

Plan of Management



Leard State Conservation Area

Leard Community Conservation Area Zone 3

LEARD STATE CONSERVATION AREA
Community Conservation Area Zone 3
PLAN OF MANAGEMENT

NSW National Parks and Wildlife Service

November 2012

This plan of management was adopted by the Minister for the Environment on 7 November 2012.

Acknowledgments

This plan of management is based on a draft plan prepared by staff of the Northern Plains Region of the NSW National Parks and Wildlife Service (NPWS), part of the Office of Environment and Heritage, Department of Premier and Cabinet.

The NPWS acknowledges that this reserve is in the traditional country of the Gamileroi people.

Cover photograph: Jessica Stokes, NPWS.

For additional information or any inquiries about this reserve or this plan of management, contact the NPWS Narrabri Area Office, 100 Maitland St (PO Box 72), Narrabri 2390 or by telephone on 6792 7300.

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FOREWORD

Leard State Conservation Area covers 1,176 hectares and is located in the north-west plains region of NSW, approximately 40 kilometres south-east of Narrabri and 15 kilometres north of Boggabri. It was reserved as a state conservation area (Community Conservation Area Zone 3) on 1st December 2005.

Leard State Conservation Area occupies an outlying arm of the Nandewar Range and contains a variety of woodland communities. It forms part of a corridor of vegetation linking Mount Kaputar National Park to the north with the Pilliga forest reserves to the south. The corridor provides refuge for many species at the western edge of their range and for ecosystems which have been heavily cleared elsewhere. Leard State Conservation Area contains two endangered ecological communities and provides habitat for numerous woodland bird and microbat species.

