NSW NATIONAL PARKS & WILDLIFE SERVICE

Deua Catchment Parks

Incorporating Berlang State Conservation Area, Frogs Hole Nature Reserve, and Majors Creek State Conservation Area Plan of Management

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This plan of management was adopted by the Minister for Energy and Environment on 22 August 2019.

The land covered by this plan is in the traditional country of the Yuin People.

This plan of management was prepared by staff of the NSW National Parks and Wildlife Service (NPWS).

For additional information or any inquiries about the Deua Catchment parks, contact the NPWS Narooma Office, corner of Graham and Burrawang Streets, Narooma or by telephone on (02) 4476 0800.

Cover photo: Steep upper slopes of Majors Creek gorge. Photo: NPWS

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Environment, Energy and Science
Department of Planning, Industry and Environment
59 Goulburn Street, Sydney NSW 2000
PO Box A290, Sydney South NSW 1232
Phone: +61 2 9995 5000 (switchboard)
Phone: 1300 361 967 (Environment, Energy and Science enquiries)
TTY users: phone 133 677, then ask for 1300 361 967
Speak and listen users: phone 1300 555 727, then ask for 1300 361 967
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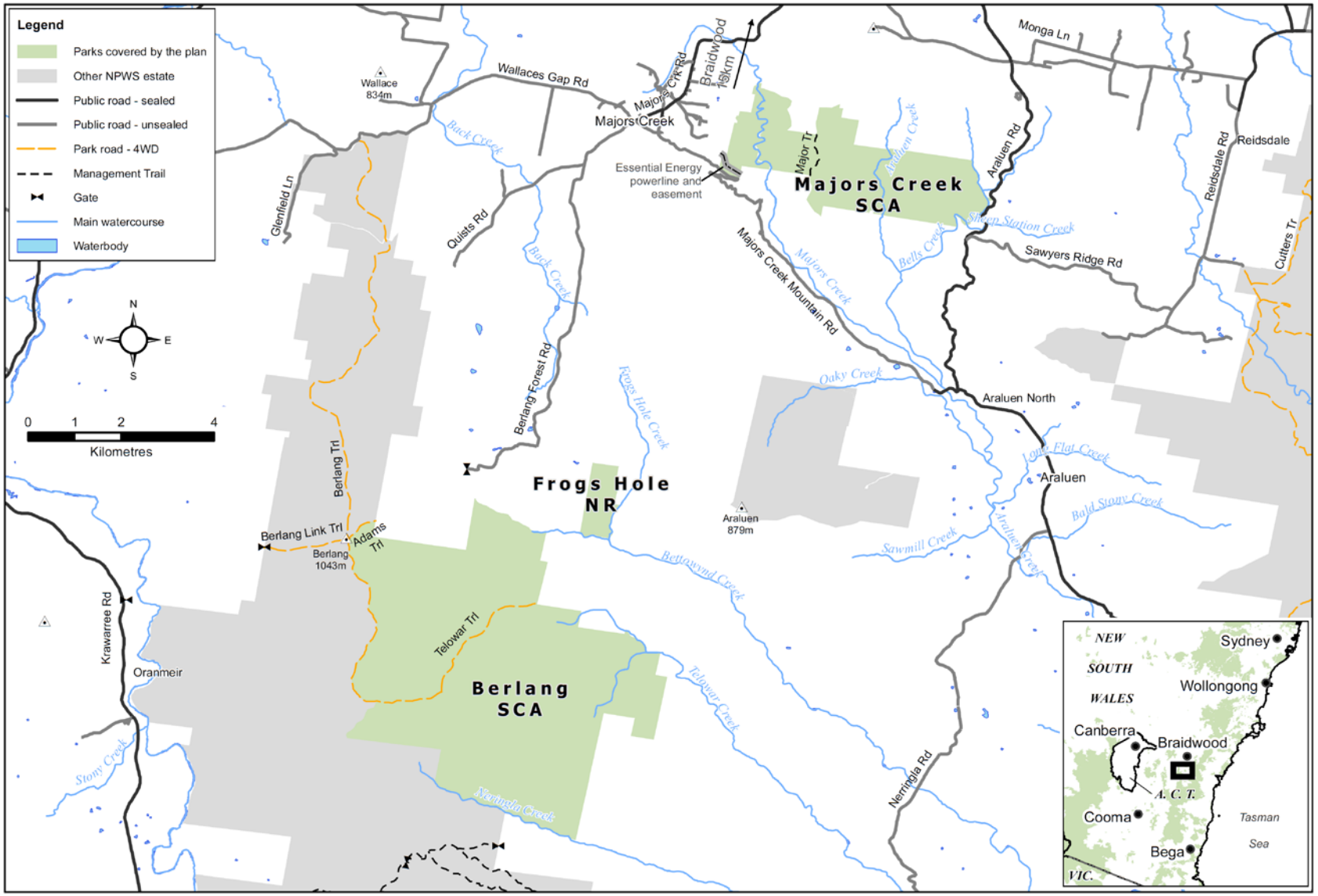

Figure 1 **Deua Catchment Parks**

1. Introduction

1.1 Location, reservation and regional setting

Features	Description
Location	Berlang State Conservation Area, Frogs Hole Nature Reserve and Majors Creek State Conservation Area (collectively referred to as the 'the parks' in this plan) are located approximately 40 kilometres west of Batemans Bay, seven kilometres west of Araluen and 20 kilometres south of Braidwood. The parks are in the NSW Southern Tablelands in the catchment of the Deua River. The parks lie close to the village of Majors Creek (see Figure 1). Majors Creek State Conservation Area is located about two kilometres east of the village, Frogs Hole Nature Reserve is located about eight kilometres south of Majors Creek and Berlang State Conservation Area about 10 kilometres south.
Reservation, area and previous tenure	The Southern Regional Forest Agreement provided for major additions to the park system, including reservation of the parks. Their initial reservation after the forest agreement occurred under the *National Park Estate (Southern Region Reservations) Act 2000* on 1 January 2001, over public lands as indicated in the following table, whereby Berlang State Forest was revoked and a part dedicated as Berlang Reserve, and Majors Creek Reserve and Frogs Hole Reserve were dedicated. These were reserves under the *Crown Lands Act 1989* and managed by the NSW National Parks and Wildlife Service (NPWS) on behalf of the National Parks and Wildlife Reserve Trust. On 1 January 2003, under the *National Park Estate (Reservations) Act 2002*, these reserves were revoked and then reserved under the *National Parks and Wildlife Act 1974* as state conservation areas. Some areas of previously freehold land were added to Majors Creek State Conservation Area in 2004. Frogs Hole State Conservation Area was recategorised as a nature reserve in 2014, via a notice published in the NSW *Government Gazette*.

