

AVISFORD NATURE RESERVE

PLAN OF MANAGEMENT

National Parks and Wildlife Service

Part of the Department of Environment and Climate Change NSW

July 2008

This plan of management was adopted by the Minister for Climate Change and the Environment on 21st July 2008.

Acknowledgments

This plan of management is based on a draft plan prepared by staff of the Blue Mountains Region, Parks and Wildlife Division. Valuable comments were provided by the Blue Mountains Regional Advisory Committee.

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ISBN 1 74122 303 2

FOREWORD

Avisford Nature Reserve is located on the Central Tablelands of NSW, approximately 5 kilometres south west of Mudgee. It covers an area of 2,437 hectares and includes Redbank Creek Dam, which was built in 1899 as a water supply for Mudgee but is now no longer used for this purpose.

Avisford Nature Reserve protects areas of relatively high ridgeland typified by steep sloping gullies and hills with open forest and woodlands. These ridgeland provide habitat for diverse fauna and flora populations. The Reserve contains the Capertee stringybark, a tree with a limited geographical range, and seven animal species listed as vulnerable under the *Threatened Species Conservation Act 1995*.

Avisford Nature Reserve also provides a naturally vegetated backdrop to Mudgee, and contains a small number of Aboriginal sites.

The *National Parks and Wildlife Act 1974* requires the preparation of plans of management and details the process for preparation, exhibition and adoption of a plan of management. A draft plan of management for Avisford Nature Reserve was placed on public exhibition from 24th April until 24th July 2006. The submissions received were carefully considered before adopting this plan.

This plan of management establishes the scheme of operations for Avisford Nature Reserve. It contains a number of actions to help achieve Priority E4 in the State Plan, *Better environmental outcomes for native vegetation, biodiversity, land, rivers, and coastal waterways*, including targeted surveys for threatened plants and animals, pest and weed control programs, and requires preparation of a fire management strategy. The plan also contains actions to help achieve Priority E8 in the State Plan, *More people using parks, sporting and recreational facilities, and participating in the arts and cultural activity*, including providing low key picnic facilities at Redbank Creek Dam in association with the local Council.

In accordance with section 73B of the *National Parks and Wildlife Act 1974*, this plan of management is hereby adopted.

Verity Firth
Minister for Climate Change and the Environment

1. MANAGEMENT CONTEXT

1.1 LEGISLATIVE AND POLICY FRAMEWORK

The management of nature reserves 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). Section 72AA of the NPW Act lists the matters to be considered in the preparation of a plan of management. The policies are a compilation of policies arising from the legislative background and internationally accepted principles of park management. They relate to nature conservation, Aboriginal and historic heritage conservation, recreation, commercial use, research and communication.

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) requires the assessment and mitigation of the environmental impacts of any works proposed in this plan.

A plan of management is a statutory document under the NPW Act. Once the Minister has adopted a plan, no operations may be undertaken within Avisford Nature Reserve except in accordance with the plan. The plan will also apply to any future additions to the Reserve. Where management strategies or works are proposed for the Reserve or any additions that are not consistent with the plan, an amendment to the plan will be required.

