

Lockyer Area Management Statement 2013

Park size:	Lockyer National Park	11,079ha
	Lockyer National Park (Recovery)	7,790ha
	Lockyer State Forest	818ha
	Lockyer Resource Reserve	612ha
Bioregion:	South Eastern Queensland	
QPWS region:	South East	
Local government estate/area:	Lockyer Valley Regional	
State electorate:	Lockyer	

Legislative framework

✓	<i>Aboriginal Cultural Heritage Act 2003</i>
✓	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
✓	<i>Forestry Act 1959</i>
✓	<i>Native Title Act 1993 (Cwlth)</i>
✓	<i>Nature Conservation Act 1992</i>
✓	<i>Queensland Fire and Rescue Service Act 1990</i>

Plans and agreements

✓	China–Australia Migratory Bird Agreement
✓	Japan–Australia Migratory Bird Agreement
✓	Republic of Korea–Australia Migratory Bird Agreement

Thematic strategies

✓	Level 2 Fire Management Strategy
✓	Level 2 Pest Management Strategy

Vision

The Lockyer area is of statewide biodiversity significance and part of one of the largest intact pieces of habitat in South East Queensland. It is a strategically important habitat for numerous species of conservation significance including the brush-tailed rock-wallaby *Petrogale penicillata* and spotted tailed quoll *Dasyurus maculatus maculatus*. The area will be managed to conserve the high biodiversity values and provide an important local green-space with passive and active outdoor recreation.

Conservation purpose

The Lockyer area is made up of Lockyer National Park (2,677ha), Lockyer National Park (Recovery) (7,790ha), Lockyer Resource Reserve (612ha) and Lockyer State Forest (818ha). Lockyer National Park and Lockyer National Park (Recovery) were gazetted as national parks in 2008 as part of the South East Queensland Forests Agreement (SEQFA) process, in recognition of the important biodiversity and conservation values of the former Lockyer Forest Reserve and White Mountain Forest Reserve.

The two remaining State forest blocks are classified as part A under the SEQFA (combined area of 818ha). Part A areas are those that have a higher level of interest for conservation groups and are only to be harvested if required to make up any shortfall in wood supply under the 25-year timber supply agreement entered into with sawmills (DERM 2011). Lockyer is located approximately 20km by road from the major regional centre of Toowoomba, about 6km north of Gatton and about 3km from the township of Helidon.

Protecting and presenting the area's values

Landscape

The predominant underlying geology of the area is mainly sandstone with isolated patches of basalt, providing sandstone ridges and sandy soils. It has formed a steep and rugged landscape with gorges, exposed cliff lines and waterfalls in the foothills of the Great Dividing Range.

The Lockyer area forms part of the Lockyer Creek catchment and its neighbours include rural properties, orchards, explosives storage and production, commercial sandstone mining, poultry farms, hobby farms and the South Queensland Prison Precinct. The Lockyer Valley is a major agricultural production region in Australia.

The prison, located to the east, is one of the largest neighbours on a 680ha site and will accommodate 3,500 prisoners.

The Powerlink Springdale to Halys 550kV transmission line easement is located on the eastern boundary; a construction date of the new transmission line is yet to be determined.

The explosives industry located on the southern boundary includes the storage of munitions and the manufacture of fireworks. A rifle range located next to the explosive precinct is run by the Toowoomba Pistol Club, operating most Sundays.

Regional ecosystems

Lockyer conserves several regional ecosystems of conservation significance (Table 1). There are two regional ecosystems of concern—12.3.2 (wet sclerophyll) tall open-forest with vine forest understorey and 12.9–10.3 grey box *Eucalyptus moluccana* +/- spotted gum *Corymbia citriodora* open-forest. There are two endangered regional ecosystems—12.5.6 grey ironbark *Eucalyptus siderophloia*, grey gum *E. propinqua* and/or blackbutt *E. pilularis* open-forest and 12.3.3 forest red gum *Eucalyptus tereticornis* open-forest to woodland.