Park	Area (ha)	Previous tenure
Berlang State Conservation Area	2319	Berlang State Forest (2254ha) Crown land (65ha)
Frogs Hole Nature Reserve (previously Frogs Hole State Conservation Area)	77	Crown land
Majors Creek State Conservation Area	706	Crown land (683ha) Freehold (23ha)
Total	**3102**	

Regional context	
Biogeographic region	The parks are part of a network of reserves in the district which includes the large wilderness areas in Monga and Deua national parks to the south and east. Frogs Hole Nature Reserve and most of Berlang State Conservation Area lie within the Kybeyan–Gourock subregion of the South Eastern Highlands Bioregion. The easternmost part of Berlang State Conservation Area and all of Majors Creek State Conservation Area lie within the South East Coastal Ranges subregion of the South East Corner Bioregion (ERIN 2012). For the purposes of the *Biodiversity Conservation Act 2016*, however, all of Majors Creek State Conservation, along with Frogs Hole Nature Reserve and most of Berlang State Conservation Area are considered to be within the South Eastern Highlands Bioregion, as identified by Thackway and Cresswell (1995).
Surrounding land use	Most land surrounding the parks is freehold forested and cleared land, used for farming and grazing, with several mines in the area. Berlang State Conservation Area is bounded to its west by Deua National Park. To the immediate west of Majors Creek State Conservation Area lies a Crown reserve for public recreation, which surrounds the steep zig-zag section of Majors Creek Mountain Road and is zoned for environmental management. The corridor of Majors Creek below about 420 metres above sea level is a Crown waterway reserve and is not currently reserved as part of the state conservation area.
Other authorities	The parks are within the areas of Batemans Bay (Majors Creek State Conservation Area) and Mogo (Berlang and Frogs Hole nature reserves) local Aboriginal land councils, Queanbeyan-Palerang Regional Council and South East Local Land Services.

1.2 Statement of significance

The parks are considered to be significant for their biological values. They include:

- areas of Araluen Scarp Grassy Forest, listed as an endangered ecological community under the Biodiversity Conservation Act
- examples of Temperate Dry Rainforest, Grey Myrtle Dry Rainforest and old-growth forest ecosystems which are under-represented in the region's reserve system
- several plants and animals listed under the Biodiversity Conservation Act.

2. Management context

2.1 Legislative and policy framework

The management of nature reserves and state conservation areas in New South Wales is in the context of a legislative and policy framework, primarily the National Parks and Wildlife Act and Regulation, the Biodiversity Conservation Act and NPWS policies.

Other legislation, strategies and international agreements may also apply to management of the parks. In particular, the *Environmental Planning and Assessment Act 1979* may require the assessment of environmental impact of works proposed in this plan. The NSW *Heritage Act 1977* may apply to the excavation of known archaeological sites or sites with potential to contain historic archaeological relics. The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* may apply in relation to actions that impact 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 National Parks and Wildlife Act. Once the Minister has adopted a plan, the plan must be carried out and no operations may be undertaken in relation to the lands to which the plan relates unless the operations are in accordance with the plan. This plan will also apply to any future additions to Berlang State Conservation Area, Frogs Hole Nature Reserve or Majors Creek State Conservation Area. Should management strategies or works be proposed in future that are not consistent with this plan, an amendment to the plan will be required.

2.2 Management purposes and principles

Nature reserves are reserved under the National Parks and Wildlife Act to protect and conserve areas containing outstanding, unique or representative ecosystems, species, communities or natural phenomena. Under the Act (section 30J), nature reserves are managed to:

- conserve biodiversity, maintain ecosystem functions, and protect geological and geomorphological features and natural phenomena
- conserve places, objects, features and landscapes of cultural value
- promote public appreciation, enjoyment and understanding of the reserve's natural and cultural values
- provide for appropriate research and monitoring.

The primary purpose of nature reserves is to conserve nature. Nature reserves differ from national parks in that they do not have provide for visitor use as a management purpose or principle.

State conservation areas are reserved under the National Parks and Wildlife Act to protect and conserve areas that:

- contain significant or representative ecosystems, landforms or natural phenomena or places of cultural significance
- are capable of providing opportunities for sustainable visitor or tourist use and enjoyment, the sustainable use of buildings and structures, or research
- are capable of providing opportunities for uses permitted under other provisions of the Act.

Under the 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 National Parks and Wildlife 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
- provide for appropriate research and monitoring.

Land is reserved as a state conservation area primarily where mineral values preclude reservation as another category. The National Parks and Wildlife Act requires a review of the classification of state conservation areas every 5 years in consultation with the Minister administering the *Mining Act 1992*. The review considers whether each state conservation area should or should not be reserved as either a national park or nature reserve. Reviews were undertaken in 2008 and 2013. The 2013 review resulted in the re-categorisation of Frogs Hole State Conservation Area as a nature reserve in 2014.

Subject to the outcomes of future reviews, Majors Creek State Conservation Area may also become a nature reserve. Hence, in the meantime, its management will be guided by the management principles for nature reserves as far as possible. In contrast, Berlang State Conservation Area may become a national park and, as far as possible, its management will be guided by the management principles for national parks, as given in section 30E of the National Parks and Wildlife Act, which include provision for visitor or tourism use.

Following any future re-categorisation, the management directions and responses in this plan will continue to apply.

2.3 Specific management directions

In addition to the general principles for the management of nature reserves and state conservation areas (see Section 2.2), the following specific management directions apply to the parks:

- protect and manage Aboriginal cultural values through consultation with Aboriginal communities
- protect and manage the shared cultural heritage values associated with early European settlement and use of the area by recording sites and assessing their significance
- protect areas of old-growth forest and habitat for threatened species by limiting disturbance, implementing pest control programs and managing fire regimes.

3. Values

This plan aims to conserve the natural and cultural values of Berlang State Conservation Area, Frogs Hole Nature Reserve and Majors Creek State Conservation Area. The location, landforms, and plant and animal communities of an area have determined how it has been used and valued by both Aboriginal and non-Aboriginal people. 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. To make this plan clear and easy to use, various aspects of natural heritage, cultural heritage, threats and ongoing use are dealt with individually, although these features are interrelated.

3.1 Geology, landscape and hydrology

The parks are located on part of the Lachlan fold belt that runs through eastern Australia as a complex series of metamorphosed Ordovician to Devonian sandstones, shales and volcanic rocks intruded by numerous granite bodies and deformed by four episodes of folding, faulting and uplift. The general structural trend in this region is north-south and the topography strongly reflects this (Sahukar et al. 2003).

The landscape consists of rocky ranges and moderate to steep lower to mid slopes, with stony outcrops along ridgelines. Watercourses within the parks drain into Araluen, Bells, Bettowynd, Frogs Hole, Majors, Neringla and Telowar creeks which in turn drain into the Deua River.

Berlang State Conservation Area

Topography within Berlang State Conservation Area primarily is dominated by a section of the ridge and eastern face of the Bendoura Range. The western border, where the park neighbours Deua National Park, lies along the highest point of the range with peaks of up to 1060 metres above sea level. The southern face of the range falls steeply into Neringla Creek in the south-east corner of the park. The lowest part of the park, at 310 metres above sea level, is on the north-east corner along Telowar Creek.

The majority of the park drains to the north-east off Bendoura Range into tributaries of Telowar and Bettowynd creeks. Neringla Creek forms part of the southern boundary of the park and drains the southern face of the Bendoura Range. Neringla, Telowar and Bettowynd creeks all flow south-east to join the Deua River.

Geology of the eastern portion is dominated by Devonian-age Braidwood granodiorite while the western portion comprises a ridge of upper Devonian quartz sandstone shale, areas of volcanic dacite and rhyolite, a lens of Devonian conglomerate and limited beds of limestone on the Bendoura Range. There are stony outcrops along ridge lines, and red, red-yellow and yellow duplex (or texture-contrast) soils which become deeper and more poorly drained downslope. These soils are vulnerable to erosion (DECC n.d.).