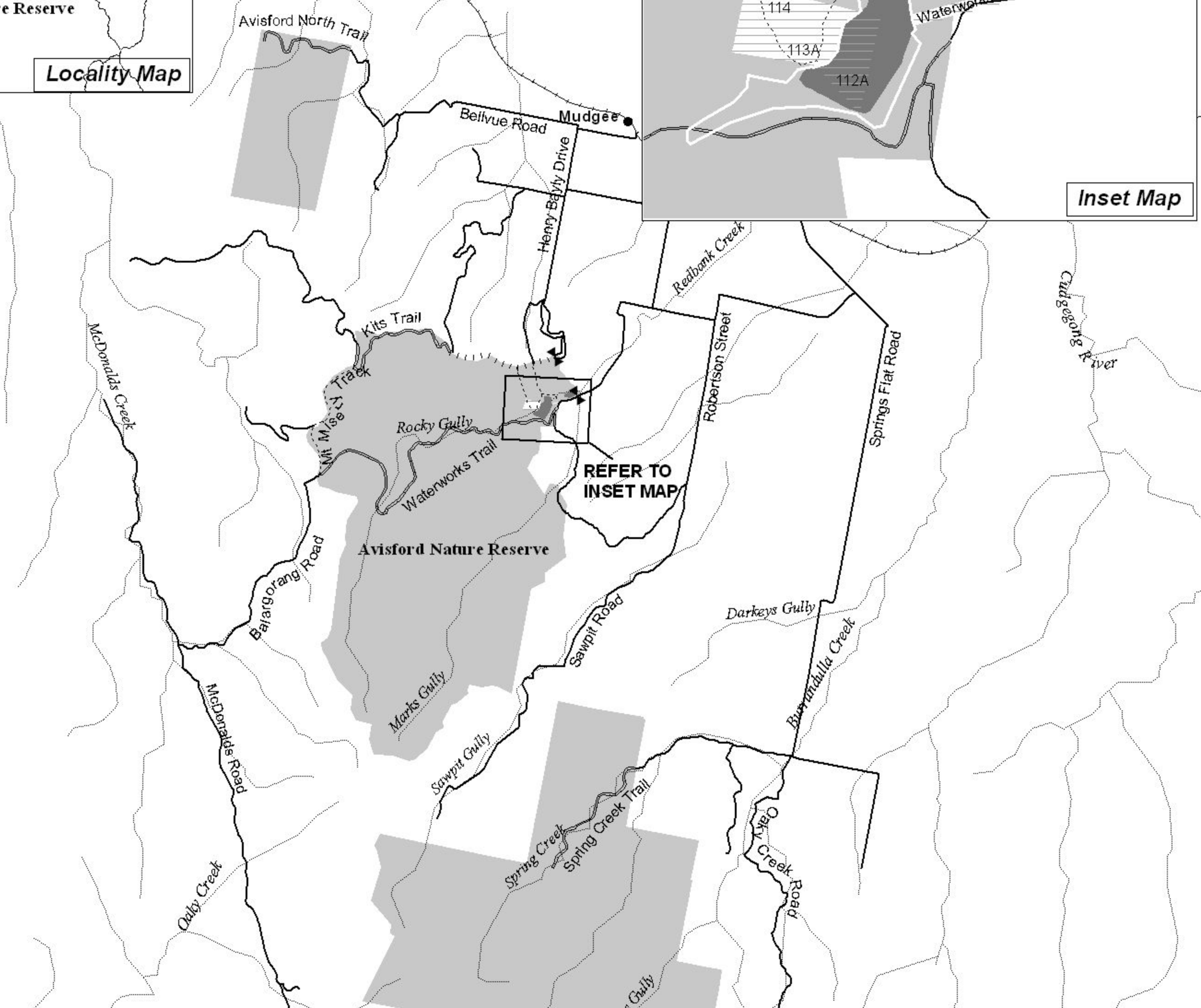
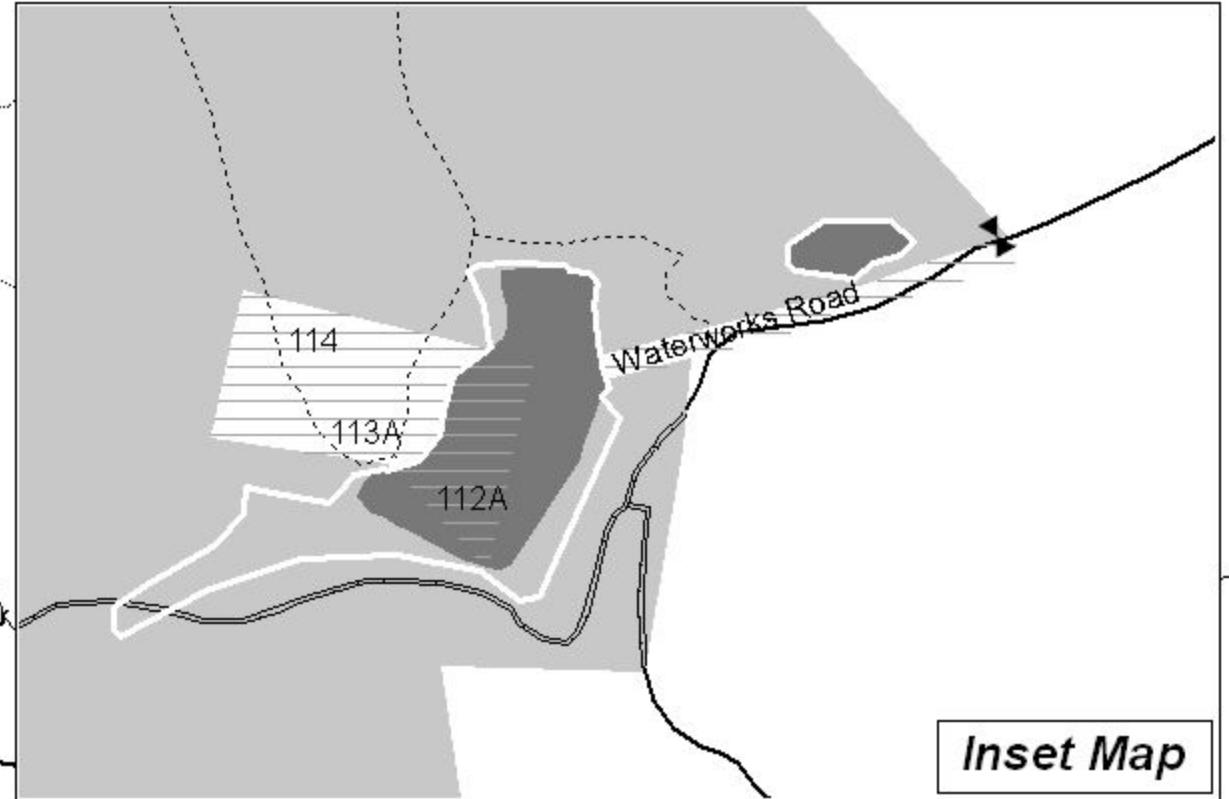
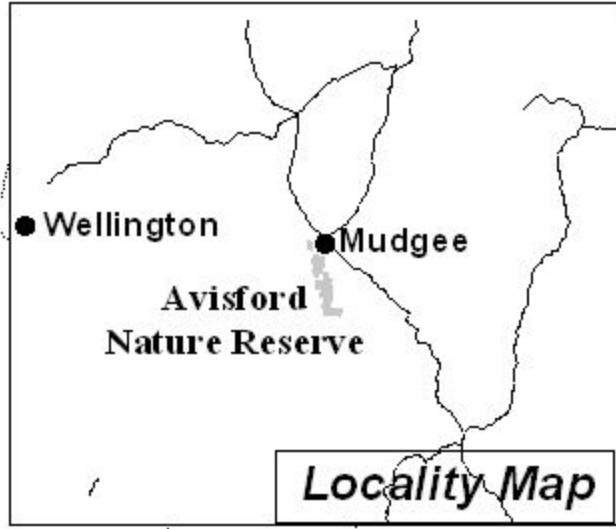
1.2 MANAGEMENT PURPOSES AND PRINCIPLES

