NSW GOVERNMENT
Office of Environment & Heritage
NSW National Parks & Wildlife Service

Plan of Management

Tallaganda National Park and State Conservation Area

TALLAGANDA NATIONAL PARK AND STATE CONSERVATION AREA

PLAN OF MANAGEMENT

NSW National Parks and Wildlife Service

September, 2011

This plan of management was adopted by the Minister for the Environment on 22nd September 2011.

Acknowledgments
The NSW National Parks and Wildlife Service (NPWS) acknowledges that this park is in the traditional country of the Ngarigo and Walbanga Aboriginal people.

This plan of management is based on a draft plan prepared by the staff of the South West Slopes Region of the NSW National Parks and Wildlife Service, part of the Office of Environment and Heritage, Department of Premier and Cabinet.

FRONT COVER: Tallaganda National Park.
Photo: David Baxter/NPWS

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FOREWORD

Tallaganda National Park and Tallaganda State Conservation Area were established in 2001. They are located 30 kilometres east of Canberra and have a combined area of 21,879 hectares.

Tallaganda National Park and State Conservation Area contain a mixture of moist and dry forest with small amounts of low open forest, woodland, heath, as well as high altitude swamps which are listed as an endangered ecological community. Some ecosystems, such as swamp gum, black gum, and black sallee grassy woodlands, are not well represented in the current state-wide reserve system. The reserves contain high numbers of spotted-tailed quolls and rare invertebrate fauna, including velvet worms, flatworms, funnel web spiders and springtails.

Tallaganda National Park and State Conservation Area also contain historic eucalyptus distilleries, house/hut sites, trig stations, sawmill sites, mine shafts and fences.

The New South Wales *National Parks and Wildlife Act 1974* requires that a plan of management be prepared for each national park and state conservation area. A draft plan of management for Tallaganda National Park and State Conservation Area was placed on public exhibition from 18th September until 21st December 2009. The submissions received were carefully considered before adopting this plan.

The plan contains a number of actions to protect the natural values of these reserves, including closure and rehabilitation of trail bike tracks, implementation of strategies to assist the recovery of threatened species, control of weeds and pest animals, and fire management. The plan also contains a number of actions to improve visitor and tourism experiences, including continued development of a picnic/camping area at Mulloon Creek, and the investigation of two other picnic/camping areas. It also provides for continued scenic driving, horse riding, cycling, bushwalking and orienteering.

This plan of management establishes the scheme of operations for Tallaganda National Park and 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
Minister for the Environment

1. LOCATION, GAZETTAL AND REGIONAL CONTEXT

Tallaganda National Park and State Conservation Area (referred to in this plan as "the planning area") are located on the Great Dividing Range 30 kilometres east of Canberra and cover a total of 21,879 hectares.

The planning area encompasses two sections of reserved land separated by state forest. The northern section is located about 15 kilometres south-east of Bungendore and lies between the towns of Hoskinstown and Braidwood. Its 11,564 hectares are comprised of 6,342 hectares of national park on the west and 5,222 hectares of state conservation area on the east. The southern section of the planning area is comprised of 10,315 hectares of national park located about 5 kilometres east of Captains Flat, with the bulk of the area lying south of the Captains Flat - Braidwood Road.

The national park and state conservation area were gazetted over part of Tallaganda State Forest and several small parcels of crown land in 2001, as part of the Southern Regional Forest Agreement process. The reserves were gazetted for the protection of the diverse range of forest ecosystems and associated fauna found within them.

As well as Tallaganda National Park and State Conservation Area, the planning area includes lands that are vested in the Minister for the Environment for the purposes of Part 11 of the NPW Act. These lands have been acquired by NPWS but not yet gazetted as part of Tallaganda National Park and State Conservation Area. They mainly comprise roads that provide access to neighbouring state forest and private property (refer section 5 of the plan) but also include two areas of perpetual leasehold land adjacent to the north-eastern and north-western ends of the state conservation area.

The northern section of the planning area abuts pastoral land to the east, north and west, and to the south adjoins native and plantation pine forest managed by Forests NSW. The southern section adjoins this forest to the north and east, private land to the west, and state forest and Gourock National Park to the south. Narrow valleys separate the southern section of the planning area from timbered ranges that include Tinderry Nature Reserve and Yanununbeyan National Park, Nature Reserve and State Conservation Area to the west, and Deua National Park to the east. Land use in these valleys is mostly pastoral, with some rural residential development.

The northern section of the planning area lies within the Palerang Council area. The southern section falls mostly within the Cooma-Monaro Council boundary, with small areas under the administration of the Palerang Council.

The planning area lies within four Local Aboriginal Land Council (LALC) areas. In the northern section the Ngunawal LALC covers the lands on the western fall of the range and the Batemans Bay LALC the eastern fall. The Mogo LALC covers the bulk of the southern section of the planning area, with the exception of the southern tip of park, which lies within the area of the Cobowra LALC.

Part of the planning area falls within the Shoalhaven water supply catchment, which ultimately supplies water to the Sydney water catchment. The eastern fall of the range lies within the Southern Rivers Catchment Management Authority area and the remainder within the Murrumbidgee Catchment Management Authority area.

2. MANAGEMENT CONTEXT

2.1 LEGISLATIVE AND POLICY FRAMEWORK

The management of national parks and state conservation areas in NSW is in the context of a legislative and policy framework, primarily the *National Parks and Wildlife Act 1974* (NPW Act), the NPW Regulation, the *Threatened Species Conservation Act 1995* (TSC Act) and the policies of the National Parks and Wildlife Service (NPWS).

Other legislation, international agreements and charters may also apply to management of the area. In particular, the *Environmental Planning and Assessment Act 1979* (EPA Act) may require the assessment and mitigation of the environmental impacts of works proposed in this plan.