There are 10 regional ecosystems represented within the Lockyer area classified as of no concern at present under the biodiversity status. The main vegetation communities are eucalypt open-forest to woodland with grassy understorey and shrubby open-forest to woodland, dominated by narrow-leaved red ironbark *Eucalyptus crebra*, bailey's stringy bark *Eucalyptus baileyana*, Helidon Hills white mahogany *Eucalyptus helidonica*, needle barked stringybark *Eucalyptus planchoniana*, forest red gum *Eucalyptus tereticornis*, spotted gum *Corymbia maculate* and blackbutt *E. pilularis*.

Native plants and animals

Several significant plant and animal species are listed for the Lockyer area (Table 2) and a total of 1,012 species of plants and animals have been listed for the area.

The vulnerable Helidon Hills phebalium *Leionema obtusifolium*, Helidon ironbark *Eucalyptus taurina*, and four tailed grevillea *Grevillea quadricauda* are found in the Lockyer area. The near threatened mountain guinea flower *Hibbertia monticola* has also been recorded.

Vulnerable animals include the powerful owl *Ninox strenua*, long-nosed potoroo *Potorous tridactylus*, brush-tailed rock-wallaby *Petrogale penicillata*, koala *Phascolarctos cinereus*, red goshawk *Erythrorchis radiatus* and collared delma *Delma torquata*. These species rely on the protected habitat that is no longer found in the surrounding area. Several bird species are also listed under international agreements (Table 3).

There has been a history of foliage harvesting for the florist industry including foxtail fern *Caustis blakei* subsp. *macrantha* and bracken fern *Pteridium esculentum*. This activity no longer occurs.

Aboriginal culture

The creeks and ridgelines were once Aboriginal pathways and Seventeen Mile Road was a primary route to the mountain areas of Ravensbourne and Crows Nest, en route to the Bunya Mountains for the bunya festival. Artefact scatters and axe grinding grooves sites are located throughout the Lockyer area.

Traditional Owner groups—Jagera, Western Wakka Wakka, Jarowair, Ugarapul and Yuggara Yaggera—have an interest in the area. A current native title claim (QC03/015) held by the Jagera people covers Lockyer.

Shared-history culture

Lockyer has been used for many purposes, sandstone mining, native timber harvesting, grazing, apiculture and recreation. The army has a history of using the area for training exercises.

The Wright's Helidon Quarry located on Lockyer Resource Reserve and Lockyer State Forest is a historic example of early quarrying, with evidence of trenches hand cut with picks and the remains of a steam engine crane.

The majority of native timber harvested was white mahogany *Eucalyptus acmenoides* or stringy bark.

Tourism and visitor opportunities

Lockyer provides a range of recreational opportunities. The protected area west of Seventeen Mile Road is limited to low impact activities such as bushwalking and orienteering. The protected area east of Seventeen Mile Road provides 15km of roads open to the public for vehicle-based touring operating fully road registered four-wheel-drive motor vehicles and motor bikes. Bushwalking, orienteering and mountain bike riding are also encouraged in that area.

Inappropriate recreation activities by four-wheel-drive motor vehicles and motorbikes are evident at entry nodes and illegal tracks throughout the area have had an environmental and visual impact.

The area has a history of vandalism of gates and signage. The number of visitors is currently unknown and there are no plans to build recreation infrastructure in the near future.

Commercial activities

The current commercial activities are beekeeping and timber harvesting.

Education and science

The area is used by students from the University of Queensland Gatton campus to conduct research programs on a wide range of topics from recreation management to habitat utilisation by native wildlife. Queensland Parks and Wildlife Service (QPWS) conducts research into bush fire activity.

There are a number of current scientific purposes permits in the Lockyer Area.

Partnerships

Cooperative partnerships with Lockyer Valley Regional Council, Powerlink, Queensland Fire and Rescue Service (QFRS) and park neighbours are maintained to assist in the protection of the park and its values. These partnerships are essential for effective pest and fire management.