Nature reserves are reserved under the NPW Act to protect and conserve areas containing outstanding, unique or representative ecosystems, species, communities or natural phenomena.

Under the Act, 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; and
- provide for appropriate research and monitoring.

Nature reserves are valuable refuge areas, where natural processes, phenomena and wildlife can be studied. They differ from national parks, which include as a major objective the provision of appropriate recreation opportunities.



Avisford Nature Reserve (2598 Ha)

- Avisford Nature Reserve
- ▶ Locked Gate
- ~ Creeks/Rivers

Roads, Tracks & Trails

- Public Road
- Management Trail
- - - Walking Track (Unformed)
- - - Proposed Walking Track
- Railway

Excluded Lands (Refer to Inset Map)

- ▨ Full Supply Level (Land Within Mark to be Excluded, N.B. Approximation Only)
- ▬ Inholdings (114, 113A, 112A, Public Road)
- Perennial Waterbodies (To be Excluded)

Scale 1: 50 000

0 1000 2000 Metres

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2. AVISFORD NATURE RESERVE

2.1 LOCATION, GAZETTAL AND REGIONAL SETTING

Avisford Nature Reserve ('the Reserve') is located on the Central Tablelands of NSW, approximately 5 kilometres south west of Mudgee township within the Mid-Western Regional Council area. The Reserve's 2,437 hectares occur as three fragmented blocks extending north-west to south-east, with the blocks separated by portions of freehold and leasehold lands. Whilst some rural residential land use adjoins the Reserve to the east, cleared and grazed agricultural lands surround the majority of the Reserve.

The central area was dedicated as a nature reserve in 1985, with the Avisford State Forest portion being added in 1987. The Reserve has not been subjected to any substantial logging activity and only low levels of sustained grazing. As a result, Avisford remains one of the most significant undisturbed natural areas in the Mudgee district and provides refuge for native plant and animal communities that have been largely depleted elsewhere by agricultural land clearing.

Together with Munghorn Gap Nature Reserve and Goulburn River and Wollemi National Parks, the Reserve comprises a significant area of protected lands in the Mudgee region. Importantly, Avisford Nature Reserve is one of the few areas that protect the hills of the Biraganbil Formation (part of the Chesleigh Group) that dominate the background of Mudgee township.

2.2 LANDSCAPE

Natural and cultural heritage and on-going use are strongly inter-related and together form the landscape of an area. Much of the Australian environment has been influenced by past Aboriginal and non-Aboriginal land use practices and the activities of modern day Australians continue to influence bushland through recreational use, cultural practices and the presence of introduced plants and animals.

Avisford Nature Reserve protects areas of relatively high ridglands typified by steep sloping gullies and hills with open forest and woodlands. These ridglands provide habitat for diverse fauna and flora populations.

Early Aboriginal use of the Reserve is not well known or documented. Existing knowledge suggests that the area was used as a travel corridor between the Mudgee and Meroo areas. A small number of Aboriginal sites are recorded within the Reserve.

Due to its steep topography and shallow soils the area remained relatively undisturbed by European development with the exception of some limited grazing and timber cutting. Past grazing activity, coupled with selective vegetation clearing along gullies and on the lower reaches of some slopes, may explain the Reserve's limited shrub layer.

The Reserve was not logged as a State Forest, as its open forests were relatively inaccessible and not considered commercially viable. Consequently, timber cutting was restricted to opportunistic firewood and fence post collection.