A plan of management is a statutory document under the NPW Act. Once the Minister has adopted the plan, no operations may be undertaken within Tallaganda National Park and State Conservation Area except in accordance with the plan. The plan will also apply to any future additions to the planning area. Where management strategies or works are proposed for the national park and state conservation area or any additions that are not consistent with this plan, an amendment to the plan or a new plan will be prepared and exhibited for public comment.

2.2 MANAGEMENT PURPOSES AND PRINCIPLES

National parks are reserved under the NPW Act to protect and conserve areas containing outstanding or representative ecosystems, natural or cultural features or landscapes or phenomena that provide opportunities for public appreciation and inspiration and sustainable visitor use.

Under the Act (section 30E), national parks are managed to:

- conserve biodiversity, maintain ecosystem functions, protect geological and geomorphological features and natural phenomena and maintain natural landscapes;
- conserve places, objects, features and landscapes of cultural value;
- protect the ecological integrity of one or more ecosystems for present and future generations;
- promote public appreciation and understanding of the park's natural and cultural values;
- provide for sustainable visitor use and enjoyment that is compatible with conservation of natural and cultural values;
- provide for sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to conservation of natural and cultural values; and
- provide for appropriate research and monitoring.

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 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 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 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*. In the long term it is intended for Tallaganda State Conservation Area to be added to Tallaganda National Park, and so management will also be guided by the management principles for national parks where possible.

2.3 STATEMENT OF SIGNIFICANCE

Tallaganda National Park and Tallaganda State Conservation Area are considered to be of significance for:

- Biological Values: The planning area is made up of a diverse range of forest types that contain a mixture of moist and dry forest with small amounts of low open forest, woodland and heath. Some ecosystems, such as the swamp gum, black gum, and black sallee grassy woodlands, are not well represented in the current state-wide reserve system. The swamps occurring at high altitudes within the planning area are part of the Montane Peatlands and Swamps Endangered Ecological Community (EEC), listed under the TSC Act. The planning area also protects habitat for a number of rare fauna including velvet worms, flatworms, funnel web spiders and springtails and 11 species of threatened fauna.
- Aboriginal Heritage Values: The planning area protects an array of Aboriginal heritage sites and places of importance.
- Historic Heritage Values: The planning area protects a group of eucalyptus distilleries, which in combination with the eucalyptus distilleries in Tinderry Nature Reserve are of state significance.

- Recreation Values: The planning area provides recreation opportunities for day trips from Canberra and surrounding areas.

2.4 MANAGEMENT DIRECTIONS

Management of the reserves will focus on minimising known threats to ecosystem functionality, thereby enhancing ecosystem resilience to broader influences such as climate change and habitat fragmentation.

Other important management objectives include:

- The protection of Aboriginal heritage sites and European heritage sites within the planning area, and in particular, the suite of eucalyptus distilleries (refer section 7.2);
- The provision of appropriate recreation opportunities and facilities (refer section 7.3);
- The promotion of public awareness, understanding and appreciation of the park (refer section 7.3).

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, 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

Tallaganda National Park and State Conservation Area are located on the Great Dividing Range, which in this area forms the watershed between the coastal Shoalhaven River and the inland Molonglo and Queanbeyan Rivers.

The northern section of the planning area mainly occupies the eastern fall of the range and encompasses the upper reaches of the Mulloon, Bombay and Little Bombay Creeks. The higher altitude land along the range is based on Silurian to Devonian Boro granites with the lower north and eastern areas comprising Silurian shale, sandstone, and greywacke volcanics with Ordovician sediments in the northern tip. The altitudinal range lies between 700 metres and 1262 metres, the latter at South Black Range Trig.

The southern section of the planning area is located mostly on the western fall of the range and includes the headwaters of the Molonglo River and Sherlock and Ballinafad Creeks. The higher altitude land along the range is based on Silurian to Devonian Boro granites with Silurian greywacke and sandstones within the lower creek catchments on the west of the reserve. The altitude ranges from 940 metres in the Wild Cattle Flat area to over 1400 metres along the southern section of range.

3.2 NATIVE PLANTS

The planning area is made up of a diverse range of forest types that contain a mixture of moist and dry forest with small amounts of low open forest, woodland and heath (Thomas et al, 2000).

On the most sheltered sites, tall moist forests are dominated by brown barrel *Eucalyptus fastigata*, with narrow-leaved peppermint *E. radiata* and ribbon gum *E. viminalis.* The understorey consists of a sparse layer of silver wattle *Acacia dealbata*, with lower shrubs such as river lomatia *Lomatia myricoides* and lance beard-heath *Leucopogon lanceolatus.* The ground cover is diverse and comprises tussock grass *Poa meionectes,* weeping grass *Microlaena stipoides*, bracken *Pteridium esculentum* and the graminoids blueberry lily *Dianella tasmanica* and spiny-headed mat rush *Lomandra longifolia.*

On slightly drier slopes and aspects in the same elevational range, a moist forest up to 25 metres in height grows, co-dominated by ribbon gum and narrow-leaved peppermint.

Blackwood *Acacia melanoxylon* dominates an open shrub layer, with lance beard-heath and *Senecio sp.* The ground layer comprises spiny-headed mat rush, bracken and blueberry lily with forbs such as twining glycine *Glycine clandestina*, ivy-leaved violet *Viola hederacea* and prickly starwort *Stellaria pungens.*

The western slopes of the range are dominated by a tall forest of mountain gum *E. dalrympleana* with an understorey of black wattle. The ground cover comprises weeping grass, snow grass *Poa sieberiana* and herbs such as sheep's burr *Acaena ovina,* kidneyweed *Dichondra repens* and twining glycine*.*

Dry forest up to 20 metres in height occurs between 700 and 900 metres elevation on dry exposed slopes and moderately shallow clay soils derived from Ordovician sediments. This forest is co-dominated by narrow-leaved peppermint and silver top ash *E. sieberi*, with a scattered shrub layer of lance beard-heath*,* broad-leaved hickory *Acacia falciformis* and *Monotoca scoparia.* Spiny-headed mat rush and bracken dominate an open ground cover, interspersed with blueberry lily and herbs.