Frogs Hole Nature Reserve

Frogs Hole Nature Reserve is underlain entirely by Braidwood granodiorite. The topography is characterised by the steep south-facing slopes above Bettowynd Creek with the highest points to the north at around 800 metres above sea level and the lowest to the south at around 360 metres above sea level. The reserve drains into Bettowynd and Frogs Hole creeks which in turn drain into the Deua River.

Majors Creek State Conservation Area

Topography within Majors Creek State Conservation Area varies considerably. There are two parallel ridges running roughly north–south and the western boundary coincides in part with the eastern edge of a plateau on which the village of Majors Creek is located. The slopes in the western half of the state conservation area are significantly steeper than the rest of the park,

with peaks reaching 750 metres above sea level, an escarpment with a waterfall, and a steep-sided gorge surrounding Majors Creek below the waterfall.

The ridge through the centre of the park becomes steeper at its southern end where it falls to 280 metres above sea level, the lowest point within the park near the southern boundary on Araluen Creek.

The central portion of Majors Creek State Conservation Area drains into Araluen Creek while the eastern portion drains into Bells Creek which runs along the eastern boundary.

Geology is associated with Braidwood granodiorite although there are minor occurrences of older Ordovician rocks and Quaternary–age alluvial terraces on the lower slopes of the south–west portion. Soils are sandy yellow duplex soils with hard-setting A horizons and harsh (hard when dry) clays along drainage lines. These soils are highly erodible. At lower elevations in the west, red and red-yellow duplex and brown duplex soils occur (DECC n.d.).

Mineral prospectivity

Braidwood granodiorite is associated with mineralised gold and tungsten–molybdenum. It is considered highly prospective, and is associated with large gold resources near the parks (NPWS 2014). More than 40 tonnes of gold have been produced from alluvial deposits in the Braidwood-Araluen area, most of which has been derived from the roof zone of the Braidwood granodiorite (McQueen 2003). There is ongoing interest in mineral exploration in both state conservation areas (see Section 5.2). Braidwood granodiorite is also the likely source of the Araluen alluvial gold deposits (NPWS 2014) that sparked the gold rush in the 1850s (see Section 3.4).

Issues

- The watercourses through Frogs Hole Nature Reserve and Majors Creek State Conservation Area originate off park, draining cleared and modified lands before entering the parks. Hence, land management practices in upstream areas affect the water quality of the creek systems both within these parks and further downstream. In 2013, sediment from the Dargues gold mine (located upstream of Majors Creek State Conservation Area) entered Majors Creek, creating water quality issues in the park as well as downstream in the Araluen Valley.

Desired outcome

- Water quality in the parks is protected.

Management response

3.1.1 Ensure the management trail and park roads are designed and maintained to minimise soil erosion.

3.1.2 Liaise with landholders in the parks' upstream catchments and other authorities with the aim of maintaining and, where possible, improving water quality in the parks.

3.2 Native plants and animals

From 1995 to 2000, comprehensive regional assessments of the values and attributes of the state's eastern forests were conducted. Information arising from these assessments formed the basis for a series of regional forest agreements. The plant communities protected in the parks contributes to the conservation targets identified in these agreements. Plant community types known to occur in the parks have been described by Tozer et al. (2010) and are listed with reference to the *NSW Vegetation Information System* (OEH 2014a) in Table 1.

Table 1: Plant community types present in the parks

Vegetation community name	Vegetation Information System (VIS) plant community	VIS ID
Southern Range Wet Forest	Brown barrel – narrow-leaved peppermint moist tall open forest on escarpment ranges, southern South Eastern Highlands Bioregion	744
Grey Myrtle Dry Rainforest	Grey myrtle dry rainforest of the Sydney Basin and South East Corner bioregions	877
Temperate Dry Rainforest	Grey myrtle – lilly pilly dry rainforest in dry gullies of the Sydney Basin and South East Corner bioregions	875
Araluen Scarp Grassy Forest	Maiden's gum – yellow box – forest red gum grassy open forest of the Araluen Valley, South East Corner Bioregion	914
Mountain Wet Fern Forest	Mountain grey gum – brown barrel very tall moist forest on escarpment ranges, Central and Southern South East Corner Bioregion	943
Southern Tableland Flats Forest	Ribbon gum – snow gum grassy open forest on flats and undulating hills of the eastern tableland, South Eastern Highlands Bioregion	1101
Clyde–Deua Ridgetop Forest	Silvertop ash shrubby open forest on escarpment ridges, Central and Northern South East Corner Bioregion	1161
Southern Escarpment Ash Forest	White ash – silvertop ash – brown barrel shrubby open forest of the escarpment ridges, South Eastern Highlands Bioregion and South East Corner Bioregion	1301

Sources: Tozer et al. 2010 and OEH 2014a.

Mapping completed by Tozer et al. (2010) found that shrubby wet sclerophyll forests occur on sheltered slopes in the parks and that these are replaced by shrubby dry sclerophyll forests on exposed ridges, slopes and sites with sandier soils and by grassy woodlands on more exposed undulating sites. Rainforest is scattered throughout as small patches in moist gullies.

Much of **Majors Creek State Conservation Area** supports Araluen Scarp Grassy Forest. This eucalypt woodland has an open shrub layer and grassy ground cover, and occurs on the steeper, erodible soils of the escarpment and ridges bounding the Araluen Valley (Sahukar et al. 2003). It has a highly restricted distribution and is listed as an endangered ecological community under the Biodiversity Conservation Act in the South East Corner Bioregion (NSW SC 2011). Outside of the park system, Araluen Scarp Grassy Forest is impacted by erosion caused by feral goats. This vegetation type is also sensitive to climate change and suffered extensive dieback of eucalypt crowns and understorey during the 2003–04 drought, particularly on the spurs of the escarpment.

On the gentler slopes in the east of the park, Araluen Scarp Grassy Forest grades into Southern Tableland Flats Forest. This is an open eucalypt forest with a sparse shrub layer and continuous grassy ground cover (Tozer et al. 2010) which is under-represented in the reserve system (NPWS 2000). Outside of the park system, it has been extensively cleared and is subject to weed invasion and other forms of degradation (Tozer et al. 2010).

In the west of the park on steep and sheltered slopes, Araluen Scarp Grassy Forest grades into the Mountain Wet Fern Forest. This tall eucalypt forest (with trees typically exceeding 32 metres in height) has an understorey of scattered shrubs and ground cover dominated by ferns (Tozer et al. 2010). A small patch of Temperate Dry Rainforest occurs at the base of slopes adjacent to Majors Creek in the west.

The steep slopes of **Frogs Hole Nature Reserve** are dominated by Mountain Wet Fern Forest, with Grey Myrtle Dry Rainforest in the southern gullies adjoining Bettowynd Creek. A small area of Araluen Scarp Forest occurs in the east of the reserve. Old-growth forests also occur within this reserve.

The majority of **Berlang State Conservation Area** is Mountain Wet Fern Forest. However, it grades into areas of Araluen Scarp Grassy Forest towards the east and into Clyde–Deua Ridgetop Forest on dry ridges at higher elevations. Clyde–Deua Ridgetop Forest is an open eucalypt forest with an open understorey of sclerophyll shrubs, sedges and forbs. Temperate Dry Rainforest and Grey Myrtle Dry Rainforest are also present in the gullies of this park. A small area of Southern Escarpment Ash Forest occurs on the high, wet, exposed rocky crests and upper slopes in the far west. A small area of Southern Range Wet Forest occurs in the far south of this park, in the headwaters of Neringla Creek.