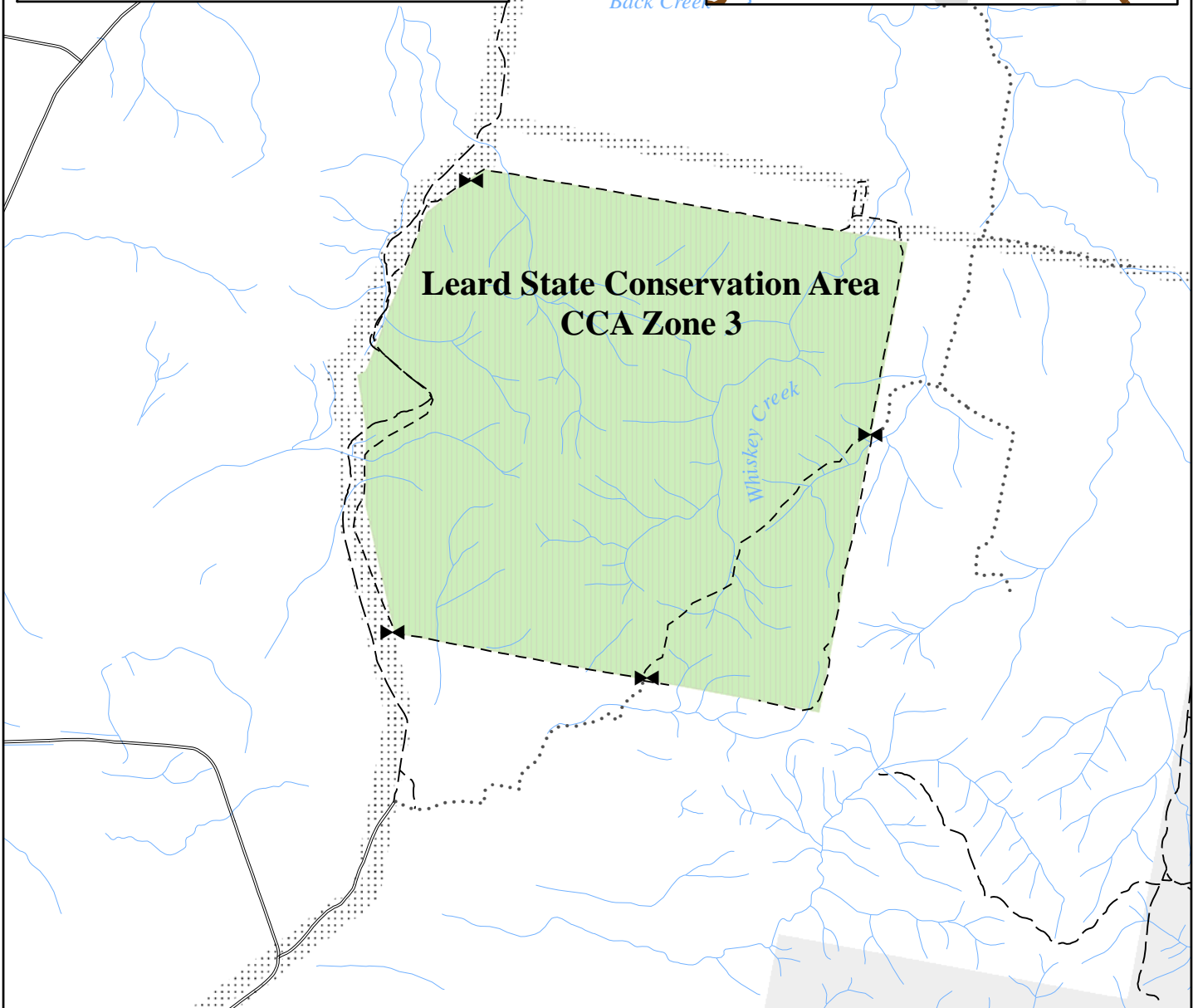
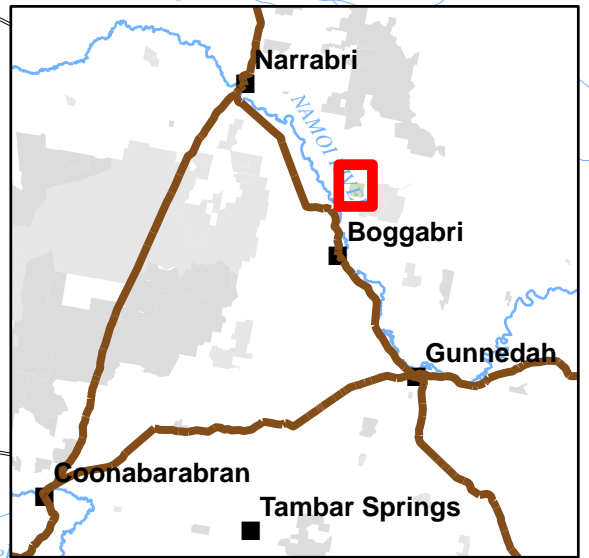
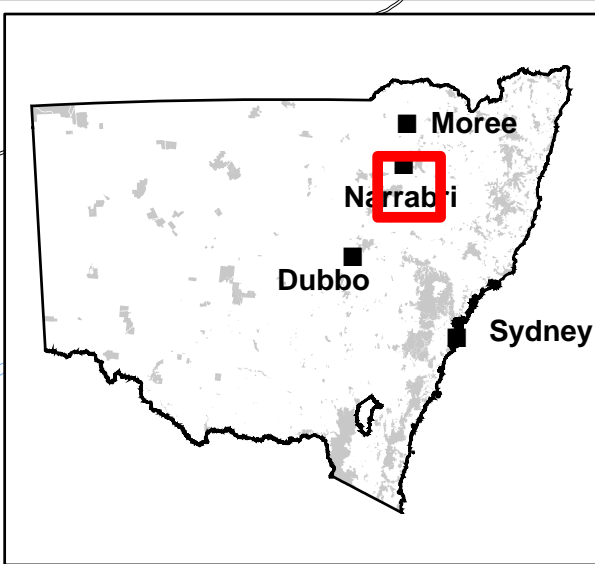
The New South Wales *National Parks and Wildlife Act 1974* requires that a plan of management be prepared for each state conservation area. A draft plan of management for Leard State Conservation Area was placed on public exhibition from 20 May to 29 August 2011. The submissions received were considered by the Community Conservation Area Committee and the National Parks and Wildlife Council, and their recommendations considered, before adopting this plan.

The plan contains a number of actions to achieve the NSW 2021 goal to protect our natural environment, including the undertaking of regular fauna and flora surveys, control of introduced species, and construction of an additional boundary fire trail if necessary. It also provides for bushwalking and for cycling on management trails. Bush camping is permitted with prior consent.

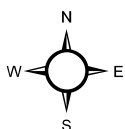
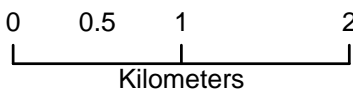
This plan of management establishes the scheme of operations for Leard State Conservation Area. In accordance with section 73B of the *National Parks and Wildlife Act 1974*, this plan of management is hereby adopted.



Robyn Parker MP
Minister for the Environment



**Leard
State Conservation Area
CCA Zone 3**



- | | |
|------------------------------|------------------------------|
| Private Property Trail | ⚡ Gate |
| - - - Management Trail | — Creeks |
| - - - 4WD Road - off park | Travelling Stock Route |
| — Sealed Road - off park | ■ Leard SCA |
| == Unsealed Road - off park | ■ State Forest |
| | ■ NPWS Estate |

1. LOCATION, GAZETTAL AND REGIONAL CONTEXT

Leard State Conservation Area (the reserve) covers 1,176 hectares and is located in the north-west plains region of NSW, approximately 40 kilometres south-east of Narrabri and 15 kilometres north of Boggabri. The reserve was gazetted as a state conservation area (Community Conservation Area Zone 3) on 1st December 2005.