On slightly shallower soils, a dry shrub forest co-dominated by silvertop ash and broad-leaved peppermint *E. dives* with scattered brittle gum *E. mannifera* and narrow-leaved peppermint occurs. Moist gully lines on the eastern fall, in the northern section, include swamp gum *E. ovata* that is not well represented in the reserve system. The sparse shrub layer consists of narrow-leaved geebung *Persoonia linearis* with low shrubs such as daphne heath *Brachyloma daphnoides*, ploughshare wattle *Acacia gunnii* and others. The ground cover includes a sparse layer of snow grass with other grasses and low shrubs.

At higher altitudes, particularly in the southern section of the park, a low to medium forest of snow gum *E. pauciflora* occurs, with mountain gum as an occasional co-dominant. The understorey is a sparse medium-height shrub layer with a dense ground cover of tussock grass and weeping grass, with numerous herbs.

Drier western slopes in the southern section of park support forest dominated by candlebark *E. rubida* in association with broad-leaved peppermint and mountain gum. The shrub layer and ground cover is generally similar in composition to that of the other dry forest in the reserves.

On the western side of this section of park, grassy valleys and swamps are fringed with low woodland of black sallee *E. stellulata*, also not well represented in the current state-wide reserve system, and snow gum. Underneath is an open cover of poa grasses and wheat grass *Elymus scaber*, with other herbs.

Black gum *E. aggregata* also occurs in this part of the park and is listed as vulnerable under the TSC Act. This species, while locally common in grassy woodland on alluvial soils along creeks on broad, cold flats, is also not well represented in the reserve system.

Swamps occurring at higher altitudes within the planning area are part of the Montane Peatlands and Swamps Endangered Ecological Community, listed under the TSC Act.

3.3 NATIVE ANIMALS

Native mammals recorded in the reserves include swamp wallaby *Wallabia bicolor,* red-necked wallaby *Macropus rufogriseus,* brown antechinus *Antechinus agilis,* dusky antechinus *Antechinus swainsonii* and echidna *Tachyglossus aculeatus.* Arboreal mammals including the greater glider *Petaurus volans*, sugar glider *Petaurus breviceps*, mountain brushtail possum *Trichosurus caninus* and brushtail possum *T. vulpecula* have also been recorded. The eastern pygmy possum *Cercartetus nanus*, listed as vulnerable under the TSC Act, has been recorded in the southern part of the park. Both sections of Tallaganda National Park are notable for the relatively high detection rates of spotted-tailed quoll *Dasyurus maculatus* and greater glider *Petauroides volans*. The spotted-tailed quoll is listed as vulnerable under the TSC Act.

Eight species of bats have been recorded in the reserve, including the eastern false pipestrelle *Falsistrellus tasmaniensis,* which is listed as vulnerable under the TSC Act.

During surveys undertaken in 2003, Mills and Reside noted suitable habitat for other threatened fauna as yet unrecorded in the reserves. In the northern section of the planning area, extensive ribbon gum flats along the Mulloon and Bombay Creeks provide possible koala *Phascolarctos cinereus* habitat. Mulloon Creek also appeared to be good habitat for the bat, large-footed myotis *Myotis adversus.* Extensive sub-alpine heathland along sections of the Black Range provides suitable habitat for the broad-toothed rat *Mastocomys fuscus*, eastern pygmy possum and smoky mouse *Pseudomys fumeus*, though none of these species have been detected.

In the southern part of the park, several valleys of sub-alpine grassland suitable for broad-toothed rat occur, while along the main range areas of heath growing on sand or sandy loams provide suitable habitat for smoky mouse. The densely vegetated wet gullies falling off the southern and eastern escarpment are possible habitat for long-nosed potoroo *Potorous tridactylis*, though the nearest recording is 15 kilometres to the east in Deua National Park. Platypus *Ornithorhynchus anatinus* have been reported in Sherlock Creek and its tributaries.

The planning area has abundant birdlife with over 55 species being recorded to date, including the powerful owl *Ninox strenua*, barking owl *Ninox connivens,* pink robin *Petroica rodinogaster,* flame robin *Petroica phoenicea,* scarlet robin *Petroica boodang,* olive whistler *Pachycephala olivacea,* varied sittella *Daphoenositta chrysoptera,* and the gang-gang cockatoo *Callocephalon fimbriatum*, all listed as vulnerable under the TSC Act. Several family groups of flame robin *Petroica phoenicea* were also recorded in the southern section of the planning area. The white-throated nightjar *Caprimulgus mysticalis* was also detected in the northern section, which is typically found in good quality woodland. Scattered casuarinas on dry ridges within the area also provide habitat for glossy black-cockatoo *Calyptorhynchus lathami.*

Fifteen species of reptiles and six species of amphibians have been recorded in the planning area, including abundant populations of grass skinks *Pseudomoia spenceri* along Flat Range and in the grassy flats.

The range within the planning area supports relatively high densities of velvet worms, flatworms, funnel web spiders and springtails, which have evolved a high degree of species diversity and endemism through successive glaciation episodes along this comparatively isolated part of the Great Dividing Range (Garrick et al. 2004). Different creek catchments and even sub-catchments of the planning area contain genetically separate species of these invertebrate groups, which are thus very rare, although not listed as threatened species.