The most significant human influence on the Reserve is the Redbank Dam structure, built in 1899 as a water supply for Mudgee. The dam is located in Waterworks Gully within the central portion of the Reserve.

Both Aboriginal and non-Aboriginal people place cultural values on natural areas, including aesthetic, social, spiritual, recreational and other values. Cultural 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 and cultural heritage, non-human threats and on-going use are dealt with individually, but their inter-relationships are recognised.

2.3 NATURAL AND CULTURAL HERITAGE

Landform, Geology and Soils

Over time, tectonic movement has shaped the area resulting in a range environment typified by the steep sloping gullies and hills, which provide the scenic ridges that dominate the background of Mudgee township. The highest point of the range reaches 982m above sea level. Creeks running to the east of the main ridge system drain into the Cudgegong River while creeks running to the south drain into Meroo Creek. The western side of the Reserve drains into Macdonalds Creek, with both Macdonalds and Meroo Creeks forming part of the Cudgegong River catchment.

Avisford Nature Reserve lies completely within the NSW South Western Slopes biogeographical zone, although close to its eastern boundary with the Sydney Basin biogeographical zone.

The Reserve lies entirely on the Biraganbil Formation of the Chesleigh Group (Silurian age dated between 395 and 435 million years old), with a prominent ridge running north-west to south-east along the Mudgee Fault (NPWS, 2002). Fine to medium grained sedimentary rocks dominate including shale greywakes, siltstone, claystone, sandstone and phyllite. Occasionally, beds of coarse sandstone and conglomerate occur.

The majority of the Reserve is classified as part of the Mookerwarra soil landscape (NPWS, 2002). The soils are generally shallow and rocky, dominated mainly by silts. Sandier soils occur on the north-western edge of the Reserve.

Native Plants

A comprehensive vegetation survey of Avisford Nature Reserve was completed by Hill and Peake for the NPWS in August 2000.

The Reserve's vegetation comprises a mosaic of related vegetation communities occurring as open forests and woodlands. Sclerophyllous eucalypt communities characterised by stringybark and box dominate with variations according to soils and topography.

Ridges and slopes (particularly the mid and upper slopes) are usually dominated by a stringy bark community mostly comprising red stringybark (*Eucalyptus macrorhyncha*). Several other species occur as co-dominates or less common canopy and include Capertee stringybark (*E. cannonii*) and inland scribbly gum (*E. rossii*). In upper slope areas

where dry, shallow soils are found, bundy (*E. goniocalyx*) sometimes dominates the canopy, developing into a discreet localised community of open forest.

A distinct community of white box (*E. albens*) dominates on the lower slopes of the Reserve's northern and central sections. This community extends onto upper slopes and ridge tops with deeper soils and a northerly aspect. In sheltered areas or those with skeletal and rocky soils, a stringybark open forest displaces the white box community.

Gully and valley environments of the Reserve support an alluvial community dominated by white box with rough barked apple (*Angophora floribunda*) usually occurring as a co-dominant species.

Overall, the Reserve has a low percentage of shrub cover, usually between 5-10%. At lower levels sticky hop-bush (*Dodonaea viscosa*) and daisy bush (*Olearia elliptica*) dominate the shrub layer with the wattle (*Acacia decora*) on the upper slopes. The majority of the Reserve has a moderate ground cover of herbs and grasses, which often provide the only vegetation coverage beneath the canopy.

The Capertee stringybark is classified by Briggs and Leigh (1988) as "2v", indicating a vulnerable species with a geographic range of less than 100km. The population at the north of the Reserve represents the near northern limit of its known range.

Native Animals

A comprehensive fauna survey was completed by the NPWS during July 2002. The area is a particularly diverse refuge for avifauna with the NPWS Atlas of NSW Wildlife listing 161 diurnal bird species as being recorded either in the Reserve or within 10 kilometres of the Reserve.

Species from the families *Acanthizidae* (scrub wrens, thornbills and warblers) and *Muscicapidae* (flycatchers, robins and allies) are most common and include the white-browed scrub wren (*Sericornis frontalis*), weebill (*Smicrornis brevirostris*), speckled warbler (*Pyrrholaemus sagittatus*) and jacky winter (*Microeca leucophaea*). These species tend to frequent moister and more open lower slope or gully forests (white box – apple box alluvial or blue leaved stringybark open forest sites).

The honeyeaters (family *Meliphagidae*) are another particularly diverse group frequently recorded within the Reserve and include the white-eared honeyeater (*Lichenostomus leucotis*), eastern spinebill (*Acanthorhynchus tenuirostris*) and white-naped honeyeater (*Melithreptus lunatus*). Nocturnal bird species including the southern boobook (*Ninox boobook*) and powerful owl (*Ninox strenua*) are also present in the Reserve.

