies suggest that saline discharge at these sites are localised.

Work carried out by Landcare groups in the past in relation to piezometer readings and planting of perennial pastures have helped improve monitoring and limit the effects of dryland salinity, and such work continues to this day in some areas.

#### *Induced Soil Acidity*

No current local maps or data are available; however, the entire Shire has the potential of being affected as illustrated in the 1987-88 land degradation survey undertaken by the Soil Conservation Service (Graham *et al*, 1989).

#### *Soil Structure Decline*

Most of the Lockhart Shire is rated as suffering from moderate levels of soil structure decline (Graham *et al*, 1989).

#### *Soil Fertility Decline*

Soils are inherently infertile, with deficiencies in Nitrogen and Phosphorous. Intensive cropping is likely to have deprived much of the agricultural land of nutrients, necessitating the need to apply organic and inorganic fertilisers.

### **2.3.2 Degradation of Remnant Vegetation**

Little is known of what the range/distribution of vegetation communities in the area was. However, it is known that large tracts of land were cleared to open the way for pastoral development. As a result of the past indiscriminate clearing of trees in the Shire there are limited remaining stands of remnant vegetation.

Some of these stands are proclaimed reserves and State forests, e.g. The Rock Nature Reserve (340ha), Galore Hill Reserve (510ha), Brookong State Forest (400ha), Cullivel State Forest (155ha) and Milbrulong

State Forest (376ha). It has been identified that the Shire also possesses significant areas of vegetation along many of its road reserves. Some preliminary assessment has been carried out in the area. A remnant vegetation study was undertaken in 1997 which identified in detail areas of remnant roadside vegetation and recommended actions to preserve them. Council has followed through with many of these recommendations, and approximately 70 kilometres of roadside has been directly sown with locally sourced, native seed, to encourage regeneration.

## **2.4 RESPONSE**

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### **2.4.1 Transport**

In general, local residents rely on their own transport due to the isolation from major town/city centres for shopping and work sites. It is not feasible for Council to consider frequent forms of public transport apart from those already available, which include the XPT train service to The Rock.

### **2.4.2 Rezoning/Zoning**

Zonings for the area during the reporting period are contained in the Lockhart Local Environment Plan 2012 (the LEP). Land zonings are under review with the current review of the LEP.

### **2.4.3 Land Rehabilitation Programs**

- (i) Gravel Pits and Quarries – Operational procedures have been put in place to ensure quarrying activities are carried out in a controlled manner.
- (ii) Tree Planting – Councils ongoing planting program continues within the urban areas, roadsides, reserves and other public open space. Further plantings have been carried out by community groups and private persons to enhance the existing landscape.
- (iii) Remnant Vegetation Survey – A remnant vegetation survey conducted in 1997 has indicated that the Shire's roadsides are a valuable store of remnant vegetation with approximately 42% of roadsides having a high conservation value.

The survey in turn has raised numerous issues in regard to management of such areas and whilst some actions have been put into place by Council, further consultation needs to be carried out on issues which may involve a number of other "players" such as Local Land Services, and private landholders.

It may be more appropriate that some issues be addressed on a regional or statewide basis and Council is constantly assessing its options in regard to those issues.

### **2.4.4 Property Vegetation Plans**

Council has recorded a total of 89 incentive property vegetation plans under the Native Vegetation Act 2003 since March 2007. These plans provide for voluntary, but binding, compliance with property vegetation plans, which are agreed between, in the case of Lockhart Shire Council, the Riverina and Murray Local Land Services, and the proprietors. The plans recorded to date by Council affect the land to the central southern parts of the Shire's geographical area.

## **3. AIR**

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### **3.1 DESCRIPTION**

Air quality is generally considered to be good. However, there are some seasonal problems pertaining to smoke (wood smoke), pollen and dust contaminants in the air.

### **3.2 PRESSURE**

There are only small scattered industrial areas in the townships of The Rock, Lockhart and Yerong Creek with no licensed emissions. Due to the size and nature of the industries in the Shire it would be considered that there are no major pollution sources.

Due to there being a low vehicle to area ratio compared to other major urban centres it would be expected that absolute total emissions from motor vehicles would have no significant impact.