3.4 ABORIGINAL 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.

The reserve is located in an area thought to be once occupied by the Ngarigo and Walbanga people (Tindale 1974). It appears the Great Dividing Range in this area was the boundary between these two groups of people. Today the northern part of the planning area lies within the area of the Batemans Bay and Ngunnawal Local Aboriginal Land Councils, while the southern section falls within the area of the Mogo and Cobowra Local Aboriginal Land Councils. Recognised elders groups also have an interest in the area.

Archaeological surveys of the reserves have found indications of past Aboriginal use, including a number of artefact scatters and isolated finds (Grinsbergs and Knight 1995). Forty-two Aboriginal sites were recorded during the field survey. Of these three were scarred trees, mostly on brown barrel, and the balance were stone artefact occurrences (scatters and isolated finds).

The majority of the artefacts recorded are representative of debris resulting from stone tool production. Quartz was the most common raw material used, however other stone types are present in greater frequencies in the north of the area. Quartz is more frequent on ridgelines than in lower areas. These patterns are explained by proximity to locally available materials.

The greatest densities of stone artefacts were found to occur in mountainous or hilly land systems, granite/volcanic dominated geology, stream and swamp banks and wet sclerophyll forests. Grinsbergs and Knight (1995) linked changes in density to variations in use patterns across the area. Given the dissected nature of the terrain and the forest structure, low gradient ridges, spurs and wide valleys were likely to have been used as travel routes. Occupation sites were focused on resource-rich areas close to reliable water in elevated well-drained locations. However, the authors also observed that larger sites possibly representative of long term camping are commonly located in dry sclerophyll forests, while large numbers of small sites representative of frequent, short term visits are located in intermediate and wet sclerophyll forests. Rock shelters are restricted to areas of suitable geology, specifically granite tors in this area.

3.5 HISTORIC HERITAGE

Much of the planning area has been logged over the past 150 years for fence posts and saw logs processed in small local sawmills. Tallaganda State Forest was gazetted in 1917. Fertile valley and swamp systems were grazed throughout this period, under occupancy permits in the state forest and permissive occupancies on vacant crown land.

A number of sites from these previous activities remain in the park, including fences, trig stations, eucalyptus distilleries and saw mill sites. The Mulloon Fire Trail, a public road that traverses the northern section of the reserves, was constructed between 1840 and 1860 and retains sections of stonework that are locally significant. A mineshaft with associated shallow diggings was recorded near where the trail crosses Mulloon Creek. After being assessed as having low significance (Pearson, 2005), the shaft was capped for public safety.

A number of small landholdings once occurred in the Wild Cattle Creek area of southern Tallaganda National Park. Remains of the foundations of houses and associated fruit trees remain in this area of the park.

A collection of four eucalyptus distilleries on the park and adjoining private land at Wild Cattle Flat are important as an example of this industry in the region, and in combination with the eucalyptus distilleries in Tinderry Nature Reserve are of state significance (Pearson 2003). This suite of sites creates a rare collection of sites reflecting fifty years of a little-documented industry, including links to the history of European migrants who operated these distilleries. The eucalyptus distillery sites in Tallaganda National Park demonstrate the characteristics that distinguish the industry in NSW. These characteristics include the simple distillery sites and associated water diversion systems, accommodation sites, evidence of self-sufficiency in the form of gardens and stored supplies, and evidence of transport modes necessary to both utilise the forest and maintain contact with town.