Arboreal mammals found in the Reserve include the ringtail possum (*Pseudocheirus peregrinus*), common brushtail possum (*Trichosurus vulpecula*), feathertail glider (*Acrobates pygmaeus*) and the sugar glider (*Petaurus breviceps*). A population of koalas (*Phascolarctos cinereus*) is known to occur outside the southern portion of the Reserve and infrequent records from within the Reserve still occur.

The Reserve does not appear to support a large population of terrestrial mammals, most likely due to the limited shrub layer that would normally provide protection to such mammals. Macropods found in the Reserve include the swamp wallaby (*Wallabia bicolor*), eastern grey kangaroo (*Macropus giganteus*), common wallaroo (*M. robustus*) and the

red-necked wallaby (*M. rufogriseus*). The mammal population is scattered throughout the Reserve, however the macropod species are more commonly found where there is an adequate grass cover.

Evidence of other mammals including the long-nosed bandicoot (*Perameles nasuta*), common wombat (*Vombatus ursinus*) and the endangered brush-tailed rock-wallaby (*Petrogale penicillata*) has also been recorded in the Reserve.

Herpetofauna surveys within the Reserve have revealed a relatively low diversity of reptile species. Species recorded include the southern-rainbow skink (*Carlia tetradactyla*), jacky lashtail lizard (*Amphibolurus muricatus*) and the eastern brown snake (*Pseudonaja textilis*).

Threatened Fauna Species

A number of birds of the western slopes and plains and other woodland areas of NSW have suffered because of the degradation and fragmentation of woodland habitats and have declined significantly in range and population. Studies have found that over 50 bird species recorded in the sheep-wheat belt of central-west NSW are either locally extinct in some areas or have populations considered to be in decline or threatened.

Four diurnal bird species listed as threatened under the TSC Act occur in the Reserve. They are the speckled warbler, brown tree creeper (*Climacteris picumnus victoriae* eastern subspecies), hooded robin (*Melanodryas cucullata* southeastern subspecies) and the glossy black cockatoo (*Calyptorhynchus lathamii*). Also listed as threatened are the powerful owl, koala and the brush-tailed rock-wallaby.

Avisford Nature Reserve remains one of the most significant areas of remnant vegetation in the Mudgee area and provides highly valuable habitat for a diverse range of native flora and fauna.

Aboriginal Heritage

Aboriginal communities have an association with and connection to the landscape. 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 and strengthening social bonds. Aboriginal heritage and nature are inseparable from each other and need to be managed in an integrated manner across the landscape.

Avisford Nature Reserve lies within lands traditionally occupied by Aboriginal people of the Wiradjuri language group. The Reserve falls within the Mudgee Local Aboriginal Land Council and the interests of the Murong Gialinga Aboriginal and Torres Strait Islander Corporation.

Aboriginal people are known to have used the area, particularly as a travel corridor between the Mudgee and Meroo / Windeyer areas. One such walking route traverses the ridge in the southern section of the Reserve. These tracks were later utilised by European and Chinese miners and are of significance to a range of cultures.

A large Aboriginal camping or occupation site exists outside the Reserve adjacent to the eastern boundary (northern section) and is considered to be of significance. Other sites

would almost certainly occur within the Reserve and provide a direct link to Aboriginal traditional and spiritual life.

The ongoing involvement of the Aboriginal community in the management of Aboriginal heritage in the Reserve is encouraged.

Non-Aboriginal Heritage

Prior to Avisford Nature Reserve being gazetted, selective and opportunistic grazing occurred across the area. Some clearing also took place that extended into the narrow gullies and valleys as well as the lower slopes of the gentle ridges now within the Reserve.

A large portion of land was added to the Reserve when the former Avisford State Forest was incorporated 1987. This portion of land was not logged as a State Forest as its open forests were relatively inaccessible and not considered commercially viable. As a result, timber cutting was restricted to opportunistic firewood and fence post collection.

Mining has occurred within the Reserve in the past. A number of abandoned gold workings created by Chinese miners at the turn of the 19th century remain near the northern and southern sections of the Reserve.

Redbank Creek Dam, in the central section of the Reserve, was constructed in 1899 by the then Public Works Department (now the Department of Commerce). Intended as a major water supply for the Mudgee township, it served this purpose until 1980 when alternative water sources were sought.

The dam is considered to be of moderate cultural significance as an example of early cylindrical arch dam construction in 19th century New South Wales (DPWS, 1998). It also serves as a historical link to the past growth of Mudgee township and is an early example of the product of day labour employment during economic depression (DPWS, 1998).

Redbank Creek Dam has social and aesthetic significance for the population of Mudgee having been regularly used for recreational activities including fishing, picnicking and bush walking.

Recently, considerable debate has taken place over the safety of the dam wall structure and whether or not the structure should remain, be modified or be demolished. The integrity of the dam structure was examined in a Department of Public Works and Services (now the Department of Commerce) report, which noted the dam to be in only 'fair condition' and that there were some 'uncertainties regarding the concrete quality'. In 1997 a further report was completed by the Department into viable remedial options concerning the dam's future. Detailed engineering designs, including reinforcing the dam wall and lowering the spillway, and landscape plans are currently being prepared. Until these works are undertaken, a very low water level is being maintained in order to reduce pressure on the dam wall.