Other key issues and responses

Pest management

A Level 2 pest management strategy identifies priority pests and control measures. Targeted pest plants including lantana *Lantana camara* and horse gram *Macrotyloma uniflorum* are spreading through the open forest communities and smothering the native understorey vegetation. Observations of the impact of prescribed burning on these pest plants should be made. Other pest plants of significance include ochna *Ochna serrulata*, mistflower *Ageratina riparia*, groundsel bush *Baccharis halimifolia*, easter cassia *Senna pendula* and camphor laurel *Cinnamomum camphora*. Exotic grasses including giant rat's tail grass *Sporobolus pyramidalis*, panic grass *Megathyrsus maximus*, vasey grass *Paspalum urvillei*, *Paspalum mandiocanum*, whiskey grass *Andropogon virginicus* and Parramatta grass *Sporobolus africanus* are spreading along the fire trails in the park. These grasses will spread into the body of the park if left untreated and represent a serious threat to native grass species through competition.

Panic grass impacts on native forest regeneration and also represent a serious fire hazard as it accumulates large amounts of biomass which generates hotter fires and higher flame heights when burnt.

Pest animals throughout this region include; feral red deer *Cervus elaphus* and feral fallow deer *Dama dama*, wild dogs *Canis lupus familiaris*, red fox *Vulpes vulpes*, feral cats *Felis catus*, horses *Equus caballus* and feral pigs *Sus scrofa*; their impact on the estate is presently unknown.

Pest plants often first appear at park entrances and boundaries. Changes in environmental conditions can lead to a spread of pest plants and change the structure of native vegetation. Early intervention and coordinated management with local governments and neighbours will help to stop pest plants from spreading into the park.

Fire management

The open eucalypt forest based communities of Lockyer require periodic fire to maintain structural and species diversity, reduce weeds and to mitigate against the possibility of catastrophic wildfire. Appropriate fire management will also help protect fire sensitive vegetation communities including riparian areas from wildfire.

The Level 2 fire management strategy for Lockyer aims to reduce the risk of high intensity wildfire through maintaining good relationships with QFRS, Lockyer Valley Regional Council and park neighbours and landowners.

The area has a history of arson with some areas being ignited on average every 2–3 years recorded since 1990, while others feature long periods without fire followed by intense wildfire. The White Mountain section of the national park and national park (recovery) has been subjected to severe wildfire resulting in significant damage.

Appropriate fire management can be used to help control pest plants such as lantana at the landscape level. Future fire management should aim to assess the effect of planned burning on emerging pest plant species including lantana. The use of low to moderate severity fire, when weather patterns are more predictable with good soil moisture will be beneficial in the reduction of carbon dioxide equivalent emissions released compared to a wildfire in extreme weather conditions.

Lockyer has a significant rural residential interface which requires careful fuel and fire management close to park boundaries. Many of the neighbouring residences are in high risk areas with insufficient buffer zones which increases the potential threat to life and property.

References

Department of Environment and Resource Management 2010 *South East Queensland Natural Resource Management Region Back on Track Actions for Biodiversity*, Department of Environment and Resource Management, Brisbane.

Queensland Parks and Wildlife Service 2011 *Fire Strategy; Lockyer Area Draft*, Queensland Parks and Wildlife Service, Brisbane.

Management directions

Desired outcomes	Actions and guidelines
<p>Native plants and animals</p> <p>Biodiversity values are understood and protected.</p>	<p>A1. Record observations of species of conservation significance to help inform fire and pest management programs.</p>
<p>Tourism and visitor opportunities</p> <p>Visitors enjoy a range of settings and opportunities for safe and sustainable outdoor recreation.</p> <p>Minimise vandalism and offensive behaviour.</p>	<p>A2. All vehicle based recreation will occur on public access roads east of Seventeen Mile Road.</p> <p>A3. The park retains its natural state for the use of self-reliant visitors.</p> <p>A4. Continue to maintain the existing trail network in good condition, including maintaining and slashing of fire trails as required.</p> <p>A5. Monitor and counteract vandalism and offensive behaviour by:</p> <ul style="list-style-type: none"> • maintaining ranger presence throughout the park • working with the Queensland Police Service • conducting regular patrols including weekends.
<p>Partnerships</p> <p>Maintain good partnerships to enhance park management.</p>	<p>A6. Facilitate cooperative relationships with the local community, Lockyer Valley Regional Council, Powerlink and Traditional Owners to address management issues.</p> <p>A7. Support volunteer groups conducting natural resource management projects under QPWS direction and use updated information to guide management.</p>
<p>Pest management</p> <p>The impact of pest plants and animals on conservation values is minimised.</p>	<p>A8. Continue to review and implement the Level 2 pest management strategy with an emphasis on reducing the spread of lantana, exotic grasses and coordinating pest plant and fire management.</p> <p>A9. Develop a vertebrate pest monitoring program to drive management actions.</p>
<p>Fire management</p> <p>Fire is managed in accordance with the fire management strategy.</p>	<p>A10. Develop a Level 2 fire management strategy.</p>