Leard State Conservation Area was formerly managed by Forests NSW as part of Leard State Forest and was subject to selective logging and stock grazing. It was identified as having conservation value during a comprehensive regional assessment of the Nandewar and Brigalow Belt South Bioregions. The assessment provided the necessary information to support major additions to the NPWS managed reserve system, including the establishment of Leard State Conservation Area. The larger portion of Leard State Forest has remained under the management of Forests NSW.

The reserve occupies an outlying arm of the Nandewar Range and contains a variety of woodland communities. It forms part of a corridor of vegetation linking Mount Kaputar National Park to the north with the Pilliga forest reserves to the south. The corridor provides refuge for many species at the western edge of their range and for ecosystems which have been heavily cleared elsewhere.

The area surrounding the reserve is characterised by mixed farming enterprises and is predominantly cleared. A travelling stock route runs along the western boundary. Coal mining is active in the area and an open cut coal mine is proposed to the east of the reserve. Several active exploration titles exist over the reserve (refer section 4.5). Mineral extraction is permissible, subject to environmental assessment and approvals, in a state conservation area.

The reserve is within the geographical area of the Narrabri Shire, the Namoi Catchment Management Authority, and the Red Chief Aboriginal Land Council. The reserve took its name from its previous tenure as Leard State Forest, which was named after the county in which it is located.

2. MANAGEMENT CONTEXT

2.1 LEGISLATIVE AND POLICY FRAMEWORK

The management of the community conservation area is in the context of a legislative and policy framework, primarily the *National Parks and Wildlife Act 1974* (NPW Act) and Regulations, the Community Conservation Area Agreement developed under the *Brigalow and Nandewar Community Conservation Area Act 2005* (BNCCA Act), the *Threatened Species Conservation Act 1995* (TSC Act), and the policies of the National Parks and Wildlife Service (NPWS).

Other legislation, strategies and international agreements may also apply to management of the area. In particular, the *Environmental Planning and Assessment Act 1979* (EPA Act) may require assessment of environmental impact of works proposed in this plan. The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) may apply in relation to actions that impact on matters of national environmental significance, such as migratory and threatened species listed under that Act.

A plan of management is a statutory document under the NPW Act. Once the Minister for the Environment has adopted a plan, no operations may be undertaken within Leard State Conservation Area except in accordance with this plan. This plan will also apply to any future additions to Leard State Conservation Area. Should management strategies or works be proposed for Leard State Conservation Area or any additions that are not consistent with this plan, an amendment to this plan or a new plan will be prepared and exhibited for public comment.

2.2 MANAGEMENT PURPOSES AND PRINCIPLES

A new class of public reserve, called a community conservation area, was created in 2005. Community conservation areas are divided into four zones, with zone 3 being the equivalent of a state conservation area.

State conservation areas are reserved under the NPW Act to protect and conserve areas that contain significant or representative ecosystems, landforms or natural phenomena or places of cultural significance; that are capable of providing opportunities for sustainable visitor or tourist use and enjoyment, the sustainable use of buildings and structures, or research; and that are capable of providing opportunities for uses permitted under other provisions of the Act.

Under the NPW Act (section 30G), state conservation areas are managed to:

- conserve biodiversity, maintain ecosystem functions, protect natural phenomena and maintain natural landscapes;
- conserve places, objects and features of cultural value;
- provide for the undertaking of uses permitted under other provisions of the NPW Act (including uses permitted under section 47J such as mineral exploration and mining), having regard to the conservation of the natural and cultural values of the state conservation area;

- provide for sustainable visitor or tourist use and enjoyment that is compatible with conservation of the area's natural and cultural values and with uses permitted in the area;
- provide for sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to conservation of the area's natural and cultural values and with other uses permitted in the area; and
- provide for appropriate research and monitoring.

The NPW Act requires a review of the classification of state conservation areas every 5 years in consultation with the Minister administering the *Mining Act 1992*.

2.3 STATEMENT OF SIGNIFICANCE

The reserve is considered to be of significance for its biological values. It contains Brigalow and White Box - Yellow Box - Blakely's Red Gum Woodland Endangered Ecological Communities. The reserve also contains ideal habitat for numerous woodland bird and microbat species.

2.4 SPECIFIC MANAGEMENT DIRECTIONS

In addition to the general principles for the management of state conservation areas (refer section 2.2) the management of Leard State Conservation Area will focus on the protection of the significant vegetation communities and encouragement of the use of the reserve for research purposes.