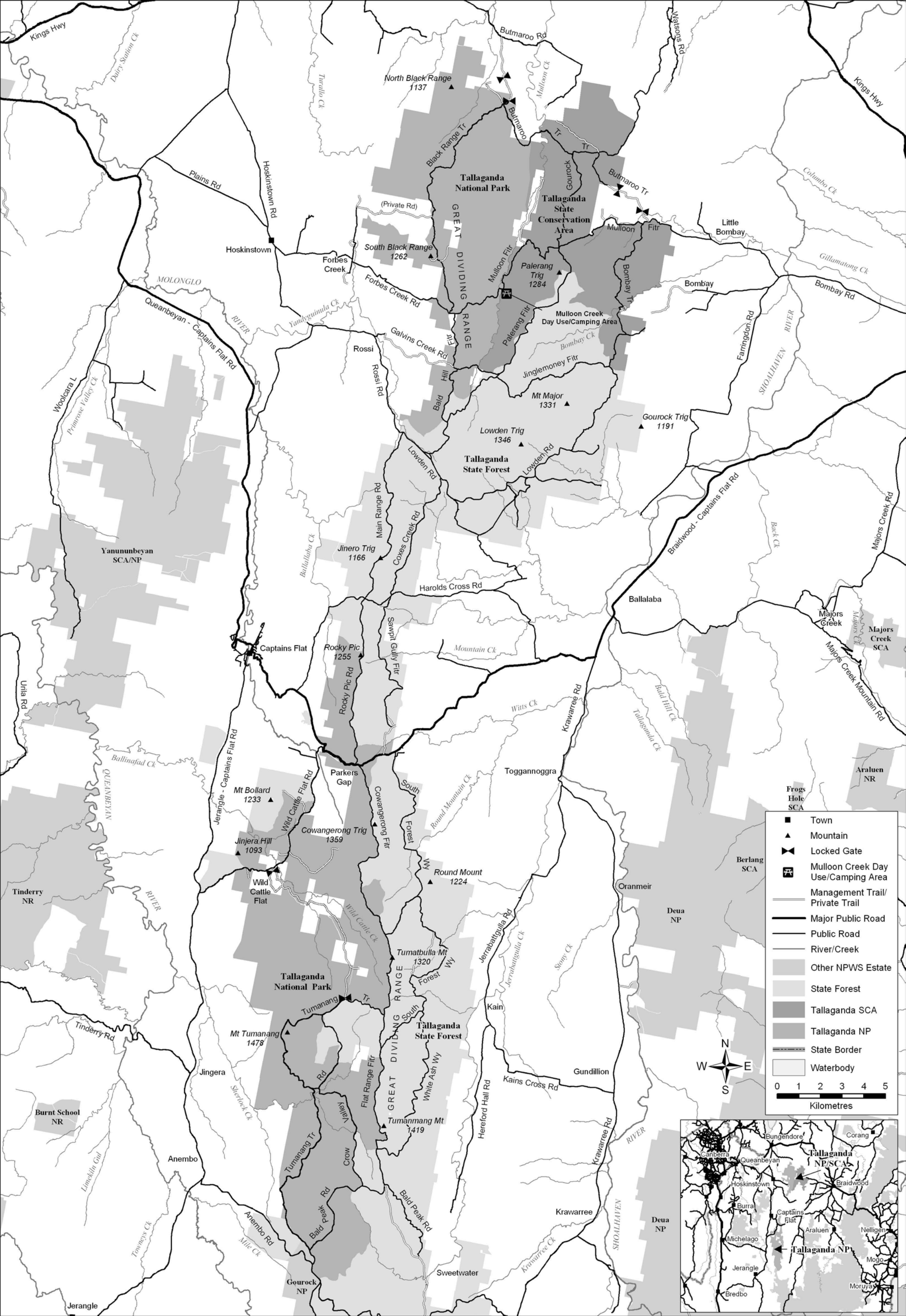
3.6 RECREATION, EDUCATION AND RESEARCH

The planning area is used for a range of activities, including orienteering, rogaining, four-wheel driving, mountain and trail-bike riding, horse riding, camping, bushwalking and picnicking. No formal facilities have yet been developed in the planning area, however a number of clearings along the roads are currently used for intermittent low level vehicle based camping, particularly on Black Range and creek crossings on Mulloon Creek. State Forests have provided a picnic and camping ground at the nearby Lowden Forest Park, which has been the traditional focus of camping in the area.

Two shelters displaying basic interpretive material have been installed near Parkers Gap and on the Mulloon Fire Trail.

The reserves are also used for a range of research programs into the vegetation and fauna of the area.

Map 1. Tallaganda National Park


Kings Hwy
Dairy Station Ck
Butmaroo Rd
Watsons Rd
Kings Hwy
North Black Range
1137
Turallo Ck
Mulloon Ck
Butmaroo
Black Range Tr
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Gourock
Butmaroo Tr
Columbo Ck
Tallaganda
National Park
Tallaganda
State
Conservation
Area
Plains Rd
Hoskinstown Rd
(Private Rd)
GREAT DIVIDING RANGE
Mulloon
Fitr
Little
Bombay
Hoskinstown
South Black Range
1262
Forbes
Creek
Mulloon Fitr
Palerang
Trig
1284
Bombay Tr
Gillamatong Ck
MOLONGLO
Forbes Creek Rd
Bombay
Bombay Rd
Queanbeyan - Captains Flat Rd
RIVER
Yandyguinula Ck
Palerang Fitr
Mulloon Creek
Day Use/Camping Area
Galvins Creek Rd
Rossi
Hill Fitr
Bombay Ck
Farringdon Rd
SHOALHAVEN
RIVER
Jinglemoney Fitr
Rossi Rd
Bald
Mt Major
1331
Gourock Trig
1191
Woolcara L
Primrose Valley Ck
Lowden Trig
1346
Lowden Rd
Tallaganda
State Forest
Lowden Rd
Main Range Rd
Coxes Creek Rd
Braidwood - Captains Flat Rd
Majors Creek Rd
Back Ck
Yanununbeyan
SCA/NP
Ballallaba Ck
Jinero Trig
1166
Harolds Cross Rd
Ballalaba
Majors
Creek
Majors
Creek
SCA
Majors Creek Mountain Rd
Urila Rd
Captains Flat
Rocky Pic
1255
Rocky Pic Rd
Sawpit Gully Fitr
Mountain Ck
Witts Ck
Krawarree Rd
Bald Hill Ck
Tallaganda Ck
Ballinafad Ck
QUEANBEYAN
Jerangle - Captains Flat Rd
Parkers
Gap
Wild Cattle Flat Rd
Cowangerong Fitr
South
Forest
Wy
Round Mountain Ck
Toggannoggra
Araluen
NR
Frogs
Hole
SCA
Mt Bollard
1233
Cowangerong Trig
1359
Jinjera Hill
1093
Round Mount
1224
Berlang
SCA
Wild
Cattle
Flat
Tinderry
NR
RIVER
Wild Cattle Ck
Oranmeir
Deua
NP
Tumatbulla Mt
1320
Jerrabattgulla Rd
Jerrabattgulla Ck
Stony Ck
Tallaganda
National Park
Tumanang
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Forest
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Tinderry Rd
Tallaganda
State Forest
Mt Tumanang
1478
Jingera
Rd
Flat Range Fitr
GREAT DIVIDING RANGE
South
White Ash Wy
Gundillion
Kains Cross Rd
Sherlock Ck
Burnt School
NR
Kellys
Tumanmang Mt
1419
Hereford Hall Rd
Krawarree Rd
RIVER
Limeklin Gul
Anembo
Tumanang Tr
Crow
Bald Peak Rd
Bald Peak Rd
Krawarree
Deua
NP
SHOALHAVEN
Towneys Ck
Anembo Rd
Mile Ck
Krawarree Ck
Sweetwater
Gourock
NP
Jerangle
Town
Mountain
Locked Gate
Mulloon Creek Day Use/Camping Area
Management Trail/ Private Trail
Major Public Road
Public Road
River/Creek
Other NPWS Estate
State Forest
Tallaganda SCA
Tallaganda NP
State Border
Waterbody
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0 1 2 3 4 5
Kilometres
Bungendore
Corang
Canberra
Queanbeyan
Tallaganda
NP/SCA
Hoskinstown
Braidwood
Burra
Captains
Flat
Araluen
Nelligen
Michelago
Tallaganda NP
Mogo
Jerangle
Moruya
Bredbo

4. ISSUES

4.1 WEEDS

The planning area is generally only subject to low levels of weed infestation. Isolated infestations of blackberry *Rubus fruticosis* and sweet briar *Rosa rubiginosa* have been recorded along sections of Mulloon Creek and occasional disturbed patches adjacent to trails and swampy areas. Willow *Salix spp*. infestations along Mulloon and Ballinafad Creeks have been treated following gazettal but a small number remain. A number of small infestations of serrated tussock *Nassella trichotoma* occur in the southern section of the park, generally associated with previously grazed or cleared land. Sweet vernal grass *Anthoxanthum odoratum* has become established in previously grazed creek flats in the Wild Cattle Flat area.