Many of the forests in Berlang and Majors Creek state conservation areas have been mapped as old-growth. Old-growth forest is important for biodiversity because many of its structural attributes (e.g. tree hollows) provide important habitat, and some plants and animals are restricted to forest in the old-growth stages (JANIS 1997). Old-growth forests also have high aesthetic and cultural values.

No threatened plant species are known from Berlang State Conservation Area or Frogs Hole Nature Reserve. The vulnerable Araluen gum (*Eucalyptus kartzoffiana*) has been recorded in Majors Creek State Conservation Area. There is an unconfirmed record from Berlang State Conservation Area which may be confirmed with further searches, given the existence of records in close proximity on similar geology and topography.

The critically endangered Majors Creek leek orchid (*Prasophyllum* sp. ‘Majors Creek’) has been recorded near Majors Creek Village. It is likely that the species was once more widespread before its discovery in 1992 but that it has been affected by the extensive clearing and fragmentation of native vegetation in the district (NSW SC 2009). Further searches may find the species in the Majors Creek State Conservation Area, considering its close proximity to the known record, and similarities in geology and topography.

Table 2: Significant plant species recorded in or within five kilometres of the parks

Common name	Scientific name	BC Act status	EPBC Act status	Other significance
Araluen gum	*Eucalyptus kartzoffiana*	V	V	
Araluen zieria	*Zieria adenophora*	CE [R]	E [R]	
Baeuerlen’s gum	*Eucalyptus baeuerlenii*	–	–	Rare ^
Black gum	*Eucalyptus aggregata*	V	–	
Majors Creek leek orchid	*Prasophyllum* sp. ‘Majors Creek’	CE	–	
Monaro golden daisy	*Rutidosis leiolepis*	V	V	
Tiny spyridium	*Spyridium cinereum*	–	–	Rare ^

BC Act = Biodiversity Conservation Act.
EPBC Act = Environment Protection and Biodiversity Conservation Act.
Status: CE = critically endangered; E = endangered; V = vulnerable.
[R] = Recovery plan approved for species under Act.
^ Identified as a Rare or Threatened Australian Plant (ROTAP) consistent with the criteria of Briggs and Leigh (1996).

Several other threatened species listed under the Biodiversity Conservation Act and other significant species have been recorded within five kilometres of the parks (see Table 2) or are predicted to occur in the parks.

Eight threatened animal species have been recorded in Majors Creek State Conservation Area, two of which have also been recorded in Berlang State Conservation Area. Several other threatened species have been recorded within five kilometres of the parks and these species may occur within the parks where suitable habitat exists. Hence, targeted fauna surveys are likely to find further threatened species given the habitat values of the parks. Threatened animal species known from or predicted to occur in the parks are listed in Table 3.

Table 3: Threatened animal species recorded in or within five kilometres of the parks

Common name	Scientific name	BC Act status*	EPBC Act status*	Location
Frogs				
Stuttering frog	*Mixophyes balbus*	E	V	^
Birds				
Diamond firetail	*Stagonopleura guttata*	V	–	Majors Creek SCA
Flame robin	*Petroica phoenicea*	V	–	Berlang SCA & Majors Creek SCA
Gang-gang cockatoo	*Callocephalon fimbriatum*	V	–	Berlang SCA & Majors Creek SCA
Hooded robin	*Melanodryas cucullata*	V	–	Majors Creek SCA
Little eagle	*Hieraaetus morphnoides*	V	–	Majors Creek SCA
Powerful owl	*Ninox strenua*	V [R]	–	^
Speckled warbler	*Chthonicola sagittata*	V	–	^
Scarlet robin	*Petroica boodang*	V	–	Majors Creek SCA
Varied sittella	*Daphoenositta chrysoptera*	V	–	Majors Creek SCA
Mammals				
Broad-toothed rat	*Mastacomys fuscus*	V	–	^
Brush-tailed phascogale	*Phascogale tapoatafa*	V	–	^
Eastern bentwing-bat	*Miniopterus schreibersii oceanensis*	V	–	Majors Creek SCA
Eastern false pipistrelle	*Falsistrellus tasmaniensis*	V	–	^
Koala	*Phascolarctos cinereus*	V [R]	V	^
Long-nosed potoroo	*Potorous tridactylus*	V	V	^
Smoky mouse	*Pseudomys fumeus*	CE	E	^
Spotted-tailed quoll	*Dasyurus maculatus*	V	E	^

BC Act = Biodiversity Conservation Act.
EPBC Act = Environment Protection and Biodiversity Conservation Act.
Status: CE = critically endangered; E = endangered; V = vulnerable
[R] Recovery plan approved for species under Act.
^ Recorded from within 5 km of the parks, with suitable habitat present in the parks.

Strategies for the recovery of threatened species, populations and ecological communities have been set out in a statewide *Biodiversity Conservation Program* (formerly known as the

Threatened Species Priorities Action Statement [DECC 2007]). These actions are currently prioritised and implemented through the *Saving our Species* program which aims to maximise the number of threatened species that can be secured in the wild in New South Wales for 100 years (OEH 2013b). Individual recovery plans may also be prepared for threatened species to consider management needs in more detail. Strategies relevant to the parks include identification of nest sites for gang-gang cockatoos, and careful management of habitat when undertaking road works or rerouting to avoid loss or degradation of populations of plant species.

Issues

- The proximity of the parks to grazing lands poses the threat of invasion by introduced plants and animals which have the potential to adversely affect biodiversity.
- The existing knowledge of the native plants and animals of the park, particularly threatened species, could be improved by targeted surveys.
- Fire sensitive plants and plant communities, and the habitat of threatened animal species have the potential to be adversely affected by wildfire (see Section 4.2). Temperate Dry Rainforest and Grey Myrtle Dry Rainforest are highly sensitive to fire, and the diversity of plants within the Mountain Wet Fern Forest may be affected by frequent and/or intense fires.
- While most of the parks support old-growth forest, some sections of park have been subject to timber harvesting, or have been cleared or modified by previous land uses.

Desired outcomes

- The habitat and populations of native plants and animals, and ecological communities are conserved.
- Negative impacts on threatened species and communities are minimised.
- Research is undertaken which assists in the management of threatened and restricted species.
- Structural diversity and habitat values are restored in degraded areas.

Management response

3.2.1 Implement relevant high priority recovery actions in the *Biodiversity Conservation Program* and recovery plans for threatened species, populations and ecological communities present in the parks.

3.2.2 Confirm the occurrence of Araluen gum in Berlang State Conservation Area and record/ map its extent if found.

3.2.3 Confirm the occurrence of Majors Creek leek orchid in the parks and record/map its extent if found.

3.2.4 Encourage and assist external researchers to undertake studies that will improve understanding and aid management of threatened species, populations and ecological communities present in the parks.

3.3 Aboriginal heritage

The parks are located within the traditional country of the Yuin People. The land, water, plants and animals 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 and need to be managed in an integrated manner across the landscape.

While the NSW Government has legal responsibility for the protection of Aboriginal sites and places, NPWS acknowledges the right of Aboriginal people to make decisions about their own heritage. Aboriginal communities will be consulted and involved in managing Aboriginal sites, places and related issues; and in promoting and presenting Aboriginal culture and history.

The Yuin People have close cultural connections with the land in and surrounding the parks. From around 14,000 years ago until the recent past, tribes lived around the valleys of the Deua River. The Deua River catchment is associated with several specific rituals as well as broader cultural activities such as fishing and camping.