Major strategies to achieve these objectives are:

- the protection of natural values from weeds, feral animals and wildfire; and
- research into the reserve's natural and cultural values, particularly establishing the reserve's importance as a refuge.

3. VALUES

The location, landforms and plant and animal communities of an area have determined how it has been used and valued. Both Aboriginal and non-Aboriginal people place values on natural areas, including aesthetic, social, spiritual and recreational values. These values may be attached to the landscape as a whole or to individual components, for example to plant and animal species used by Aboriginal people. This plan of management aims to conserve both natural and cultural values. For reasons of clarity and document usefulness, various aspects of natural heritage, cultural heritage, threats and on-going use are dealt with individually, but their inter-relationships are recognised.

3.1 GEOLOGY, LANDSCAPE AND HYDROLOGY

The reserve is located on an outlying ridge of the Nandewar Range. Altitude varies between approximately 260 and 450 metres above sea level.

The reserve forms part of the Maules Creek sub-catchment of the Namoi catchment. Ephemeral drainage lines in the reserve flow north into Back Creek before flowing into Maules Creek.

The reserve is contained within the Liverpool Plains Province of the Brigalow Belt South Bioregion. The geology is composed of Permian and Triassic quartz sandstone with minor basalt caps. Massive red and yellow earths encompass most of the reserve. Deep black cracking clays occur across the northwest and there is a small patch of yellow and red texture contrast soils in the northeast (MDBC, 1999).

The area has a high potential for coal and moderate potential for petroleum and gas. Two current Petroleum Exploration licenses exist over the entire reserve and one Coal Exploration Authorisation licence is current for a 400 metre wide, north-south strip in the eastern portion of the reserve (refer section 4.5). Significant coal leases have been issued within adjacent areas.

3.2 NATIVE PLANTS

The reserve forms an important wildlife corridor with other remnant vegetation on private property, riparian corridors, state forest and nearby reserves.

The vegetation is predominantly North-west Slopes Dry Sclerophyll Woodland (Keith, 2004). Hunter (2008) has characterised the vegetation as consisting of the following six associations:

- white box (*Eucalyptus albens*) - white cypress pine (*Callitris glaucophylla*) (proportion of reserve 51%);
- white cypress pine - wilga (*Geijera parviflora*) - white box shrubby woodland (33%)
- white cypress pine - wilga - white box woodland (2%);
- belah (*Casuarina cristata*) - wilga (8%);

- tumbledown red gum (*Eucalyptus dealbata*) – white cypress pine – motherumbah (*Acacia cheelii*) open woodland, shrubland and grassland (5%); and
- derived grassland (1%).

The first three assemblages are very closely related and appear to be gradations of the same community (Hunter, 2008). Parts of the white cypress pine-wilga-white box woodlands and derived grasslands may fall within the determination of the endangered White Box Yellow Box Blakely's Red Gum Woodland community as listed in the TSC Act and the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland community as listed in the Commonwealth EPBC Act (Hunter, 2008).

There is a small stand of old growth brigalow (*Acacia harpophylla*) within the reserve. Communities dominated by brigalow are listed as an endangered ecological community under the TSC Act and EPBC Act.

Although not listed as threatened, belah communities are considered to be poorly reserved. The Brigalow Belt South assessment has increased the percentage of belah protected within the NSW reserve system, however, it remains under threat from agricultural practices. Hunter (2008) highlighted this community as one of concern.

A floristic survey undertaken in August 2007 recorded 229 vascular plant species in the reserve. Overall the vegetation is dominated by white cypress pine and white box with a shrubby understorey of native olive (*Notelaea microcarpa*), wilga, sticky hopbush (*Dodonaea viscosa*) and poison pimelea (*Pimelea neo-anglica*). The understorey is dominated by rough spargrass (*Autrostipa scabra*), barbed wire grass (*Cymbopogon refractus*), (*Desmodium brachypodum*), (*Einadia hastate*) and purple wiregrass (*Aristida ramosa*) (Hunter, 2008).

Spiny peppergrass (*Lepidium aschersonii*) is the only threatened plant recorded within the reserve.

John Hunter's 2007 vegetation survey plots have been recorded and marked in the field to establish permanent monitoring sites.

Priority actions to assist in the recovery of endangered ecological communities and threatened plants are listed in the Priorities Action Statement (PAS). Recovery plans may also be prepared for threatened species. For those communities and species recorded in the reserve priority actions include control of introduced plants and animals.

The most significant threats to vegetation structure and health are weed infestations and inappropriate fire regimes (refer sections 4.1 and 4.2).