### **3.3 STATE**

No tests have been undertaken to provide levels of particulates, toxic gases, lead in air, emissions, upper atmospheric conditions and climate change data.

Air pollution in the way of dust is considered to be the major concern in regard to air quality in summer and autumn; smoke from burning off in autumn and pollen in late spring -early summer. It is in this region that there is an associated high level of respiratory problems, such as hay fever and asthma due to pollen levels.

### **3.4 RESPONSE**

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Council attempts to address problems associated with air quality with public education and awareness, in cooperation with the Murrumbidgee Local Health District.

## **4. WATER**

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### **4.1 DESCRIPTION**

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#### **4.1.1 Surface Catchments**

Within the Lockhart Shire there are 16 named creeks, which are tributaries from the Murray and Murrumbidgee Rivers and their catchments. In addition there are several swamps and lakes such as, Grubben Swamp, Lake Cullivel and Lake Gilman in the Shire. Information with regards to these wetlands is limited.

Of the above list of creeks, six are classified as prescribed or protected streams, these being, Brookong, Dicks, Urangeline, Washpool, Bullenbong and Burkes Creeks. There are also two prescribed lakes, Lake Gilman and Grubben Swamp.

Water quality is greatly influenced by adjacent land use. When these creeks do run, water clarity is very poor due to the amount of soil being washed as runoff into the system and from the moving sediment load of the creek.

#### **4.1.2 Rainfall**

The average annual rainfall for the western part of the Shire in the Lockhart area is 456.5mm and 518mm for the eastern part of the Shire in The Rock area.

Severe floods affected the major towns in the Shire in 2010 and again in 2012, prior to which severe drought was rampant throughout the State.

#### **4.1.3 Stream Flow**

All creeks and streams in the Shire are intermittent (i.e. do not carry water all year round), and little information has been collated with regards to stream flow. In addition the fluctuations in seasons and the ephemeral nature make regular stream flow data collation a resource of uncertain accuracy and relevance. Major creeks in the Shire flooded however in 2010 and again in 2012.

### **4.2 PRESSURE**

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#### **4.2.1 Surface and Groundwater Use**

The process of listing each new and existing dam sites is an extensive one due to the number of rural properties and paddocks. Resources do not allow such a survey at this time.

Floodplain Risk Management Studies and Plans have been carried out for Lockhart and The Rock villages, with recommendations regarding mitigation measures now being considered.

#### **4.2.2 EPA Licensed Discharge**

Licensed discharges occur from the Lockhart treatment works into the Brookong Creek and from The Rock treatment works into the Burkes Creek.

Approximately 61,517kL of effluent was received at the Lockhart treatment plant which was predominantly of a domestic nature. Similarly, approximately 49,116kL of effluent was received at The Rock treatment plant.

#### **4.2.3 Recycled Effluent**

Council maintains an EPA licensed effluent re-use system at the Lockhart treatment plant. Recycled effluent is treated and utilised, under strictly monitored conditions, as a cheaper source of irrigation water for large areas of garden and turn within various locations of the Lockhart township. These sites include the Lockhart Recreation Ground, Walter Day Park, and the Lockhart Central School.

#### **4.2.4 Clearing of Riparian (Streamside) Zone**

An estimated 70% of streambanks in the Shire are kept well vegetated. The maintenance and re-vegetation of stream banks is a high priority in order to prevent streambank erosion.

#### **4.2.5 Polluting Events**

##### *Sewer Overflows*

No incidents were reported.

##### *Accidental Discharge*

No major incidents were recorded. To date no physical signs of contamination have occurred.

##### *Leachate from Landfills*

None evident from visual inspections. No groundwater evident in general proximity.

### **4.3 STATE**

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#### **4.3.1 Surface Water Environmental Flows**

##### *Modifications to Flow*

Lake Cullivel has had its major tributary cut off in an attempt by the landholder to dry out the lake and make it more agriculturally productive. The flow of the Brookong Creek was diverted by the construction of a bank, and now tends towards the Urangeline Creek. The overall effect of this increased flow has not been monitored. Flow into Lake Cullivel now only occurs in periods of intense rainfall and flooding of the creek systems.

Lake Gilman has also had flow reduced by the construction of a bank. Although the lake is approximately one kilometre from the nearest creek line, water recharges the lake through run-off from The Rock Hill range.