Tables – Conservation values management

Table 1: Endangered and of concern regional ecosystems

Regional ecosystem number	Description	Biodiversity status
12.3.2	<i>Eucalyptus grandis</i> tall open forest on alluvial plains.	Of concern
12.3.3	<i>Eucalyptus tereticornis</i> , open-forest to woodland on alluvial plains.	Endangered
12.5.6	<i>Eucalyptus siderophloia</i> , <i>E. propinqua</i> and/or <i>E. pilularis</i> open-forest +/- <i>Corymbia intermedia</i> , <i>E. microcorys</i> , <i>E. acmenoides</i> , <i>E. tereticornis</i> , <i>E. biturbinata</i> , <i>Lophostemon confertus</i> with <i>E. salingna</i> , <i>E. montivaga</i> at higher altitudes. Occurs on remnant Tertiary surfaces.	Endangered
12.11.9	<i>Eucalyptus tereticornis</i> open forest on metamorphics +/- interbedded volcanics. Usually higher altitudes.	Of concern

Table 2: Species of conservation significance

Scientific name	Common name	Nature Conservation Act 1992 status	Environment Protection and Biodiversity Conservation Act 1999 status	Back on Track status
Animals				
<i>Calyptorhynchus lathamii</i>	glossy black-cockatoo	Vulnerable	-	-
<i>Chalinolobus picatus</i>	little pied bat	Near threatened	-	Medium
<i>Delma torquata</i>	collard delma	Vulnerable	Vulnerable	High
<i>Ninox strenua</i>	powerful owl	Vulnerable	-	Medium
<i>Petrogale penicillata</i>	brush-tailed rock-wallaby	Vulnerable	Vulnerable	High
<i>Phascolarctos cinereus</i>	koala (southeast Queensland bioregion)	Vulnerable	-	High
<i>Potorous tridactylus tridactylus</i>	long-nosed potoroo	Vulnerable	Vulnerable	Medium
<i>Pteropus poliocephalus</i>	grey-headed flying-fox	Common	Vulnerable	Critical
Plants				
<i>Eucalyptus taurina</i>	Helidon ironbark	Vulnerable	-	Low
<i>Grevillea quadricauda</i>	four tailed grevillea	Vulnerable	Vulnerable	Low
<i>Hibbertia monticola</i>	mountain guinea flower	Near threatened	-	Low
<i>Leionema obtusifolium</i>	Helidon hills phebalium	Vulnerable	Vulnerable	Low
<i>Paspalidium</i>	-	Vulnerable	Vulnerable	Low

<i>grandispiculatum</i>				
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Table 3: Bird species listed in international agreements

Scientific name	Common name	Bonn	CAMBA	JAMBA	ROKAMBA
<i>Hirundapus caudacutus</i>	white-throated needletail	-	✓	✓	✓
<i>Ardea ibis</i>	cattle egret	-	✓	✓	-
<i>Merops ornatus</i>	rainbow bee-eater	-	-	✓	-
<i>Coracina tenuirostris</i>	cicadabird	-	-	✓	-

Bonn – Bonn Convention

CAMBA – China–Australia Migratory Bird Agreement

JAMBA – Japan–Australia Migratory Bird Agreement

ROKAMBA – Republic of Korea–Australia Migratory Bird Agreement