



Lockhart Shire Council

**PO Box 21
LOCKHART NSW 2656**

State of the Environment Report (Group 3 – Supplementary)

1 July 2011 to 30 June 2012

Ref: s428A, NSW Local Government Act 1993

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1 July 2011 to 30 June 2012

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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:

- Department of Environment and Climate Change and Water
- National Parks and Wildlife Service
- NSW Department of Primary Industry
- Bureau of Meteorology
- Hume Livestock Health and Pest Authority
- NSW Fisheries
- CSIRO Land and Water
- The National Landcare Program
- National Heritage Trust

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. Lockhart Shire Council is a Group 3 Council under the new integrated planning and reporting regime.

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

2.1.1 Soils/Geology

The Rock Hill and Bulloc Bulloc 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 a.m.s.l., and the lowest point of 140m a.m.s.l. 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

2.2.1 Major Land use

Urban Development

Areas for urban development are currently defined in the Lockhart Local Environment Plan (LEP) 2004 and at this time there is only minimal pressure to extend these areas. This matter is being reviewed with the current review of the LEP.

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 (i) fires, (ii) introduced animals (goats, hares, and rabbits), (iii) weed invasions and (iv) recreation pressures, which are all likely to reduce the quality of the resource. Due to ongoing education and awareness, many people increasingly recognise 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 carry on 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

They have an expected life of more than 15 years. Problems previously encountered at landfill sites included the spread of windblown litter and indiscriminate tipping, although this latter problem has been successfully addressed with the 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).

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 Conservation Act 1997 and consultation with the Department of Environment and Climate Change and Water (DECCW) must take place prior to any clearing works.

2.2.4 Urban Construction (housing and road works)

There are no current firm plans for extensions to existing urban areas, with development in existing areas being infill type development. The possibility of establishing further 1(c) - Rural Small Holdings land reviewed with the review of the LEP currently underway.

Council has a total road length of approximately 1,595km, divided as follows:

Main Roads (sealed)	142.24km
Sealed Local Roads	445.00km
Gravel Local Roads	758.00km

2.3 STATE

2.3.1 Land Degradation

There are a number of major land degradation types existing in the Lockhart Shire, 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

Moderate cases of erosion are present in the creek line alongside Gap Road and Brookong Creek, north and south of Lockhart. The Upper Urangeline Creek, north-west to south-west of Pleasant Hills has severe erosion.

Dryland Salinity

Only two saline outbreaks have been identified from DECCW 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. Mr R Britten from the (then) Department of CaLM completed a preliminary study of this area, indicating that saline discharge sites are localised. Further work is being carried out by the Brookong Landcare group in relation to piezometer readings and planting of perennial pastures. Work in this area is also being undertaken by the Alma Park-Pleasant Hills Landcare group. Again, dryland salinity remains in check due to the extended period of drought currently being experienced in this area.

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.

2.4 RESPONSE

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 2004 (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 – Council's ongoing planting program continues within the urban areas, 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 approx. 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 Rural Lands Protection Boards, Department of Environment & Conservation and Private Landholders.

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

2.4.4 Property Vegetation Plans

Council has recorded a total of 47 incentive property vegetation plans under the Native Vegetation Act 2003 since March 2007, representing a 9.3% increase on last year. These plans provide for voluntary, but binding, compliance with property vegetation plans, which are agreed between, in the case of Lockhart Shire Council, the Murrumbidgee Catchment Management Authority or the Murray Catchment Management Authority 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

3.1 DESCRIPTION

Air quality is generally considered to be good. However, there are some seasonal problems pertaining to 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

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

4. WATER

4.1 DESCRIPTION

4.1.1 Surface Catchments

Within the Lockhart Shire there are 16 named creeks, which are tributaries from the Murray and Murrumbidgee River and their catchments. In addition there are several swamps and lakes such as, Grubben swamp, Lake Cullivel and Lake Gilman in the Shire, however, 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. A severe drought has affected the area for, in general terms, the past few years in general, although severe floods affected the major towns in the Shire in 2010 and again in 2012.

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

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.

A minor levee bank was constructed along the Brookong Creek in the Lockhart township to protect the urban area from flooding, however extensive flood mitigation works are now underway following the recent severe flood events.

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 62,550kL of effluent was received at the Lockhart treatment plant which was predominantly of a domestic nature.

4.2.3 Clearing of Riparian (Streamside) Zone

An estimated 95% 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.

4.2.4 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

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

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. Testing was also carried out on Burkes and Brookong Creeks to establish bacteria levels upstream and downstream of discharge points from respective sewerage treatment plants.

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)

The (then) Department of Land and Water Conservation recently produced a "State of the Rivers" Report, which discussed the current health and developed models to assist management planning for improved water quality in the Murrumbidgee Catchment.

There are presently four active Landcare groups in the Shire. These groups aim to address a broad range of environmental problems both on a property and a catchment scale.