Redbank Creek Dam is accessed via a public road reserve running through the Reserve from the eastern boundary on Waterworks Road. A large proportion of the dam's impoundment area is within Crown Reserves held by Mid-Western Regional Council. However, the actual dam structure is wholly within Avisford Nature Reserve. Council has accepted ownership and responsibility for the dam structure and associated infrastructure. Action is currently underway to revoke the area occupied by the dam from the Nature

Reserve. A memorandum of understanding between Council and the NPWS is proposed to detail the scope of works involved in the dam stabilisation works, restoration of the area and the provision and maintenance of visitor facilities.

A separate, smaller intake dam was built in 1898 as part of the Redbank project. This dam is located on Marks Gully approximately 800m to the south of Redbank Creek Dam. It is also constructed in a concrete arch fashion with a wall around 8m long and 4m tall. The two dams are connected by an earthenware aqueduct pipeline, the majority of which runs through private or freehold land outside the Reserve boundary.

2.4 PUBLIC USE

Recreation

Recreational opportunities in the Reserve are limited, primarily due to the restricted number of access points. The Reserve is utilised by bushwalkers with the majority of activity around the central portion of the Reserve adjacent to Redbank Creek Dam and Waterworks Gully. Redbank Creek Dam is also utilised occasionally by picnickers and was regularly used for fishing prior to the current low water level.

The closeness of the Reserve to the Mudgee township, coupled with a booming tourism industry and significant local interest for recreational opportunities in natural settings has increased the visitor pressure on the Reserve. The stabilisation and redevelopment of Redbank Creek Dam provides an opportunity to develop some basic day use visitor facilities in conjunction with Mid-Western Regional Council, which could include a formal day use area with picnic tables, a toilet and car parking.

Consideration will also be given to formalising existing walking routes linking the Waterworks Gully and Mt Misery Fire Trails and thus providing a loop walking track.

Illegal use of trail bikes and vehicle access in the Colliers Hill area near the central portion of the Reserve has the potential to impact on conservation values.

Research and Education

The Reserve provides a significant resource for environmental education and interpretation, particularly given its proximity to a number of schools. The development of basic visitor facilities and improvements to access in the Redbank Creek Dam area will enhance these values.

Past research projects have included systematic surveys for both flora and fauna. Further research will investigate the occurrence of threatened species including koalas and brush-tailed rock-wallabies

Options for research into Aboriginal cultural heritage need to be considered in consultation with local Aboriginal communities.

Monitoring projects will be directed at threatening processes including pest species and impacts associated with inappropriate recreational use.

2.5 OTHER USES

With the exception of Redbank Creek Dam, the Marks Gully dam and some associated land, no inholdings occur within the Reserve boundaries.

The Mount Misery Trail provides access to a radio repeater tower located on private property adjoining the Reserve. This trail follows the northern boundary of the Reserve's central portion and is regularly used by the owner of a private lease property located at the western end of the trail. The NPWS has issued an access licence to Mid-Western Regional Council for use of the trail and access to the tower

2.6 THREATS TO RESERVE VALUES

Introduced Plants

Blackberry (*Rubus fruticosus*), St John's wort (*Hypericum perforatum*), prickly pear (*Opuntia stricta*), serrated tussock (*Nassella trichotoma*), sweet briar (*Rosa rubiginosa*) and tree of heaven (*Ailanthus altissima*) have been recorded in the Reserve. These weeds are generally associated with areas that have been previously cleared or subjected to grazing and disturbance. Several of these weeds can competitively exclude native plant species and provide habitat for feral animals. Annual control programs have decreased the distribution and occurrence of weed species especially in the upper catchments of several creeks. However, the small size and fragmented nature of the Reserve, along with the proximity to other areas with introduced plants, allows weed species the opportunity for continual invasion.

The area downstream of Redbank Creek Dam is of particular concern with weed infestations including privet (*Ligustrum* spp.), honeysuckle (*Lonicera japonica*), cobbler's peg (*Bidens pilosa*), pepper tree (*Schinus areira*) and various fruit trees. Additional disturbance will occur with any dam stabilisation work and it is proposed that control measures will be incorporated in the redevelopment of the precinct.

Introduced Animals

Introduced animals including goats (*Capra hircus*), foxes (*Vulpes vulpes*), rabbits (*Oryctolagus cuniculus*), wild dogs (*Canis familiaris*) and cats (*Felis catus*) are known to occur within the Reserve. These species can prey on native fauna and competitively exclude native wildlife.

Of particular concern are foxes and domestic wild dogs as both pose a threat to the macropod population, including the threatened brush-tailed rock-wallaby. Goats are regularly observed within the Reserve and are also a threat as they compete with macropod species for feed and cave habitats.