Pine wildings are found in low densities scattered throughout the northern section of the planning area. A plantation of approximately 180 pines and associated wildings occurs in one of the previous crown land areas in the southern section of park. In the same area there are several pine wildings associated with plantings around an old dwelling.

Hawthorn *Crataegus spp*. and other exotic fruit and garden species have been recorded at several locations associated with previous dwellings throughout the planning area. Whilst the original exotic trees/plants are considered part of the cultural landscape of the location, wildings from these trees/plants are not. Wildings from these original trees/plants will be controlled as part of the annual weed program. Once the original trees/plants have died they will not be replaced.

Weed control programs to date have concentrated on control of serrated tussock, willows, pine wildings and blackberry.

A Regional Pest Management Strategy (NPWS 2008) has been prepared which outlines priorities and strategies for weed control within the South West Slopes Region.

4.2 PEST ANIMALS

Introduced animals in the planning area include feral pigs, feral goats and cattle, as well as wild dogs, foxes and feral cats. Deer probably utilise the planning area, as they have been detected nearby.

Feral pigs *Sus scrofa* are present throughout the planning area. Their numbers, seasonal movements and long term impacts on flora and fauna are currently unknown. Evidence of pig activity is generally seen in grassy swamps and drainage lines and adjacent to tracks in moist forest, mainly from late autumn to spring. Feral goats have been recorded on the western boundary of the southern section of the park. Evidence of straying cattle can be found near shared boundaries with private lands, some of which have only limited fencing.

Wild dogs appear to occur in low numbers within the planning area. Cats are also likely to occur in the planning area, even though they have not yet been recorded. Foxes occur in the reserves at medium to high densities. These levels are similar to those observed throughout the broader landscape.

Predation by foxes and feral cats on native animals have been identified as key threatening processes under the TSC Act, as have competition and habitat degradation by feral goats, herbivory and environmental degradation caused by feral deer, and predation, habitat degradation, competition and disease transmission by feral pigs.

The control of these species is difficult as they have the capacity to readily recolonise the comparatively small reserves from surrounding lands. The success of pest species management operations is thus dependent upon a coordinated approach by all land managers in the area.

The Regional Pest Management Strategy (NPWS 2008) also outlines priorities and strategies for pest animal control within the Region.

4.3 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 (NPWS, 2005).

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.

Twenty-four wildfires were recorded within the planning area between 1950 and 2001 under its previous tenure as Tallaganda State Forest. Half of these were less than 50 hectares in size and a further quarter between 50 and 500 hectares in size. Only four large fires between 1000 and 6000 hectares in size have occurred, three in the 1950s and one in the 1970s. Since gazettal, one wildfire of 115 hectares occurred in the southern section of the national park in January 2003.

There are a number of assets that border the planning area including state forest hardwood and plantation forests and a number of built assets, particularly in the Bombay area on the eastern side of the SCA. Within the reserves, the remains of eucalyptus distilleries and huts are vulnerable to fire.

Separate (map-based) fire management strategies have been prepared for the northern and southern parts of the planning area (NPWS 2006a, NPWS 2006b). The fire management strategies outline the recent fire history of the Tallaganda National Park and State Conservation Area, key assets within and adjoining the planning area including sites of natural and cultural heritage value, fire management zones which may includes asset protection zones, and fire control advantages such as management trails and water supply points. Hazard reduction programs, ecological burning proposals and fire trail works are submitted annually to the Lake George and Cooma-Monaro Bush Fire Management Committees.

4.4 SOIL EROSION

Whilst the soils in the park are generally stable, the soils in the northern part of the planning area are granite based and have the potential to be quite erodible. Erosion can occur at seepage lines and swamp areas on trails, particularly in the winter months. Erosion also occurs where trail and mountain bikes have established single lane tracks through the forest, particularly on steep hills and creek and gully crossings

The swampy areas adjacent to creeks are also vulnerable to erosion if ground cover and top layers of soil are disturbed and then scoured by fast flowing water. These areas will be monitored and managed accordingly, particularly through pest management programs, after fire events, and in accordance with the Fire Management Strategy and Fire Operations Plan.

4.5 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.

5. MANAGEMENT OPERATIONS AND OTHER USES

In order to achieve protection of the values of the park, to provide opportunities for visitors and to facilitate management operations it is important to build and maintain appropriate infrastructure. Infrastructure may also be provided on the park by other authorities or for other purposes authorised under the NPW Act.

A Bureau of Meteorology radar station has been installed on Cowangerong Trig Station, within Tallaganda State Forest. Underground cables to this station pass through the national park. Telstra is currently in the process of gaining approvals to establish a transmitting facility within the same site. In addition, powerlines and associated easements pass through the national park adjacent to the Captains Flat to Braidwood road and adjacent to the Wild Cattle Flat Road.