The parks are connected to surrounding country and to important Aboriginal sites by the travelling routes that exist along the length of the coastline, and extend inland to the escarpment and beyond to the tablelands and high country. Movement across the landscape took place for a variety of reasons including for food gathering, acquisition of raw materials, ceremonial meetings and religious occasions, trade and exchange, warfare and fighting, marriage and communications.

Aboriginal sites are places with evidence of Aboriginal occupation or that are related to other aspects of Aboriginal culture. They are important as evidence of Aboriginal history and as part of the culture of local Aboriginal people. No Aboriginal heritage items or places have been identified within the parks, although artefacts have been found in close proximity to and associated with similar landforms to those located in the parks. These sites are usually found in sheltered locations in well-drained areas, on flat high plateaus, hilltops or saddles, or near water (Donaldson 2012). Further studies may identify Aboriginal sites within the parks.

Issues

- Studies involving local Aboriginal community members need to be conducted to identify and conserve Aboriginal heritage values in the parks.

Desired outcomes

- Significant Aboriginal places and values are identified and protected.
- Aboriginal people are involved in management of the Aboriginal cultural values of the parks.
- Negative impacts on Aboriginal heritage values are minimised.
- Understanding of the cultural values of the parks is improved.

Management response

3.3.1 Continue to consult and involve local community Elders, relevant Aboriginal community organisations and custodial families in the management of their Country, including the management of Aboriginal sites and places, and cultural and natural values.

3.3.2 Undertake an archaeological survey and cultural assessment before all works with the potential to impact Aboriginal sites or values.

3.3.3 Encourage further research into the Aboriginal cultural heritage values of the park with local community Elders and relevant Aboriginal community organisations.

3.3.4 Undertake surveys within the parks to identify Aboriginal sites.

3.4 Shared cultural heritage

Heritage places and landscapes are made up of living stories as well as connections to the past that individuals and communities have inherited and wish to conserve for current and future generations, and can include natural resources, objects, customs and traditions. Cultural heritage comprises places and items that may have historical, scientific, cultural, social,

archaeological, architectural, aesthetic or natural significance. NPWS conserves the significant heritage features of the parks and reserves that it manages.

European settlement of the Braidwood area had begun by the 1820s with land grants to graziers. Majors Creek State Conservation Area was part of the Mount Elrington farm, granted to Major William Sandys Elrington, a veteran of the Napoleonic Wars and after whom Majors Creek is named (Palerang Council 2006). It was used for grazing and some cropping.

Settlement expanded dramatically with the discovery of gold. Alluvial gold was discovered east of the present town of Majors Creek in 1851 and brought a rapid influx of prospectors. A shanty town soon sprang up as Majors Creek became the largest goldfield in the district, with 2000 miners averaging one ounce of gold per day (Palerang Council 2006).

By 1859 large numbers of miners were well established on the major alluvial fields in Araluen, Majors Creek, Bells Creek and Mongarlowe. Between 1858 and 1862 these included at least 1500 Chinese miners on the Jembaicumbene and Mongarlowe fields, with at least 500 on other fields. Chinese miners constituted a very significant part of the State's mining population until the early 1870s (Braidwood & District Historical Society 2011).

Gold also attracted bushrangers, who preyed on the gold convoys which wound up the steep Majors Creek Mountain Road from the Araluen Valley. One of the gangs is remembered today in the name of Clarkes Lookout located on the edge of this road, approximately 750 metres west of Majors Creek State Conservation Area.

Alluvial gold lasted until 1920. Reef mining, where gold is extracted from seams in underlying quartz rock, began in the 1860s and continued on through to 1914 when it became uneconomical. Attempts to revive mining in the 1930s were not successful, despite a subsidised battery crusher at Majors Creek run as a cooperative in 1936 for the Jembaicumbene field. The last reef mine was closed by 1940 (Palerang Council 2006). In recent years, however, there has been renewed interest in gold mining in the area.

Interest in the conservation of the area's forests and other natural values is relatively recent. Berlang State Forest was dedicated in 1918 with an addition in 1983, and a small part of what is now Majors Creek State Conservation Area was reserved for the preservation of native flora and fauna in the early 1970s. The north–west of Majors Creek State Conservation Area was reserved for public recreation in 1976, a reserve which was commonly known as Majors Creek Falls Reserve.

Evidence of mining persists in the eastern side of Majors Creek State Conservation Area as the remains of dwellings and workings. Signs of past forestry activities can also be found within Berlang and Majors Creek state conservation areas.

Issues

- The shared cultural heritage items and sites found in the parks have not been assessed to determine their historic significance. Assessment is required before decisions are made about the future management of these items. A conservation management plan (for places of national, state and high local shared cultural heritage significance) or heritage action statement (for simple structures of local heritage significance) will be prepared as appropriate to guide future management of any items.

Desired outcomes

- Negative impacts on shared cultural heritage values are minimised.
- Understanding of the shared cultural values of the parks is improved.
- Significant shared cultural heritage features are appropriately conserved and managed.

Management response

3.4.1 Record shared cultural heritage sites and assess their significance. Where significance assessments indicate a need, prepare and implement a conservation management plan or heritage action statement.

3.4.2 Undertake an archaeological survey and cultural assessment before all works with the potential to impact shared cultural heritage sites and places.

3.5 Visitor use

NPWS parks and reserves provide a range of visitor opportunities. NPWS aims to ensure that visitors enjoy, experience and appreciate the parks at the same time as conserving and protecting park values.

The parks are largely surrounded by private land with limited public access and, as such, generally experience low levels of visitation. Berlang State Conservation Area is the most accessible of the parks, with access through neighbouring Deua National Park. Within Berlang State Conservation Area public access is available on Berlang and Telowar trails (see Figure 1), but these trails do not provide through access.

There are no visitor facilities provided in Berlang and Majors Creek state conservation areas or in Frogs Hole Nature Reserve. There are no designated walking tracks within the parks. Bushwalkers can use the road and trail network shown on Figure 1 and can also explore other parts of the parks off trails.

Other areas managed by NPWS in the region provide opportunities for a range of nature-based recreation activities. Visitor opportunities close to the parks include those provided within Deua National Park (20 kilometres south–west of Majors Creek) and at Monga National Park (13 kilometres north–east of Majors Creek).

Horse riding is a popular recreational activity that has cultural associations for many Australians. The NPWS *Strategic Directions for Horse Riding in NSW National Parks* (OEH 2012b) provides a process for providing riding opportunities in eight priority regions in New South Wales, including the Far South Coast Region in which the Deua Catchment parks are located.

Horse riding opportunities exist in numerous other national parks in the region. Of the Deua Catchment parks, only Berlang State Conservation Area provides roads suitable for riding, which is an extension of the opportunities within Deua National Park.

There is currently minimal cycling in the parks. In accordance with NPWS policy and the *Sustainable Mountain Biking Strategy* (OEH 2011b) cycling is permitted on the park roads in Berlang State Conservation Area (see Figure 1).

Although fossicking is not consistent with the management principles of nature reserves, it can occur in state conservation areas subject to appropriate environmental and risk assessment. Fossicking, such as panning and detecting, could potentially be undertaken on creeks within Majors Creek and Berlang state conservation areas. However, visitor activities in Majors Creek State Conservation Area are limited by the lack of suitable public access. Areas around Bells Creek are accessible but contain the remains of dwellings and mine workings which have not yet been assessed for their shared cultural heritage significance (see Section 3.4). The former mine workings pose a safety risk to visitors. Fossicking in Majors Creek State Conservation Area will not be allowed unless visitor access is improved and shared cultural heritage values around Bells Creek are assessed.