Feral animal control programs include annual fox/dog baiting and goat control in conjunction with adjoining neighbours.

Fire

Fire is a natural feature of the environment of the Reserve and is essential to the survival of some plant communities. However, inappropriate fire regimes can lead to loss of particular plant and animal species and communities. Fire can also damage cultural heritage, recreation and management facilities and can threaten visitors and neighbouring land.

The Reserve has experienced a low fire frequency with few recorded wildfires. The only significant wildfire affecting what is now the Reserve appears to have occurred in 1947. Unfortunately the extent of area burnt at that time is not known. Since gazettal of Avisford Nature Reserve in 1985 a total of five small wildfires have occurred involving a total of less than 100 hectares. All of these fires were ignited by lightning and were quickly suppressed.

In March 2005, the NPWS undertook the first ever fuel management burn within the Reserve. The aim was to reduce the fine fuels along the ridge that runs north-west to south-east through the Reserve. The fuel management burn covered approximately 440 hectares over a two-day period and was extinguished by rain.

There are a number of assets that border the Reserve including rural and rural residential property, fencing and radio repeater towers. A fire management strategy for the Reserve is in preparation. Consideration will be given to undertaking further fuel management burns within the Reserve, both for assisting in wildfire control and to conserve floristic diversity in vegetation communities that have exceeded recommended fire thresholds.

The NPWS maintains cooperative arrangements with surrounding landowners and Rural Fire Service brigades and is actively involved in the Mudgee Bush Fire Management Committee. Cooperative arrangements include approaches to fuel management, support for neighbours' fire management efforts and information sharing.

3. MANAGEMENT ISSUES AND STRATEGIES

Current Situation	Desired Outcomes	Strategies	Priority
<p>Soil and water conservation</p> <p>Soils within the Reserve have moderate erosion potential.</p> <p>Sections of some trails within the Reserve are subject to minor erosion.</p>	<p>Soil erosion is minimised.</p> <p>Water quality is maintained.</p>	<p>Undertake all works in a manner that minimises erosion and water pollution.</p> <p>Maintain trails to appropriate standards and monitor erosion of trails in the central section of Reserve.</p> <p>Undertake erosion control measures if necessary.</p>	<p>Medium</p> <p>Medium</p> <p>Medium</p>
<p>Native plant and animal conservation</p> <p>Reasonably comprehensive vegetation and fauna surveys have been completed for Reserve.</p> <p>Limited information is available on possible populations of threatened species including the koala and brush-tailed rock-wallaby.</p> <p>Monitoring of the powerful owl, glossy black cockatoo, threatened woodland birds and the Capertee stringybark is required.</p> <p>There is the potential for rural residential and agricultural development to impact on the Reserve's conservation values.</p> <p>There is the potential for inappropriate recreational activity to impact on habitat values.</p>	<p>Diversity of existing native flora and fauna maintained.</p> <p>Threatened species populations do not decline.</p> <p>The conservation values of the Reserve are enhanced by the retention of remnant vegetation on adjacent public and private lands.</p>	<p>Undertake targeted surveys for possible threatened plant and animal species.</p> <p>Implement measures included in recovery plans for threatened species.</p> <p>Continue monitoring of threatened species.</p> <p>Work with neighbours and relevant authorities to identify and encourage conservation of remnant native vegetation adjacent to the Reserve.</p> <p>Monitor recreational use and restrict trail bike and vehicle access into the Reserve.</p>	<p>High</p> <p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Medium</p>

Current Situation	Desired Outcomes	Strategies	Priority
<p>Introduced species</p> <p>Introduced weeds are present in the Reserve but not widespread. Weeds of particular concern include blackberry, serrated tussock, sweet briar, tree of heaven, prickly pear and St John's wort.</p> <p>Weed infestations in the Redbank Creek Dam area are of particular concern.</p> <p>A number of introduced animals are present within the Reserve including foxes, dogs and goats. Regular control programs for these pests are undertaken.</p>	<p>Introduced species are controlled and where possible eradicated.</p>	<p>Control and where possible eradicate introduced plant and animal species.</p> <p>Seek the cooperation of other authorities and neighbours in implementing weed and pest animal control programs.</p> <p>Continue on-going control programs for feral animals.</p> <p>Monitor noxious and significant environmental weeds and, in conjunction with Mid-Western Regional Council, develop a program for weed management in the Redbank Creek Dam precinct.</p>	<p>High</p> <p>High</p> <p>High</p> <p>Medium</p>
<p>Fire management</p> <p>The Reserve has a low fire frequency and poses a low risk to adjoining property and assets.</p> <p>Inappropriate fire regimes have the potential to impact on particular plant and animal species and communities.</p> <p>Most vegetation communities within the Reserve are approaching or have exceeded recommended fire-free frequencies.</p> <p>Limited information is available on vegetation community responses to fire as well as threatened species including koalas and brush-tailed rock-wallaby populations.</p>	<p>Life, property, natural and cultural values in and adjacent to the Reserve are protected from bushfire.</p> <p>Fire regimes that are appropriate for conservation of plant and animal communities.</p> <p>All of the Reserve is not burnt in a single fire event.</p> <p>Research enhances the management information base and has minimal environmental impact.</p>	<p>Continue to participate in Mudgee District Bush Fire Management Committee. Maintain coordination and cooperation with Rural Fire Service brigades and neighbours with regard to fuel management and fire suppression.</p> <p>Maintain the fire trails shown on the reserve map.</p> <p>Suppress unplanned fires in the Reserve.</p> <p>Use prescribed fire to achieve fuel management and appropriate fire regimes for maintenance of habitat values.</p> <p>Prepare a fire management strategy for the Reserve that details life, property and natural and cultural resource protection/conservation strategies.</p> <p>Encourage further research into fire ecology.</p>	<p>High</p> <p>Medium</p> <p>High</p> <p>Medium</p> <p>Medium</p> <p>Medium</p>