#### **4.3.2 Groundwater Recharge**

Details are presently unavailable. However, the rate of recharge is likely to be very slow.

#### **4.3.3 Streambed Conditions**

Few fish species are likely to be recorded due to the short length of time water flows in the creek lines. However, bird life is often diverse, but more surveying needs to be undertaken to assess this diversity. This region is affected by the NSW Draft Silver Perch Recovery Plan released in June, 2005.

### **4.4 RESPONSE**

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#### **4.4.1 Audit/Inspection/Monitoring Programs for Non-Scheduled Premises**

Bacteriological testing of pool water from The Rock and Lockhart pools is carried out to ensure compliance with bathing water standards.

#### **4.4.2 Riparian Zone Rehabilitation Programs**

##### *Extent and condition of riparian vegetation*

The Wattle Creek Landcare Group has undertaken rehabilitation and re-vegetation programs along Wattle Creek, north of the town Yerong Creek. The Brookong Landcare Group has also carried out tree planting within the Brookong catchment.

#### **4.4.3 Industry Pollution Reduction Programs**

The Rock, Lockhart and Yerong Creek are the only centres with any form of industrial activity within the Lockhart Shire. In these small townships, industrial premises are mixed throughout the commercial and residential areas. Various possible point sources of pollution include, garages/service stations, spray painters and workshops. Physical monitoring continues to take place in order to gauge the current position.

#### **4.4.4 Property and Catchment Planning (including use of rainwater tanks)**

Council has completed a Flood Study, Floodplain Risk Management Study and Plan in regards to the townships of Lockhart and The Rock. A draft final report was presented to Council in June 2014.

There are a large number of water tanks in the Shire, which are used predominantly on farms due to the inaccessibility of these properties to the town water supply. Some urban residents continue to install rainwater tanks in response to the drought, with the encouragement of Council.

#### **4.4.5 Stormwater Management and Control Works**

Urban stormwater systems continue to be monitored and upgrading works carried out where possible. Underground stormwater systems have been installed along Day street in Lockhart and Yerong Street in The Rock, to enhance diversion of stormwater directly through to the Brookong and Burkes Creeks respectively.

## 5 BIOLOGICAL DIVERSITY

### 5.1 DESCRIPTION

The Rock Hill Reserve and Galore Hill Reserve are the only areas within the Shire that are protected from grazing and have wildlife protection. These are limited areas of remnant bushland, unique in their appearance and their biodiversity.

Faunal diversity is great in remnant forests in the Shire. In The Rock Hill Nature Reserve alone, there are four species of amphibians, 94 species of birds, 12 species of mammals, and nine species of reptiles recorded, whilst at Galore Hill Reserve, 84 species of birds, four species of mammals and three species of reptiles have been recorded.

Floral diversity has been recorded from five sites within the Shire:

- Brookong State Forest – 112 species (including 34 introduced)
- Milbrulong State Forest – 127 species (including 37 introduced)
- Galore Hill Reserve – 190 species (including 47 introduced)
- Flowerpot Hill – 116 species (including 24 introduced)
- The Rock Nature Reserve – 205 species (including 50 introduced)

### 5.2 PRESSURE

#### 5.2.1 Introduced Species

*Animals* – Introduced animals such as feral cats, rabbits, hares and foxes find hollowed timber in verges and reserves and use this as their harbour/refuge. As a result of these animals, habitat and native animal populations are constantly under threat.

#### 5.2.2 Plants/Weed Invasions

The following weeds are listed in order of priority for treatment:

- (a) Coolatai grass – Small isolated infestations of this weed are located within the Shire, most predominantly along the Olympic Way and the Burkes Creek. All known sites are heavily monitored and treated accordingly.
- (b) St Johns Wort – 30% of Council's roads have medium to heavy infestations with a further 50% having isolated plants. All the roads with heavy infestations are also travelling stock routes.
- (c) Silverleaf Nightshade – Found scattered along two Council roads and in isolated patches along five others. The areas do not appear to be spreading at this stage.
- (d) Spiny Burrgrass – A small number of sites exist on Shire roadsides but these are kept under regular attention to ensure that the plant is controlled and eliminated.
- (e) Bathurst Burr – Isolated infestations of Bathurst Burr are found on roadsides throughout the Council area. Many properties had isolated plants but carried out good control work.
- (f) Horehound – Scattered throughout the Shire mostly as isolated plants and patches. Heavy patches still exist, mainly on back lanes and unused roads. Horehound is present on at least 40% of rural properties, mainly around sheds and stock yards and under trees.