Visitor access at Berlang State Conservation Area is provided along Berlang and Telowar trails. Being located on higher ground, along ridge lines and spurs, these trails are not expected to

provide suitable opportunities for fossickers. Fossicking will not be allowed in Berlang State Conservation Area.

Issues

- There is limited public access to the parks.

Desired outcomes

- Any visitor use of the parks is ecologically sustainable.
- The parks continue to provide opportunities for nature-based recreation with minimal impact on natural and cultural values.

Management response

3.5.1 Allow cycling and horse riding on Berlang and Telowar trails in Berlang State Conservation Area as shown on Figure 1.

4. Threats

4.1 Pests

Pest species are plants, animals and pathogens that have negative environmental, economic and social impacts and are most commonly introduced species. Pests can have impacts across the range of park values, including impacts on biodiversity, cultural heritage, catchment and scenic values.

The *Biosecurity Act 2015* and its regulations provide specific legal requirements for the response, management and control of biosecurity risks, including weeds and pest animals. These requirements apply equally to public and privately-owned land. Under this framework, Local Land Services has prepared regional strategic weed management plans and regional strategic pest animal management plans for each of its 11 regions, including South East Region (South East LLS 2017 and South East LLS 2018).

The LLS plans identify priority weeds and pest animals in each of the regions, plus the appropriate management response for the region (i.e. prevention/alert, eradication, containment or asset protection).

NPWS prepares pest management strategies which identify the operations and control actions undertaken by NPWS to meet the priorities from the LLS regional strategic pest and weed management plans. This also includes other important programs such as the *Biodiversity Conservation Program* (see Section 3.2).

The overriding objective of the NPWS pest management strategies is to minimise adverse impacts of introduced species on biodiversity and other park and community values while complying with legislative responsibilities. These strategies are regularly updated. Reactive programs may also be undertaken in cooperation with neighbouring land managers, in response to emerging issues. Significant pest species recorded in the park are listed in Table 4 and discussed below.

Table 4: Pest animals recorded in the parks

Common name	Scientific name	Distribution within the parks*		
		Majors Creek	Frogs Hole	Berlang
Cat [A B C]	*Felis catus*	Scattered	Scattered	Scattered
European red fox [A B C]	*Vulpes vulpes*	Scattered	Scattered	Scattered
Feral pig [A B C D]	*Sus scrofa*	Scattered	Scattered	Isolated
Goat [A B C D]	*Capra hircus*	Isolated	Isolated	Isolated
Rabbit [A B C]	*Oryctolagus cuniculus*	Isolated	Isolated	Isolated
Wild dog [A C]	*Canis lupus* subspp.	Scattered	Isolated	Isolated

* Scattered = scattered populations throughout the park; Isolated = isolated populations restricted to a small area within the park.
[A] Declared key threatening process under the Biodiversity Conservation Act
[B] Declared key threatening process under the Environment Protection and Biodiversity Conservation Act
[C] South East LLS (2018) asset protection pest animal management category
[D] South East LLS (2018) eradication or containment for isolated populations or new incursions pest animal management category.

Populations of feral goats are known to occur in the parks. The impact of feral goats on conservation values can be substantial because they graze native plants, spread weeds, trample vegetation, compete with native animals for shelter, and damage Aboriginal heritage sites. Congregations of goats in favoured locations can result in erosion. The impacts of feral

goats has been listed as a key threatening process under the Biodiversity Conservation Act (NSW SC 2004) and Environment Protection and Biodiversity Conservation Act (DoE 2009).

Wild dogs — including dingos (*Canis lupus dingo*), feral domestic dogs (*Canis lupus familiaris*) and their hybrids — are known to occur within the parks. Wild dogs are priority pest animals throughout NSW under the Biosecurity Act due to their impacts on livestock. Control of wild dogs in the parks is carried out in accordance with the Braidwood/South Coast Wild Dog Management Plan. The regional pest management strategy (OEH 2012a) identifies control of wild dogs and foxes as a critical priority in Majors Creek State Conservation Area.

The NPWS regional pest management strategy identifies Scotch broom (*Cytisus scoparius*) and the state priority weed blackberry (*Rubus fruticosus* agg.) as critical priorities for control to limit impacts on the vulnerable Araluen gum and the endangered ecological community Araluen Scarp Grassy Forest (OEH 2012a). Scotch broom is a regional priority weed (South East LLS 2017) found in Majors Creek State Conservation Area along the creek line above the falls and in the inaccessible gorge country along Majors Creek and in Berlang State Conservation Area. Other weeds present in the parks include Japanese honeysuckle (*Lonicera japonica*) and willows (*Salix* spp.) which occur as isolated infestations restricted to a small geographic area of Majors Creek State Conservation Area (D Burns 2012, pers. comm.).

Desired outcomes

- Pest plants and animals are controlled and where possible eliminated.
- Negative impacts of pest plants and animals on park values are minimised.

Management response

4.1.1 Manage pest species in line with pest management strategies relevant to the park.

4.1.2 Survey the parks to determine the presence and extent of pest species and identify biodiversity most at risk.

4.1.3 Seek the cooperation of neighbours in implementing pest control programs. Undertake control in cooperation with the South East Local Land Services, Queanbeyan-Palerang Regional Council and local Landcare groups.

4.1.4 Monitor state and regional priority weeds and significant environmental weeds and their impacts. Treat any new outbreaks where possible.

4.1.5 Undertake wild dog control within the parks in cooperation with neighbours, and in accordance with the Braidwood/South Coast Wild Dog Management Plan.

4.2 Fire

The primary objectives of NPWS fire management are to protect life, property, community assets and cultural heritage from the adverse impacts of fire, while also managing fire regimes in parks to maintain and enhance biodiversity. NPWS also assists in developing fire management practices that contribute to conserving biodiversity and cultural heritage across the landscape, and implements cooperative and coordinated fire management arrangements with other fire authorities, neighbours and the community (OEH 2013a).

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 Biodiversity Conservation Act (NSW SC 2000b).

The fire history in the parks is only partially known. Three fire events are documented, all within Berlang State Conservation Area. The first two are prescribed burns undertaken in 1982–83

and in 1986 when the park was still state forest. The third event was a wildfire that burned approximately 400 hectares of the south-east corner of Berlang State Conservation Area in August 1987.

The fire management strategy for the parks is included in the *Deua & Monga Fire Management Strategy* (OEH 2011a). This strategy outlines the recent fire history of the parks, key assets within and adjoining the park including sites of natural and cultural heritage value, fire management zones and fire control advantages such as management trails and water supply points. It also contains fire regime guidelines for conservation of the parks' vegetation communities.

NPWS maintains cooperative arrangements with surrounding landowners and the Rural Fire Service and is actively involved with the Lake George Bush Fire Management Committee. Cooperative arrangements include fire planning, fuel management and information sharing. Hazard reduction programs, ecological burning proposals and fire trail works are submitted annually to the bush fire management committee.

Desired outcomes

- Negative impacts of fire on life, property and the environment are minimised.
- The potential for spread of bushfires on, from or into the park is minimised.
- Fire regimes are appropriate for conservation of native plant and animal communities.