Council has appointed consultants to carry out a Floodplain Management Study in regard to the township of The Rock. The final draft report has been received and is being reviewed by Council.

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. Increasingly, urban residents are installing rainwater tanks in response to the drought, with the encouragement of Council.

4.4.5 Stormwater Management and Control Works

Urban stormwater systems will continue to be monitored and upgrading works carried out where possible.

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. Native animals have not had to deal with the ferocity and voraciousness of predators like foxes and cats before and as a result numbers would well have dwindled. In addition non-selective feeders such as goats have been sited in The Rock Reserve; however, their impact on native vegetation has not fully been assessed. Literature regarding feeding habits by goats indicates that they can have a devastating effect on vegetation.

5.2.2 Plants/Weed Invasions

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

- (a) St Johns Wort – 20% of Council's roads have medium to heavy infestations with a further 30% having isolated plants. All the roads with heavy infestations are also travelling stock routes.
- (b) 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.
- (c) 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.
- (d) Paterson's Curse – The majority of roadsides are infested to some extent with the exception being those roads adjacent to properties free of Patersons Curse. The heaviest infestations are found on small holdings close to towns and villages where pasture establishment and cropping is not a priority.
- (e) 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.
- (f) Spiney Burr Grass – A small number of sites exist on Shire roadsides but these are kept under regular attention to ensure that the pest is eliminated.

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 depending on 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.

In 2012 Council cooperated with the NSW Rural Fire Service in a program which will see the mapping of all bush fire prone Council land, with specific plan of management for each area/type of hazard

5.3. STATE

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 grillarius* (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.
- Xanthmyza 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 the conduction of 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. These possibilities need to be investigated and already one landcare group has taken action to create such a corridor.

5.4 RESPONSE

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

The Lockhart Shires Hazard Reduction program is found in the Council's Fuel Management Plan. It identified the following areas as requiring fuel management: Galore Hill, The Rock Nature Reserve, Lockhart, The Rock and Yerong Creek, SRA Land, State Forests. Static water storages for aerial fire fighting have recently been provided at the Lockhart aerodrome and, more recently, at Henty aerodrome in cooperation with Greater Hume Shire Council.

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

Figures are only available for urban areas where a total of approximately 627 tonnes of domestic waste was collected via household collection services.

6.2 STATE

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

They have an expected life of more than 20 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 presence of an operator at each depot while it is open to the public.

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

For the past three years Council has arranged a “kerbside pickup service” for all villages in the Shire. This service assists residents in the disposal of large items of rubbish, other than household rubbish, that can be left on the footpath. If access is available, Council will use a loader to remove larger items such as car bodies. The “kerbside pickup service” is free of charge and is advertised for each village.

6.3 RESPONSE

6.3.1 Recycling Programs

Community recycling initiatives

A DrumMUSTER program for the collection of used chemical drums has operated for approximately eight years.

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.

A large skip-style bin has been installed in the grounds of Yerong Creek Public School and again, recyclable material is transported to Kurrajong Waratah in Wagga Wagga.

The Lockhart Lions Club also provides a drop-off facility in the Lockhart township for paper, cardboard, glass bottles and aluminium cans. All recyclable materials are taken to Kurrajong Recyclers of Wagga Wagga.

Council also operates a chipper which it uses to shred prunings from street trees and shrubbery. A lawn clippings disposal point is located at the Lockhart tip site. It is then composted and used on Council parks and reserves plantings.

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

Attempts have been made by Council to promote recycling in order to reduce landfill. No facts or figures have been produced, stating the amount or type of waste generated by households annually. Trends in waste generation can be established in several years, and with this information, life expectancy of landfill sites and effective waste minimisation strategies can be implemented and targeted at various recyclable materials.

6.3.2 Clean-Up Programs

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

Containers/receptacles of agricultural chemicals which are not recyclable are being disposed of in normal landfill sites; however, triple rinsing of containers is being practiced as a normal management routine to limit contamination.

Council has recently spent considerable funds for upgrading works at garbage depots, with the majority being spent on tree planting and fencing off of tree lots to act as a visual barrier and act as an effective windbreak.

6.3.3 Normal Council Collection Programs

Collections in the Shire are undertaken once per week at Yerong Creek, The Rock and Lockhart. Opening times at Council's two principle garbage depots, i.e. The Rock and Lockhart, have been restricted and an attendant is present when these depots are opened to ensure that waste material is promptly covered and excluded wastes are not tipped.

7. NOISE

7.1 PRESSURE

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

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 Way 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. Such complaints are infrequent and few in number. In each instance the matter has been dealt with at the time of complaint.

7.3 RESPONSE

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 The Rock – Lockhart 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 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 urban conservation zones (refer to Appendices VIII, IX and X), as noted in Council's Environmental Study (1992), 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 2004 Shire of Lockhart Draft 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:

- (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, except with consent of council.

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 2011 to 30 June 2012.

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 2004. Non-aboriginal heritage has also remained stable throughout the reporting period, and is not adversely threatened due to controls imposed by these plans.