#### 5.2.3 Land Clearing

Historically, the effect of land clearing would alter bird species diversity, more in favour of the parrots due to the change in food source through the abundance of grain crops. Present roadside reserves and creek lines support less in the way of native mammals, because they are often too narrow, and mammals require a larger home range.

In addition the Soil Conservation Act 1938 protects all land of grades greater than 18 degrees of having timber felled, in order to prevent erosion. Land which has this steeper slopes in the Shire is locked up in the Galore Hill and The Rock Nature Reserves.

#### 5.2.4 Fires

*Cause* – The probability that a fire will start is 60% human activity, such as ignition from exhausts, discarded cigarette butts and deliberate (rubbish tips), and 40% lightning strikes.

*Extent* – The fire season in the Shire is generally from October to March. The timing and length is dependent upon the degree of grass coverage and drought conditions in the district.

*Intensity* – The climatic influences in this area include very high temperatures in late December through to mid February together with high winds on occasions.

*Frequency* – In any given year Lockhart Shire experiences between 19-25 fire incidents.

*Management* – Fuel management strategies: The Aims

- (i) To identify fuels which constitute a hazard to life, property and other community values.
- (ii) Set strategies to be used to manage the accumulation of fuels in identified areas.
- (iii) To identify fuels which need to be managed to protect cultural heritage, natural, scenic and recreational features and to promote biodiversity.

Council continuously works with the NSW Rural Fire Service in regards to mapping and treating fire prone areas on a priority basis. The two bodies meet both locally and on a regional basis to identify and carry out activities as defined in management plans for each area/type of hazard.

## 5.3. STATE

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### 5.3.1 Local Native Plants and Animals

Species lists of native plants have been compiled and constructed by Geoff Burrows of Charles Sturt University – Riverina.

Further to this a roadside assessment has taken place which has identified local native plants and listed these according to roadside locations. Whilst this has not aimed to be a complete botanical survey, areas of significance have been identified. Copies of this report have been made available to the general public, Landcare groups, local educational institutions, Greening Australia and various government agencies.

Information is regularly obtained from the Murray Darling Association's Basin Bulletin and the Murray Darling Basin Authority and applied as appropriate to the local area. Further information is obtained from the NSW Scientific Committee under the Threatened Species Conservation Act, 1995.

### 5.3.2 Conservation Status

Listed below are rare plants and Schedule 12 fauna as compiled by the NSW National Parks and Wildlife Service (NPWS, 1995(a)). Species of plants and animals are listed with their last recorded sighting and for animals – their legal status in NSW.

#### (a) PLANTS

- Acacia adunca*, 2 August 1949.
- Brachycome muelleroides*, 18 September 1951.
- Brachycome papillosa* (Mossgiel Daisy), 5 August 1950.
- Swainsona murrayana* (Murray Swainson Pea), 13 September 1991.
- Swainsona plagiotropis* (Red Swainson Pea), 13 September 1991.
- Swainsona recta*, 11 October 1900.

#### (b) ANIMALS – Threatened

- Burhinus grallarius* (Bush Stone-Curlew), 7 February 1995.
- Litoria raniformis*, 24 April 1979.
- Macrotis lagotis* (Bilby), 31 December 1912.
- Pachycephala rufogular* (Red-lored Whistler), 22 April 1979.
- Pedionomus torquatus* (Plains-Wanderer), 21 October 1992.
- Xanthomyza phrygia* (Regent Honeyeater), 16 September 1988.