3.3 NATIVE ANIMALS

The reserve provides habitat for a variety of fauna. Fauna surveys have been undertaken in the reserve and nearby Leard State Forest. The Atlas of NSW Wildlife has records of 57 birds, 7 bats, 6 other mammals and 6 reptiles within the reserve.

The woodland with shrubby understorey provides valuable foraging and nesting habitat for woodland birds and micro-bats. Four woodland birds and 1 bat species listed as vulnerable in the TSC Act have been recorded in the reserve (NPWS, 2001) (refer Table 1). There is potential habitat for other declining woodland species such as diamond firetails (*Stagonopleura guttata*) and hooded robins (*Melanodryas cucullata*).

Table 1. Threatened animal species recorded in Leard State Conservation Area

Common name	Scientific name	Legal Status *
brown treecreeper	<i>Climacteris picumnus</i>	Vulnerable *
turquoise parrot	<i>Neophema pulchella</i>	Vulnerable *
speckled warbler	<i>Sericornis sagittatus</i>	Vulnerable *
little lorikeet	<i>Glossopsitta pusilla</i>	Vulnerable *
greater long-eared bat	<i>Nyctophilus timoriensis</i>	Vulnerable *#
yellow-bellied sheath-tail-bat	<i>Saccolaimus flaviventris</i>	Vulnerable *

* Status under TSC Act

Denotes species also listed as nationally threatened under the EPBC Act.

The preservation of habitat for woodland birds is a key priority action in the Priorities Action Statement.

Areas surrounding the reserve have been substantially modified by grazing, logging and mining, increasing the value of this remnant habitat and wildlife corridor. The size of the reserve, and its fragmentation from other areas of natural bush, are major threats to habitat values so maintaining or enhancing links with other forest remnants is key to protecting and enhancing native vertebrate populations in the area.

3.4 ABORIGINAL AND HISTORIC HERITAGE

Aboriginal communities have an association and connection to the land. The land and water within a landscape are central to Aboriginal spirituality and contribute to Aboriginal identity. Aboriginal communities associate natural resources with the use and enjoyment of foods and medicines, caring for the land, passing on cultural knowledge, kinship systems and strengthening social bonds. Aboriginal heritage and connection to nature are inseparable from each other and need to be managed in an integrated manner across the landscape.

Little is known about past Aboriginal association with the reserve. There is substantial evidence of Aboriginal occupation in close proximity to the reserve, with numerous sites having been recorded in Leard State Forest and nearby coal leases.

Known trading routes follow the Namoi River floodplains to the south of the reserve (Horn, 2009). It is possible that there may be unrecorded sites within the reserve.

The reserve is within the traditional country of the Gamilaroi Aboriginal nation (also spelt as Gamilaraay, Gomeroi and Kamileroi) and within the area administered by the Red Chief Local Aboriginal Land Council.

3.5 VISITOR USE, EDUCATION AND RESEARCH

There is currently limited public use of the reserve due to historic limits to public access and lack of visitor facilities. Trail bike riding has occurred and still occurs on a limited basis in the reserve.

There is public pedestrian access to the reserve from a travelling stock route which is located along the western boundary.

Suitable uses of the reserve are low impact activities such as walking, cycling on management trails and community activities such as training for emergency services organisations in bush skills.

4. ISSUES

4.1 WEEDS AND PEST ANIMALS

Eleven percent of flora species recorded in the reserve are introduced, most of which are broadleaf herbs such as thistles, dandelions etc. Introduced species are mainly restricted to the disturbed margins and adjacent to trails (Hunter, 2008). The spread of weeds is primarily caused by the movement of vehicles. The most significant weed in the reserve is prickly pear (*Opuntia stricta*), which is listed as a noxious weed in the Narrabri Shire.

Pigs (*Sus scrofa*) and foxes (*Vulpes vulpes*) are the main vertebrate pests of concern within the reserve. Vertebrate pest species are of concern because of their impact on natural values and on neighbouring agricultural enterprises.

The Northern Plains Region has prepared a pest management strategy (DECC 2008) which includes priorities and actions to control weeds and pest animals on parks and reserves within the Region. This is currently being revised.

Stock incursions from neighbouring properties have been recorded. Straying livestock is an on-going issue that is managed in conjunction with reserve neighbours.

4.2 FIRE

The primary fire management objectives of the NPWS are to protect life and property and community assets from the adverse impacts of fire, whilst managing fire regimes to maintain and protect biodiversity and cultural heritage.

Fire is a natural feature of many environments and is essential for the survival of some plant communities. However, inappropriate fire regimes can lead to loss of particular plant and animal species and communities, and high frequency fires have been listed as a key threatening process under the TSC Act.