Current Situation	Desired Outcomes	Strategies	Priority
<p>Cultural heritage</p> <p>Although a number of Aboriginal sites have been located within and adjacent to the Reserve, little is known about traditional Aboriginal use, values and significance.</p> <p>Redbank Creek Dam has historical significance.</p>	<p>Cultural heritage features and values are identified and managed in accordance with their significance.</p> <p>Aboriginal cultural heritage values are protected in partnership with the local aboriginal community.</p>	<p>Consult with the local Aboriginal community and interest groups in the management of Aboriginal sites, cultural heritage features, places and values including interpretation of places or values.</p> <p>Precede any new ground disturbance work by an assessment for cultural features and significance.</p> <p>Encourage further research into the Aboriginal heritage values of the Reserve in consultation with the Aboriginal community.</p> <p>Maintain liaison with Mid-Western Regional Council regarding the stabilisation and management of Redbank Creek Dam and its heritage value. Finalise revocation of the dam structure and associated facilities from the Reserve and transfer to Council.</p>	<p>High</p> <p>Medium</p> <p>Low</p> <p>High</p>
<p>Visitor use</p> <p>Current visitor use is limited and mainly involves bushwalking in and around the Redbank Creek Dam area utilising existing management trails.</p> <p>There are currently no dedicated visitor facilities in the Reserve, although there are increasing demands.</p> <p>The Reserve provides an important educational resource.</p> <p>Inappropriate access and use by trail bikes and vehicles in the Collier Hill area are a cause for concern.</p>	<p>The local community is aware of the significance of the area and of management programs.</p> <p>Visitor use is ecologically sustainable.</p> <p>Walking access is provided for the public in the Reserve.</p> <p>Illegal access and inappropriate activities are curbed.</p>	<p>Provide low key visitor facilities at Redbank Creek Dam in association with Council. Facilities may include interpretive and regulatory signs, picnic tables and a toilet.</p> <p>Formalise link trails between Mt Misery and Waterworks Gully trails to provide a loop walking track with directional and interpretive signs.</p> <p>Permit cycling on management trails only.</p> <p>Prohibit public vehicles, trail bikes, dogs and horse riding within the Reserve.</p> <p>Monitor levels and impacts of use.</p> <p>Maintain vehicle barriers and gates to restrict unauthorised access.</p>	<p>Medium</p> <p>Low</p> <p>Low</p> <p>Medium</p> <p>Medium</p> <p>Medium</p>

Current Situation	Desired Outcomes	Strategies	Priority
<p>Management operations</p> <p>Existing trails are adequate for management purposes.</p> <p>Domestic stock infrequently graze within the Reserve.</p>	<p>Management facilities adequately serve management needs and have acceptable impact.</p> <p>Domestic stock does not enter the Reserve.</p>	<p>Maintain the management trails shown on the map.</p> <p>Monitor incursions of domestic stock and remove any stock found in the Reserve.</p>	<p>Medium</p> <p>Medium</p>

KEY TO PRIORITIES

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 be deferred in preference to other priorities.

REFERENCES

Bell, S. A. J. 1995. *Flora Survey of the North Avisford Fuel Management Area: Avisford Nature Reserve*. NPWS.

Briggs, J. D. and Leigh, J. H. 1995. *Rare or Threatened Australian Plants*. CSIRO Publishing Collingwood Australia.

Evans, S and Davey, B. 1995. *Avisford Nature Reserve Fauna Survey*. NSW NPWS.

Hill, L. and Peake, T. 2000. *The Vegetation of Avisford Nature Reserve: A Report on Vegetation Mapping and Survey for Fire Management Purposes*. Natural Assets Environmental Survey and Assessment.

Department of Public Works and Services. 1998. *Redbank Creek Dam: Heritage Study*. DPWS.

Corkish, N. 2002. *Vertebrate Fauna of Avisford Nature Reserve*. NSW NPWS.