#### (c) ANIMALS – Vulnerable

- Cacatua leadbeateri* (Major Mitchell's Cockatoo), 31 January 1972.
- Falco hypoleucos* (Grey Falcon), 30 November 1983.
- Grus rubicunda* (Brolga), 14 November 1994.
- Lathamus discolor* (Swift Parrot), 20 May 1995.
- Neophema pulchella* (Turquoise Parrot), 1 October 1993.
- Oxyura australis* (Blue-billed Duck), 31 December 1978.
- Pachycephala inornata* (Gilbert's Whistler), 27 July 1994.
- Petaurus norfolcensis* (Squirrel Glider), 31 December 1993.
- Phascolarctos cinereus* (Koala), 3 October 1966.
- Polytelis swainsonii* (Superb Parrot), 29 September 1993.
- Rostratula benghalensi* (Painted Snipe), 18 November 1985.
- Stricktonetta naevosa* (Freckled Duck), 3 March 1993.

The lack of thorough survey work in recent years, in the way of trapping and marking animals for recapture, has meant that population sizes, structures and densities have not been ascertained. Through conducting these field studies, a better idea of the conservation status of each animal can be obtained as well as an understanding of the viability and status of the habitat.

### **5.3.3 Corridors and High Sensitivity Habitat**

Roadside verges and creek lines generally provide good habitat for many bird species. However, the suitability of trees as habitat is dependent upon the effect of human impact and the number of habitat trees present – in terms of competition. It is now Council policy that no trees are to be felled on public land in the Shire without permission. The benefit being that older mature trees with developed hollows will remain to provide nesting sites for birds and animals.

The roadside remnant vegetation survey carried out throughout the Shire has identified a number of possibilities for creating linkages and corridors for the movement of native fauna between habitat areas. Direct seeding work carried out by the Council, in conjunction with the former Catchment Management Authority, in an attempt to rehabilitate and preserve these linkages and corridors.

## **5.4 RESPONSE**

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### **5.4.1 Reservation and Planning Controls**

Both the Galore Hill and The Rock Nature Reserves are protected areas by the National Parks and Wildlife Service of NSW and Lockhart Shire Council respectively and are of local/state significance.

### **5.4.2 Fire Management Planning**

Hazard reduction activities are undertaken by Council staff during the year. These include slashing and spraying along roadside verges and around towns, villages, and some crown reserves (including Osborne Recreation Ground). Mitigation activities are also identified and prioritized for work by the NSW Rural Fire Service and Riverina Bush Fire Management Committee. Areas previously identified as high risk fuel sources include the Galore Hill Nature Reserve, The Rock Nature Reserve, Lockhart, The Rock and Yerong Creek villages, State Rail land, and State Forests. Static water storages for aerial fire fighting are located throughout the Shire and in neighbouring Shires.

### **5.4.3 Introduced Species Control Plan**

#### *Weed Control Programs*

Council's weed control program continues on public and private lands. Formal notices are issued where required however, in most instances compliance is achieved via educational and awareness campaigns.

#### *Feral Animals*

The problem of feral animals remains a point of concern as it does in many urban and rural areas. Appropriate advice is given where possible and educational campaigns reinforced.

### **5.4.4 Henty to Pleasant Hills Bird Trail**

In 2007, with the help of the Greater Hume Shire Council, Lockhart Shire Council and the Eastern Riverina Landcare Group, members of the community compiled a guide book titled "Henty to Pleasant Hills Bird Trail". This publication covered seven sites in the Shire and describes easy walking tracks and provides a comprehensive bird list for the information of members of the public.

## **6. WASTE**

### **6.1 PRESSURE**

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Council has reported to the NSW Environment Protection Authority that approximately of 3458 tonnes of waste has been delivered to landfill during the 2013-14 financial year. This includes waste collected through the kerbside collection and pickup programs, and any such waste delivered to landfill in person by residents and ratepayers. Of this waste, 138 tonnes has been diverted and transported to recycling centres, and includes items such as metal waste and electronics. Many more hundreds of tonnes has been diverted from landfill, but remains stored on site for future processing.

## 6.2 STATE

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Within the Shire there are five operating Council landfill sites. These are:

- Lockhart Garbage Depot – 9.417 Ha
- The Rock Garbage Depot – 4.16 Ha
- Milbrulong Garbage Depot – 4.9 Ha
- Pleasant Hill Garbage Depot – 4.148 Ha
- Yerong Creek Garbage Depot – 4.05 Ha

The Milbrulong landfill site has an expected life of 5 years, while the remaining sites have an expected life of more than 15 years. Previous problems encountered at Lockhart and The Rock depots in regard to windblown material have been in the main eliminated due to the installation of mesh fencing, and the covering of waste material with earth as required.