The risk of fire within the reserve is low. There are no records of a fire event within the reserve and long-term neighbours have no recollection of one within the last 40 years.

A map-based Fire Management Strategy has been prepared for the reserve (DECC 2009). The Fire Management Strategy outlines the recent fire history of the reserve, key assets within and adjoining the reserve including sites of natural and cultural heritage value, fire management zones and fire control advantages such as management trails and water supply points.

Any proposed hazard reduction programs, ecological burning proposals and management trail works are submitted annually to the Narrabri/ Moree Bush Fire Management Committee.

4.3 ISOLATION AND FRAGMENTATION

The area surrounding the reserve has been extensively cleared, which has resulted in a high loss of biodiversity and fragmentation of habitat in the region. Long term conservation of biodiversity depends upon the protection, enhancement and connection of remaining habitat across the landscape, incorporating vegetation remnants on both public and private lands. Nearby vegetated areas contribute to the habitat values of the reserve and provide ecological corridors to other vegetated areas. The reserve forms part of a vital corridor between Mount Kaputar National Park and the Pilliga forests. Maintaining the integrity of the remaining habitat within the reserve and, where possible, linking this to adjacent areas of vegetation to facilitate wildlife corridors is important in ensuring long term viability of the reserve's biological values.

The small nature of the reserve makes it susceptible to a single catastrophic event. Further fragmentation should be avoided.

4.4 CLIMATE CHANGE

Climate change has been listed as a key threatening process under the TSC Act. Projections of future changes in climate for NSW include higher temperatures, elevated CO₂, more intense but possibly reduced annual average rainfall, increased temperature extremes and higher evaporative demand. These changes are likely to lead to greater intensity and frequency of fires, more severe droughts, reduced river runoff and water availability, regional flooding, increased erosion and ocean acidification.

Climate change may significantly affect biodiversity by changing population size and distribution of species, modifying species composition, and altering the geographical extent of habitats and ecosystems. The potential impact of climate change is difficult to assess since it depends on the compounding effects of other pressures, particularly barriers to migration and pressure from feral animals. Species most at risk are those unable to migrate or adapt, particularly those with small population sizes or with slow growth rates.

Programs to reduce the pressures arising from other threats, such as habitat fragmentation, invasive species, bushfires, pollution and urban expansion, will help reduce the severity of the effects of climate change.

4.5 MINING AND MINERAL EXPLORATION

The principle authority for mining, mineral exploration and mine site rehabilitation in NSW is the Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS). This department has issued several exploration and extraction licences in and around the reserve. Table 2 outlines the current licences over the reserve.

Table 2. Current exploration licenses over Leard State Conservation Area

Type	Code	Licensee	Expiration
Coal	Auth 216	Director General NSW Dept Of Primary Industries (now DTIRIS) on behalf of the Crown	2016
Petroleum	PEL 1	Australian Coalbed Methane P/L	2015
Minerals	EL 7898	Pinnacle Gold P/L	2014

Section 30 of the *Mining Act 1992* requires the Minister administering that Act to consent to any mineral exploration when the subject site is an exempt area. A state conservation area is an exempt area. Section 47J(7) of the NPW Act requires that the Minister for the Environment must also give their approval to that consent.

5. REFERENCES

DECC (2008) *Northern Plains Region Pest Management Strategy 2008-2011*.
<http://www.environment.nsw.gov.au/resources/pestsweeds/09105NorthernPlainsRegionPestMgmtStrategy.pdf>

DECC (2009) *Leard State Conservation Area Fire Management Strategy 2009*.
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 Unpublished.

Keith, D. (2004) *Ocean Shores to Desert Dunes: The Native Vegetation of New South Wales and the ACT*. Department of Environment and Conservation NSW, Hurstville.

MDBC (1999) *Geology of the Murray-Darling Basin - simplified lithostratigraphic groupings*. GIS Data Layer.

NPWS (2001) *Fauna Survey of Leard State Forest*. NSW National Parks and Wildlife Service, Hurstville.