Roads and trails in the planning area are used by the public and for management operations, and a number provide access to adjoining State Forest. Several roads through the park are used to access private and leasehold property. Public access is therefore, allowed along the Major Public and Public roads, as marked on the Map. The Management Trail/Private Trails (see the Map) are for private or leasehold landholder access, and/or NPWS management operational use only. Most of these roads are currently vested in the Minister for the Environment and excluded from reserved lands. Some of these roads may later be incorporated into the reserves. The *National Parks Estate Act 2000* states that the Minister cannot close any roads that provide the only means of practical access to a private land holding. The NPWS will consult with neighbours to determine the existing use of these roads and appropriate legal agreements for continued access and future maintenance. NPWS is not under any obligation to maintain Part 11 roads but may enter into maintenance agreements with the users.

An apiary licence covers a section of both the national park and the state conservation area in the vicinity of Mulloon Fire Trail where it crosses Mulloon Creek.

6. REFERENCES

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7. IMPLEMENTATION

Current Situation	Desired Outcomes	Management response	Priority
7.1 On-Park Ecological Conservation			
Soils in the northern part of the planning area are based on granite substrate and are quite erodible. Impacts of vehicles off formed tracks are therefore quite severe. Impacts are also severe on steeper slopes in the southern part. Creek systems in the reserves feed into the Molonglo, Queanbeyan and Shoalhaven Rivers. The reserves protect a range of forest ecosystems. Some, such as the swamp gum, black gum and black sallee grassy woodlands, are not well represented in the current reserve system. Spotted-tailed quolls have been recorded, and the planning area potentially provides habitat for other threatened species. Firewood collection occurs and can have major impacts on these communities as well as destroying habitat for native animals, particularly reptiles and invertebrates. Moister grassy ecosystems and swamps are vulnerable to the impacts of grazing, and trampling by cattle and pigs reduces ground layer diversity and impacts on frog habitat. Sections of the reserve are gradually rehabilitating from past logging and grazing; however grazing still occurs in some areas.	Soil erosion is minimised. Native plant species and communities are conserved. Structural diversity and habitat values are restored in areas subject to past logging. Habitat quality for threatened species is maintained.	7.1.1 Undertake all works in a manner that minimises erosion and water pollution. 7.1.2 Close single lane bike tracks to reduce soil degradation. 7.1.3 Rehabilitate single lane tracks resulting from past off-road trail bike use of the reserve. 7.1.4 Work towards effective fencing of all in-holdings to control cattle grazing in park. 7.1.5 Conduct law enforcement and educational programs to prevent firewood collection occurring in the reserves. 7.1.6 Implement relevant strategies in Priorities Action Statements and recovery plans for threatened species.	High High Medium Medium Medium Ongoing

Current Situation	Desired Outcomes	Management response	Priority
7.2 Cultural heritage A detailed study of the Aboriginal heritage of the area was undertaken in 1995. The survey found indications of past Aboriginal use, including a number of artefact scatters, isolated finds and scarred trees. A number of historic places remaining from previous activities remain in the planning area, including house/hut sites, plantings, fences, trig stations and sawmill sites. A number of mine shafts have also been recorded in the reserves. A collection of four eucalyptus distilleries on the park and adjoining private land at Wild Cattle Flat are important as an example of this industry in the region, and in combination with the eucalyptus distilleries in Tinderry Nature Reserve are of State significance (Pearson, 2003).	Cultural features are conserved and managed in accordance with their significance. Protect the eucalyptus distillery sites	7.2.1 Precede all ground disturbance work by an inspection for cultural features and ensure any works undertaken incorporate appropriate conservation measures to mitigate impacts on cultural heritage. 7.2.2 Consult and involve the Mogo, Batemans Bay, Ngunnawal and Cobowra Local Aboriginal Land Councils and other Aboriginal stakeholders in relevant aspects of management of Aboriginal sites, places and values. 7.2.3 Incorporate the protection of the eucalyptus distillery sites and scarred trees into the fire management plan. 7.2.4 Co-ordinate the management of the eucalyptus distillery sites in the planning area with those in Tinderry NR, as the two sets of sites form a closely related collection of high significance. Management works will include control of regrowth and stabilisation of erosion where required around sites. 7.2.5 Encourage further archaeological research to increase understanding of the eucalyptus distillery sites and identify if additional sites requiring protection. 7.2.6 The house/hut sites, trig stations, sawmill sites, mine shafts, fences and any other historic sites will be recorded. Fence wire may be removed from the fences and mine shafts capped if found to be a threat to public safety or wildlife movements.	High Ongoing High Medium Low Low

		7.2.7 The original exotic trees/plants associated with historic sites will be retained as an indicator of the cultural landscape of location, however the wildings from these original trees/plants will be controlled as part of the annual weed program. Once these original trees plants die they will not be replaced.	Medium

Current Situation	Desired Outcomes	Management response	Priority
7.3 Visitor Use and Services The Tallaganda reserves are used for a range of activities, including orienteering, rogaining, scenic driving, cycling, trail bike riding, horse riding, camping, bushwalking and picnicking. Traditionally, camping in this area has occurred at Lowden Forest Park in the adjoining state forest, however, a low level of intermittent camping usage occurs at various clearings along roads in the planning area. The most heavily used site is located at the Mulloon Trail - Mulloon Creek crossing. This site has been identified as suitable for picnicking and walk-in camping. Bollards have been installed at the site to limit impacts by vehicles. Trail bike riders have established a series of single lane trails through the reserves, which are inconsistent with the NPWS vehicle access policy and are causing erosion and damage to vegetation. Walking to Mt Palerang is becoming more frequent, following an unformed route from the base. The reserves are also illegally used by pig hunters with dogs.	Visitor use is ecologically sustainable. The local community is aware of the significance of the area and of management programs.	7.3.1 Install picnic tables, fireplaces and a toilet at Mulloon Creek. Permit walk-in camping at this site. Camping with horses at this site is prohibited. Investigate walking track opportunities from the day-use/camping area. 7.3 2 Allow bush camping throughout the planning area if more than 200 metres from any public access roads. 7.3.3 Allow driving and trail bike riding by the general public only on the public roads in the planning area (see map). All vehicles in the planning area must be registered. 7.3.4 Walking, horse riding and cycling is permitted on the management trails as well the roads in the planning area (see map). Horse riding and cycling will not be permitted off roads and management trails. 7.3.5 Close and rehabilitate single lane trail bike tracks. 7.3.6 Permit horse camping unsupported by vehicles at clearings along roads in the planning area. 7.3.7 Investigate patterns of horse riding use to plan future management responses. 7.3.8 Monitor levels and impacts of use of trails, informal recreational sites and clearings. Control access to these sites if unacceptable uses or impacts	Medium Medium Medium High High Medium Medium Medium