The depositing of demolition, industrial, building and bulk agricultural waste, e.g. fencing materials, is prohibited from the Milbrulong, Pleasant Hills and Yerong Creek tips to maximise the life span of these tips. They are accepted at the Lockhart and The Rock facilities.

Council continues to conduct its annual “kerbside pickup service”, this year offered for free to residents of the Lockhart, The Rock and Yerong Creek villages. This service assists residents in the disposal of large items of rubbish, other than household rubbish, that can be left on the front kerb of the property.

## 6.3 RESPONSE

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### 6.3.1 Recycling Programs

#### *Community recycling initiatives*

A drumMUSTER program for the collection of used chemical drums has operated for approximately 16 years, and in the financial year ending June 2014 Council has collected 10,386 drums. Collection events are now carried out by local community groups on behalf of the Council, and occur approximately twice annually at the Lockhart, The Rock and Pleasant Hills landfill sites.

A waste paper recycling bin is provided at the Rockmart store at The Rock by Kurrajong Recyclers of Wagga Wagga and is serviced by Council.

The Lockhart Lions Club also provides a drop-off facility in the Lockhart township for paper, cardboard, glass bottles and aluminium cans, which Council supports financially through transport and recycling contractor costs. All recyclable materials are taken to Kurrajong Recyclers of Wagga Wagga.

The Waste Management Forum formulated under Riverina Eastern Regional Organisation of Councils (REROC) is further investigating recycling issues.

#### *Council's recycling initiatives*

Following the introduction of kerb-side recycling in July 2010, Council has recorded hundreds of tonnes of recycled materials being diverted from landfill. In the financial year ending July 2014, 203 tonnes of recycled materials from domestic and commercial users was collected. Currently, approximately 70% of property owners in the Shire currently have access to kerb-side recycling.

At Council's landfill facilities and depots a significant amount of waste is diverted from landfill for recycling. Such products include waste oil, batteries, E-waste (computers, televisions), metal waste, concrete and bricks.

In addition, Council also operates a chipper which it uses to shred prunings from street trees and shrubbery. A greenwaste disposal point is located at each landfill site, and Council is conducting a trial composting program at the Lockhart greenwaste site, with the end product to be used in place of similar products purchased externally to the Shire.

### 6.3.2 Clean-Up Programs

Clean-up Australia Days have been operating in Lockhart for the past ten years. In recent years, the response has been very good with specific areas able to be targeted and good results achieved.

Unused, unknown or expired domestic, commercial and agricultural chemicals which are no longer required are being collected through Council-run programs.

Council has spent considerable funds for upgrading works at garbage depots, with the majority being spent on fencing act as a barrier to illegal dumping, while providing an effective windbreak.

### 6.3.3 Normal Council Collection Programs

Residual kerbside waste collections are conducted on a weekly basis, with the service available to all villages. Approximately 1045 households have the collection service available to them, collecting approximately 467 tonnes of residual waste collected annually.

Each of the Council's five landfill facilities are open at least once per week, with the Lockhart and The Rock facilities open every second weekend for residents. Each facility has restrictions on what wastes are accepted, and this is monitored by a trained Council staff member.

## 7. NOISE

### 7.1 PRESSURE

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#### 7.1.1 Transport

Traffic by way of cars and trucks is more concentrated in built-up areas than it is in the rural sector, therefore traffic related noise is somewhat more concentrated in the urban areas.

#### 7.1.2 Industrial Sources

Due to the low concentration and nature of industrial sites in the Shire is considered to be little significant noise pollution problems. Once complaints are received on specific industries a base line can be developed on point sources.

### 7.2 STATE

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Transport noise would be the main type of noise pollution evident in this Shire, particularly at The Rock and Yerong Creek, where the main Sydney-Melbourne railway line and the Olympic Highway bisect the townships. No scientific studies have been undertaken on this issue as noise pollution is not of great concern to residents.

Noise resulting from the keeping of animals in village areas has been the only source of complaint in regard to noise issues. Complaints generally refer to barking dogs, and in each instance the matter has been dealt with at the time of complaint.