6. IMPLEMENTATION

Current Situation	Desired Outcomes	Management Response	Priority*
<p>6.1 On-Park Ecological Conservation</p> <p>The reserve has been selectively logged and grazed.</p> <p>Vegetation surveys were undertaken in 2007 and permanent vegetation plots have been established.</p> <p>Endangered White Box Yellow Box Blakely's Red Gum Woodland and Brigalow communities have been recorded in the reserve and a threatened plant spiny peppergrass (section 3.2). Grazing, fire and firewood collection have been identified as threats to the reserve's vegetation.</p> <p>Fauna surveys were undertaken in 2009.</p> <p>Several animal species listed in the TSC Act have been recorded within the reserve (section 3.3). Further fauna surveys are necessary to establish species present.</p> <p>Climate change may significantly affect biodiversity by changing the population size and distribution of species, modifying species composition, and altering the geological extent of habitats and ecosystems.</p> <p>Coal and Petroleum exploration licenses have been issued which include the reserve.</p>	<p>Native plant and animal species and communities are conserved.</p> <p>Structural diversity and habitat values are restored in areas subject to past logging and grazing practices.</p> <p>Managed actions are based on scientific data.</p> <p>The effects of climate change on natural systems are reduced.</p>	<p>6.1.1 Resurvey a representative sample of the 22 permanent vegetation plots every 5 years, including biometric surveys, to monitor possible changes due to the removal of grazing and forestry.</p> <p>6.1.2 Repeat fauna surveys every 5 years to monitor possible changes to fauna present and possible impacts of mining.</p> <p>6.1.3 Implement relevant strategies in the PAS and recovery plans for threatened species.</p> <p>6.1.4 Continue existing fire, pest and weed management programs to increase the reserve's ability to cope with future disturbances, including climate change.</p> <p>6.1.5 Exclude grazing and firewood collection and manage fire to restore structural diversity to woodland ecosystems and preserve old growth elements (refer also 6.6 and 6.7).</p> <p>6.1.6 Map the extent of Endangered Ecological Communities in the reserve using targeted survey and mapping.</p> <p>6.1.7 Encourage research into the natural values of the reserve in order to inform any review of mining interests and conditions required on any operations undertaken.</p>	<p>High</p> <p>Medium</p> <p>High</p> <p>Ongoing</p> <p>Ongoing</p> <p>Low</p> <p>High</p>

Current Situation	Desired Outcomes	Management Response	Priority*
<p>6.2 Cultural Heritage</p> <p>Aboriginal sites have been recorded within adjacent coal mine leases. No sites have currently been recorded on the reserve.</p> <p>There is little information on the cultural values of the reserve.</p> <p>There are no known historic heritage sites within the reserve.</p>	<p>Aboriginal places and values are identified and protected.</p> <p>Aboriginal people are involved in management of the Aboriginal cultural values of the reserve.</p> <p>Understanding of the cultural values of the reserve is improved.</p>	<p>6.2.1 Consult and involve the Red Chief Local Aboriginal Land Council and other relevant Aboriginal community organisations in the management of Aboriginal sites, places and values, including interpretation of places or values.</p> <p>6.2.2 Undertake a cultural heritage survey and assessment prior to all works with the potential to impact on Aboriginal or historic sites and places.</p> <p>6.2.3 Encourage further research into the Aboriginal heritage values of the reserve in association with the Red Chief Local Aboriginal Land Council and other Aboriginal organisations.</p> <p>6.2.4 Encourage Aboriginal cultural activities within the reserve and support community access to Country.</p> <p>6.2.5 Record any historic sites found, assess for heritage value and retain in situ.</p> <p>6.2.6 Interview long-term residents of the area to enhance knowledge of the heritage values of the area.</p>	<p>High</p> <p>High</p> <p>Low</p> <p>Medium</p> <p>Ongoing</p> <p>Low</p>

Current Situation	Desired Outcomes	Management Response	Priority*
<p>6.3 Visitor Use and Services</p> <p>The reserve provides opportunities for low key recreation and for education regarding nature conservation and cultural heritage.</p> <p>As the reserve is relatively small and contains significant vegetation communities, further fragmentation is to be avoided.</p> <p>A variety of visitor facilities and opportunities are provided at nearby Mount Kaputar National Park.</p>	<p>Visitor use is appropriate and ecologically sustainable.</p> <p>Negative impacts of visitors on reserve values are stable or diminishing.</p>	<p>6.3.1 Bushwalking, and cycling on management trails, is allowed. Driving on management trails (except as provided in sections 6.4.2 and 6.7) and use of bicycles off trails will not be permitted.</p> <p>6.3.2 No visitor facilities will be constructed to avoid further impacts and fragmentation.</p> <p>6.3.3 Camping and horse riding may be permitted with prior consent of the Regional Manager.</p>	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>
<p>6.4 Community Programs and Education</p> <p>Promotion of community understanding and appreciation of the conservation values of the reserve is important for minimising damaging activities and maximising conservation outcomes.</p> <p>Community use of the reserve will also increase support for the reserve.</p>	<p>The local community is aware of the significance of the reserve and of reserve management programs.</p>	<p>6.4.1 Community understanding of the reserve and relevant programs will be undertaken by attending shows, community events and through school programs.</p> <p>6.4.2 Community activities will be supported where they meet the objectives of the reserve and are consistent with this plan of management. Limited vehicle access may be granted to emergency services and community groups for education and training purposes.</p>	<p>Low</p> <p>Low</p>