Management response

4.2.1 Implement the *Deua & Monga Fire Management Strategy*.

4.2.2 Continue to be involved in the Lake George Bush Fire Management Committee and maintain cooperative arrangements with local Rural Fire Service brigades and surrounding landowners in regard to fuel management and fire suppression.

4.2.3 Suppress unplanned fires in the parks in accordance with the *Deua & Monga Fire Management Strategy*.

4.2.4 Manage the parks to protect biodiversity in line with the fire regimes identified in the *Deua & Monga Fire Management Strategy*.

4.2.5 Monitor the ability of plant communities to recover between fires and review regimes where relevant.

4.2.6 Rehabilitate areas disturbed by fire suppression operations as soon as practical after a fire.

4.3 Climate change

Human-induced climate change is listed as a key threatening process under the Biodiversity Conservation Act (NSW SC 2000a) and the associated loss of habitat is listed under the Environment Protection and Biodiversity Conservation Act (TSSC 2001). The latest information on projected changes to climate are from the NSW and ACT Regional Climate Modelling (NARCliM) project (OEH 2014b). The climate projections for 2020–39 are described as 'near future', and projections for 2060–79 are described as 'far future'. The snapshot shown in Table 5 is for the NARCliM South East and Tablelands Region which includes the Deua Catchment parks (OEH 2014b).

Projections of future changes in climate for this region include an increase in evaporation which, when combined with projected changes in rainfall, is likely to result in drier soil conditions, particularly in spring and winter. Spring runoff is very likely to decrease substantially and

summer runoff is very likely to increase substantially. Short, medium and longer duration droughts are all likely to become more severe (DECCW 2010).

Higher temperatures and changes to rainfall patterns are likely to lead to increased fire frequency, but the return period of fires is considered likely to remain within the acceptable fire intervals for the woodlands, dry forests and wetter forests in the parks. Historically, the near-coastal and higher mountain areas of the region have experienced an average of fewer than 10 very high to extreme fire risk days per year, while inland areas have between 10 and 15 days, and subalpine areas less than one day per year. Very high to extreme fire danger days are projected to increase by 10–50% and the conditions conducive to large and intense fires (such as prolonged drought, low humidity, number of days with high temperature and high wind speeds) may increase (DECCW 2010; OEH 2014b).

Table 5: South East and Tablelands Region climate change snapshot

Projected temperature changes	
Maximum temperatures are projected to **increase** in the near future by 0.5–1.0°C	Maximum temperatures are projected to **increase** in the far future by 1.8–2.5°C
Minimum temperatures are projected to **increase** in the near future by 0.4–0.7°C	Minimum temperatures are projected to **increase** in the far future by 1.4–2.3°C
The number of hot days (i.e. > 35°C) will **increase**	The number of cold nights (i.e. < 2°C) will **decrease**
Projected rainfall changes	
Rainfall is projected to **decrease** in spring and winter	Rainfall is projected to **increase** in summer and autumn
Projected Forest Fire Danger Index changes	
Average fire weather is projected to **increase** in summer and spring	Number of days with severe fire weather is projected to **increase** in summer and spring

Source: OEH 2014b.

Climate change may significantly affect biodiversity by changing the size of populations and the distribution of species, and altering the geographical extent and species composition of habitats and ecosystems. Species most at risk are those unable to migrate or adapt, particularly those with small population sizes or with slow growth rates.

The potential impact of climate change on these parks is difficult to predict since it depends on the compounding effects of other pressures, particularly barriers to migration and pressure from introduced species. It is expected that, with its altitudinal range and its position immediately adjacent to the much larger Deua National Park, impacts will be less in Berlang State Conservation Area than in the smaller and more isolated parks. Programs to reduce the pressures arising from other threats, such as invasive species (see Section 4.1), bushfires (see Section 4.2) and habitat fragmentation (see Section 4.4), will also help reduce the severity of the effects of climate change.

Desired outcomes

- The effects of climate change on natural systems are reduced.

Management response

4.3.1 Continue existing fire, pest and weed management programs to increase the parks' ability to cope with future disturbances, including climate change.

4.3.2 Encourage research into appropriate indicators to monitor the effects of climate change.

4.4 Isolation and fragmentation

Frogs Hole Nature Reserve and Majors Creek State Conservation Area are relatively small and isolated, and subject to edge effects making them more vulnerable to disturbances. Vegetated links between these parks and the much larger Deua and Monga national parks are important to provide for movement of wildlife across the landscape, and reduce the impacts of climate change on biodiversity.

Although the location of Berlang State Conservation Area adjacent to Deua National Park reduces climate change impacts and also edge effects, its eastern side is subject to disturbances where it borders cleared grazing land.

Adjacent land uses place pressures on parks through the incursion of non-native plant and animal species. Adjacent urbanised land, such as that near the western boundary of Majors Creek State Conservation Area, also places pressure on parks through a range of issues such as predation by pets, encroachments and unauthorised recreational activities.

Cooperative arrangements with neighbours are important for the management of access, fire, weeds and pest animals. Additionally, long-term conservation of biodiversity depends on the protection, enhancement and connection of remaining habitat across the landscape, incorporating vegetation remnants on both public and private lands.

Desired outcomes

- The negative impacts of isolation and fragmentation are reduced.

Management response

4.4.1 Maintain cooperative arrangements with nearby landholders regarding access, fire and pest species management.

4.4.2 Encourage protection and enhancement of native vegetation on public and private lands in the vicinity of the parks.

4.4.3 Liaise with neighbours, Queanbeyan-Palerang Regional Council, Department of Primary Industries – Lands, and Roads and Maritime Services to encourage the retention and appropriate management of wildlife habitat and corridors adjacent to the parks.

5. Management operations and other uses

5.1 Management facilities

Park management access in the parks is available via the four-wheel drive park roads in Berlang State Conservation Area and a management trail in Majors Creek State Conservation Area which runs along the ridge east of Majors Creek gorge (see Figure 1). These park roads and the management trail are maintained by NPWS and, together with roads and trails in the adjacent parts of Deua National Park, are regularly used for pest management and other operational activities.

The park roads in Berlang State Conservation Area also provide for park visitors and private property access. In accordance with NPWS policy, vehicle use of the management trail in Majors Creek State Conservation Area is only for NPWS and other authorised activities, such as essential park management and emergency response.

Desired outcomes

- Facilities for management operations are adequate and have limited impacts on park values.

Management response

5.1.1 Maintain the management trail and park roads shown on Figure 1.

5.2 Non-NPWS uses/operations

Mining and exploration

Exploration for minerals and petroleum, as well as mining and petroleum production, are permissible uses within state conservation areas. Both Berlang and Majors Creek state conservation areas are associated with the Braidwood granodiorite (see Section 3.1). Significant mineral deposits are located in the Braidwood granodiorite, including substantial gold resources in the nearby Dargues Reef and Majors Creek mineral deposits (NPWS 2014). Although there are no known mineral deposits in either state conservation area, Majors Creek State Conservation Area is surrounded by numerous deposits and mines (NPWS 2014). An exploration licence is currently held over Majors Creek State Conservation Area which has been subject to mineral exploration licences for much of the past century. Recent exploration licences in Berlang State Conservation Area have not been renewed.

The Department of Planning, Industry and Environment (Resources and Energy) is the lead authority for mining and petroleum activities, including mineral exploration and mine site rehabilitation. The Department will ensure that exploration and production proposals in state conservation areas comply with all statutory requirements, including any necessary environmental and heritage impact assessments and approvals.