		are identified.	
		7.3.9 Monitor impacts of bushwalking in the Mt Palerang area. Manage impacts as necessary.	Medium
		7.3.10 Allow orienteering and rogaining activities, subject to written approval and conditions of consent.	Medium
		7.3.11 Enforce pig hunting, dog and off-trail use prohibitions consistent with the provisions of the NPW Act and Regulations.	High
		7.3.12 Investigate further opportunities for low key camping and picnicking at existing use sites in the Two Mile Creek and Crow Valley Creek localities. If impacts are acceptable, develop these areas as low key visitor destinations.	Medium
		7.3.13 Organise media releases, educational material and contact with neighbours and community organisations as needed.	Low

Current Situation	Desired Outcomes	Management response	Priority
7.4 Weeds and pest animals Weeds present in the planning area include serrated tussock, sweet vernal grass, pine wildings, thistles, sweet briar, black willow and blackberry. Annual weed control programs have been implemented since the reserves were gazetted, including for serrated tussock, blackberry, sweet briar, willow, pine wildings and wildings from the original exotic trees/plants around the previous dwellings. Pest animals include pigs, dogs, cats and foxes. The South West Slopes Region Pest Management Strategy identifies priorities and control methods for weeds and pest animals. A Threat Abatement Plan (TAP) has been developed for the fox, which proposes actions to reduce the impacts of fox predation on threatened species and to help conserve biodiversity more generally. The TAP identifies priorities for control in areas where it can be demonstrated that there are benefits for a particular vulnerable species such as the long-nosed potoroo (not yet recorded in the reserves).	The impact of introduced species on native species and neighbouring lands is minimised.	7.4.1 Continue to implement an annual control program for serrated tussock. 7.4.2 Carry out follow up control work for other weeds where found. 7.4.3 Seek the cooperation of other authorities and neighbours in implementing weed and pest animal control programs. 7.4.4 Pig control will be undertaken to mitigate pig impacts on important natural values within the planning area, consistent with the Regional Pest Management Strategy. 7.4.5 Undertake monitoring programs to assess the impacts of pig populations on flora and fauna of the area, particularly on the endangered peatlands and swamps. 7.4.6 Fox control programs will be undertaken, consistent with the provisions of the Fox TAP and the Regional Pest Management Strategy.	Medium Medium Medium Medium Medium Medium

Current Situation	Desired Outcomes	Management response	Priority
7.5 Fire management Small parts of the planning area have burnt as recently as 2003, however, the last significant wildfire event occurred in the early 1970s, when a fire of 1,049 hectares occurred. Significant assets potentially affected by fire include the pine plantations and state forest adjoining the reserves. The valley systems to the east and west of the range are occupied by relatively small agricultural and rural residential properties. Fire is a natural occurrence in the Australian environment. However, frequent fire can cause the loss of particular plant and animal species and communities. Fire management strategies haves been prepared for the planning area. These identify, among other things, fire interval guidelines for vegetation communities and roads and trails necessary for fire management purposes.	Persons and property are protected from bushfire. Fire regimes are appropriate for conservation of plant and animal communities. Cultural features are protected from damage by fire.	7.5.1 Implement the fire management strategies for the Tallaganda planning area. 7.5.2 Participate in the Lake George and Snowy Monaro Bush Fire Management Committees. Maintain cooperative arrangements with RFS brigades and fire control officers, Forests NSW and surrounding landowners in regard to fuel management and fire suppression. 7.5.3 Undertake any prescribed burning activities identified for property protection in conjunction with the Lake George and Snowy Monaro Bush Fire Management Committees. 7.5.4 Maintain the roads and trails in the planning area shown on the map (centre pages). 7.5.5 Manage the national park and state conservation area to protect biodiversity in accordance with the identified fire interval guidelines in the fire management strategies for vegetation communities, incorporating fauna, nutrient cycling and erosion considerations.	High High High High Medium

Current Situation	Desired Outcomes	Strategies	Priority
7.6 Infrastructure and Maintenance			
A number of formal and informal trails (from past logging and pastoral activities) are located within the reserve. These have been reviewed within a roading plan and a key network of public access and management trails identified (see map). Management operations have the potential to impact on the rare invertebrates in the reserves. A cable to the radar station runs under Cowangerong Trail from Parkers Gap to Mt Cowangerong. Powerlines pass through the national park adjacent to the Captains Flat to Braidwood road and Wild Cattle Flat Road.	Management facilities adequately serve management needs and have acceptable impact.	7.6.1 Maintain the public access and management trails shown on the map. 7.6.2 During conditions of extreme fire danger or high soil moisture content from significant snow or rainfall, and during fire operations, park roads may be temporarily closed to the public. Roads may be closed to public vehicles for extended periods where excessive rutting or soil erosion is occurring pending their repair. 7.6.3 Avoid movement of soil or logs from one drainage system to another. 7.6.4 Enter into access and maintenance arrangements for use of park roads and trails for access to private property where appropriate. 7.6.5 Negotiate licences for access to and management of the cable and power lines.	Medium High High High Low

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.