### 7.3 RESPONSE

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There is generally no consistent data to suggest that there exists any form of ongoing noise problems within the Shire necessitating the need for the construction of traffic noise barriers or Council codes to limit such noise. Isolated complaints are dealt with when received, with the assistance of the NSW EPA as appropriate.

## 8 ABORIGINAL HERITAGE

Although no aboriginal sites of heritage significance have been discovered in the Shire there have been a number of other sites and artifacts discovered.

The archaeology of the Lockhart Shire is part of a distinctive pattern found on the Riverine Plain, which have been dated to 14,000 years, but most are believed to be less than 3,000 years. Artifacts which have been found in the Riverine Plain include, fired clay balls- used for baking food, large artificial deposits or mounds made of fired clay, and stone tools – axes, other cutting implements and seed grinders. Scarred trees, where bark has been removed for various reasons – for making canoes and shields, are widespread and in some locations very abundant. Burials have also been well preserved in this region and are common.

Current known sites to the Council are:

- (i) Location: North-west side of Galore Hill.  
Artifacts: Stone tools, burnt clay.
- (ii) Location: Between French Park and Wetmores Lane along Lockhart The Rock Road within the roadside verge.  
Site Type: Numerous scarred trees, all are of the same species *Eucalyptus microcarpa* (Grey Box).
- (iii) Location: Bullenbong Creek  
Artifacts: Middens and stone tools.
- (iv) Location: Withheld  
Artifacts: 1 burial, 1 shelter with deposit, 1 mound, numerous scarred trees.

Assessments carried out for the Environmental Impact Statements associated with the Wodonga-Wagga Wagga gas pipeline and once proposed Lockhart Recreational Lake has revealed various artifacts located

within the immediate vicinity of each proposal. In each instance the relevant Land Council has been contacted and joint survey work carried out. No artifacts of significance are in danger of destruction and every effort will be made to preserve other artifacts.

## 9 NON-ABORIGINAL SITES

### *Conservation Zones*

Within the Lockhart Shire there are three Heritage conservation areas as noted in the Lockhart Local Environmental Plan 2012, these being in Lockhart, The Rock and Yerong Creek. These streetscapes were identified as significant by the National Trust of Australia (NSW). These areas have been classified in order to preserve existing buildings where possible and new developments should take into consideration the special qualities that the area possesses and not be in conflict with these.

- Lockhart has been listed because of its continuous lines of verandah posts on both sides of the main street in the central area. This same area is a good example of the turn of the century architecture.
- The Rock preserves much of its original twentieth century character, derived from its wide park-like main street and the visual domination of The Rock Hill.
- Yerong Creek has a wide, well-kept slightly bent main street, offering a sense of enclosure. Buildings were constructed between 1880 and 1910 and are in reasonable condition.

*Heritage Items* – In the 2012 Lockhart Local Environmental Plan, 14 heritage items were listed. The items so listed have special statutory provisions pertaining to their protection as listed below.

A person shall not, in respect of a heritage item (except with consent of council):

- (a) demolish or alter the building or work;
- (b) damage or move the relic, including excavation for the purpose of exposing the relic;
- (c) damage or despoil the place or tree;
- (d) erect a building on or subdivide land on which the building, work or relic is situated or that comprises the place; or
- (e) damage any tree on land which the building, work or relic is situated or on land which comprises the place.

This list of significant heritage items and conservation areas was compiled from a list of buildings and places suggested by the Council and the National Trust.

## 10. CONCLUSION

Overall there have been some important changes and increases in community awareness of environmental issues over the reporting period 1 July 2013 to 30 June 2014.

Assessment of trends is based on qualitative measures and indicates that the land resource is still under significant pressure, and that land degradation is increasing in areas of soil acidity, rising groundwater and salinity. The biodiversity of terrestrial ecosystems has remained relatively stable over recent time, with the greatest pressures being in the terrestrial systems.

The environmental sectors of noise and air pollution are essentially unchanged since the last reporting period, but are considered to be of no great significance in the Lockhart local government area.

The often unregulated pressures on Aboriginal heritage can potentially cause the loss of valuable heritage items giving a negative trend in this regard. This is compensated for by the increased awareness and protection measures for Aboriginal Heritage provided under the Lockhart Local Environmental Plan 2012. Non-aboriginal heritage has also remained stable throughout the reporting period, however is constantly under threat from less vigilant property owners.