Transmission lines

Essential Energy maintains a powerline traversing the south-west corner of Majors Creek State Conservation Area, accessed from Majors Creek Mountain Road. This powerline is not covered by a formal easement. In accordance with the *Electricity Supply Act 1995*, however, a network operator can operate and use existing powerlines whether or not there is a formal easement in place.

Clearings and vehicle trails along powerlines have significant environmental and visual impacts. No access or maintenance agreement currently exists with Essential Energy but the company must comply with the National Parks and Wildlife Act and Regulation when carrying out any maintenance or replacement work and so will require NPWS consent for certain works.

Telecommunications

A Telstra optic-fibre cable is located along the length of Major Trail within Majors Creek State Conservation Area. The cable pre-dates reservation and was lawfully constructed pursuant to Commonwealth legislation which provided an exemption at the time from the requirement for authorisation under state legislation. Maintenance of these facilities, as defined under the Commonwealth *Telecommunications Act 1997*, can be undertaken without NPWS approval. Any other works would require NPWS approval and licensing under the National Parks and Wildlife Act.

Desired outcomes

- Mining and mineral exploration activities have minimal impact on the natural and cultural values of the state conservation areas.
- Transmission lines are managed to minimise impacts on park values.
- Existing optic-fibre cables are managed to minimise impacts on natural and cultural values, and park infrastructure.

Management response

5.2.1 Subject applications for mining or mineral exploration in Berlang and Majors Creek state conservation areas to environmental and heritage impact assessment and approvals. Ensure that any future operations comply with approval conditions.

5.2.2 Continue to liaise with Essential Energy regarding access to and maintenance of the existing powerline that traverses Majors Creek State Conservation Area.

6. Implementation

This plan of management establishes a scheme of operations for the parks. Implementation of this plan will be undertaken within the NPWS annual work program.

Identified activities for implementation are listed in Table 5. Relative priorities are allocated to each activity as follows:

- **High priority** activities are imperative to achieve the objectives and desired outcomes of this plan, and must be undertaken in the near future to avoid significant deterioration in natural, cultural or management resources.
- **Medium priority** activities are necessary to achieve the objectives and desired outcomes of the plan but they are not urgent.
- **Low priority** activities are desirable to achieve management objectives and desired outcomes but can wait until resources become available.
- **Ongoing** activities are undertaken on an annual basis or are statements of management intent that will direct the management response if an issue that arises.

This plan of management does not have a specific term and will stay in force until amended or replaced in accordance with the National Parks and Wildlife Act.

Table 6. Management responses and priorities

No.	Management response	Priority
3.1 Geology, landscape and hydrology		
3.1.1	Ensure the management trail and park roads are designed and maintained to minimise soil erosion.	Ongoing
3.1.2	Liaise with landholders in the parks' upstream catchments and other authorities with the aim of maintaining and, where possible, improving water quality in the parks.	Medium
3.2 Native plants and animals		
3.2.1	Implement relevant high priority recovery actions in the *Biodiversity Conservation Program* and recovery plans for threatened species, populations and ecological communities present in the parks.	High
3.2.2	Confirm the occurrence of Araluen gum in Berlang State Conservation Area and record/map its extent if found.	Medium
3.2.3	Confirm the occurrence of Majors Creek leek orchid in the parks and record/map its extent if found.	Medium
3.2.4	Encourage and assist external researchers to undertake studies that will improve understanding and aid management of threatened species, populations and ecological communities present in the parks.	Medium
3.3 Aboriginal heritage		
3.3.1	Continue to consult and involve local community Elders, relevant Aboriginal community organisations and custodial families in the management of their Country, including the management of Aboriginal sites and places, and cultural and natural values.	High
3.3.2	Undertake an archaeological survey and cultural assessment before all works with the potential to impact Aboriginal sites or values.	Ongoing

No.	Management response	Priority
3.3.3	Encourage further research into the Aboriginal cultural heritage values of the park with local community Elders and relevant Aboriginal community organisations.	Medium
3.3.4	Undertake surveys within the parks to identify Aboriginal sites.	Medium
3.4 Shared cultural heritage		
3.4.1	Record shared cultural heritage sites and assess their significance. Where significance assessments indicate a need, prepare and implement a conservation management plan or heritage action statement.	Medium
3.4.2	Undertake an archaeological survey and cultural assessment before all works with the potential to impact on shared cultural heritage sites and places.	Ongoing
3.5 Visitor use		
3.5.1	Allow cycling and horse riding on Berlang and Telowar trails in Berlang State Conservation Area as shown on Figure 1.	Ongoing
4.1 Pests		
4.1.1	Manage pest species in line with pest management strategies relevant to the park.	High
4.1.2	Survey the parks to determine the presence and extent of pest species and identify biodiversity most at risk.	Medium
4.1.3	Seek the cooperation of neighbours in implementing pest control programs. Undertake control in cooperation with the South East Local Land Services, Queanbeyan-Palerang Regional Council and local Landcare groups.	High
4.1.4	Monitor state and regional priority weeds and significant environmental weeds and their impacts. Treat any new outbreaks where possible.	High
4.1.5	Undertake wild dog control within the parks in cooperation with neighbours, and in accordance with the Braidwood/South Coast Wild Dog Management Plan.	High
4.2 Fire		
4.2.1	Implement the *Deua & Monga Fire Management Strategy*.	High
4.2.2	Continue to be involved in the Lake George Bush Fire Management Committee and maintain cooperative arrangements with local Rural Fire Service brigades and surrounding landowners in regard to fuel management and fire suppression.	High
4.2.3	Suppress unplanned fires in the parks in accordance with the *Deua & Monga Fire Management Strategy*.	Ongoing
4.2.4	Manage the parks to protect biodiversity in line with the fire regimes identified in the *Deua & Monga Fire Management Strategy*.	High
4.2.5	Monitor the ability of plant communities to recover between fires and review regimes where relevant.	Medium
4.2.6	Rehabilitate areas disturbed by fire suppression operations as soon as practical after a fire.	Ongoing
4.3 Climate change		
4.3.1	Continue existing fire, pest and weed management programs to increase the parks' ability to cope with future disturbances, including climate change.	High

No.	Management response	Priority
4.3.2	Encourage research into appropriate indicators to monitor the effects of climate change.	Medium
4.4 Isolation and fragmentation		
4.4.1	Maintain cooperative arrangements with nearby landholders regarding access, fire and pest species management.	Ongoing
4.4.2	Encourage protection and enhancement of native vegetation on public and private lands in the vicinity of the parks.	Medium
4.4.3	Liaise with neighbours, Queanbeyan-Palerang Regional Council, Department of Primary Industries – Lands, and Roads and Maritime Services to encourage the retention and appropriate management of wildlife habitat and corridors adjacent to the parks.	Medium
5.1 Management facilities		
5.1.1	Maintain the management trail and park roads shown on Figure 1.	High
5.2 Non-NPWS uses/operations		
5.2.1	Subject applications for mining or mineral exploration in Berlang and Majors Creek state conservation areas to environmental and heritage impact assessment and approvals. Ensure that any future operations comply with approval conditions.	Ongoing
5.2.2	Continue to liaise with Essential Energy regarding access to and maintenance of the existing powerline that traverses Majors Creek State Conservation Area.	Ongoing

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