Current Situation	Desired Outcomes	Management Response	Priority*
<p>6.5 Weeds and Pest Animals</p> <p>Feral animals identified in the reserve include pigs and foxes.</p> <p>Noxious weeds present include prickly pear.</p> <p>A Pest Management Strategy has been prepared for the Northern Plains Region.</p> <p>Occasional stock incursions from neighbouring properties have occurred.</p>	<p>Introduced plants and animals are controlled and where possible eliminated.</p> <p>Negative impacts of weeds on reserve values are stable or diminishing.</p> <p>Negative impacts of pest animals on reserve values are stable or diminishing.</p> <p>Pest control programs are undertaken where appropriate in consultation with neighbours.</p>	<p>6.5.1 Manage introduced species in accordance with the Northern Plains Region Pest Management Strategy. Priority will be given to pigs and prickly pear. Identify any new outbreaks.</p> <p>6.5.2 Seek the cooperation of neighbours in implementing weed and pest control programs. Where possible undertake control in cooperation with the North West Livestock Health and Pest Authority and Narrabri Shire Council.</p> <p>6.5.4 Encourage maintenance of effective boundary fencing with neighbouring properties to prevent domestic stock incursions.</p>	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>

Current Situation	Desired Outcomes	Management Response	Priority*
<p>6.6 Fire Management</p> <p>Fire is a natural feature of many environments but inappropriate fire regimes can lead to loss of particular plant and animal communities. High frequency fires have been listed as a key threatening process under the TSC Act. Fire and associated suppression strategies could also damage cultural features and boundary fences and threaten neighbouring land.</p> <p>The risk of fire within the reserve is low.</p> <p>A map-based Fire Management Strategy has been prepared for the reserve. This identifies that an additional trail may be necessary along the southern boundary of the reserve for fire management, however the soils in the reserve are highly erodible.</p> <p>Fire management operations are undertaken in cooperation with the Narrabri/ Moree Bush Fire Management Committee (BFMC) and local Rural Fire Service (RFS) brigades.</p>	<p>Life, property and cultural values are protected from fire.</p> <p>Fire regimes are appropriate for conservation of native plant and animal communities.</p> <p>Negative impacts of fire on natural and cultural heritage values are stable or diminishing.</p>	<p>6.6.1 Maintain boundary breaks along fence lines in accordance with the Fire Management Strategy.</p> <p>6.6.2 If deemed necessary for fire management purposes construct a southern boundary trail so that it avoids highly erodible areas and establish erosion controls.</p> <p>6.6.3 Participate in the Narrabri/ Moree BFMC. Maintain cooperative arrangements with local RFS brigades and fire control officers, other fire authorities and surrounding landowners in regard to fuel management and fire suppression.</p> <p>6.6.4 Manage the reserve to protect biodiversity in accordance with the identified fire regimes/thresholds in the fire management strategy.</p>	<p>High</p> <p>Medium</p> <p>High</p> <p>Ongoing</p>

Current Situation	Desired Outcomes	Management Response	Priority*
<p>6.7 Infrastructure and Maintenance</p> <p>A network of management trails exists to facilitate access for management activities. Both sheet and gully erosion are active in sections of the reserve associated with existing tracks.</p> <p>Coal and petroleum exploration licenses have been issued over the reserve.</p> <p>There are vacant apiary sites covering the entire reserve.</p>	<p>Management facilities and operations adequately serve management needs and have minimal impact.</p> <p>Infrastructure and assets are routinely maintained.</p> <p>Non-reserve operations have minimal impact.</p>	<p>6.7.1 Maintain the management trails shown on the map. Monitor erosion and undertake remedial actions as needed to minimise erosion.</p> <p>6.7.2 Manage all tracks and trails within the reserve as management trails.</p> <p>6.7.3 Gate and/or signpost management trails to restrict unauthorised access.</p> <p>6.7.4 Where in accordance with the NPWS policy on beekeeping allow apiary sites to be renewed in the previously disturbed areas in the south-west of the reserve easily accessible by existing trails.</p>	<p>High</p> <p>High</p> <p>High</p> <p>Medium</p>

* **High** priority activities are those imperative to achievement of the objectives and desired outcomes. They must be undertaken in the near future to avoid significant deterioration in natural, cultural or management resources.

Medium priority activities are those that are necessary to achieve the objectives and desired outcomes but are not urgent.

Low priority activities are desirable to achieve management objectives and desired outcomes but can wait until resources become available.

Ongoing is for activities that are undertaken on an annual basis or statements of management intent that will direct the management response if an issue that arises.

