

**MARIA NATIONAL PARK
PLAN OF MANAGEMENT**

NSW National Parks and Wildlife Service

Part of the Department of Environment and Conservation (NSW)

April 2004

This plan of management was adopted by the Minister for the Environment on 6 April 2004.

Acknowledgments

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

NPWS specialists, the Regional Advisory Committee and members of the public provided valuable information and comments.

The Kempsey Historic Society records provided the necessary historic information.

Cover photograph by Brent Marchant, NPWS.

Further Information

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FOREWORD

Maria National Park lies approximately 5km south-east of Kempsey, immediately east of the north coast rail line. Most of the park, which covers an area of 2335ha, was formerly part of Maria River State Forest.

The park contains a range of forest communities and forms part of an important wildlife corridor between the coastal reserves of Hat Head National Park and Limeburners Creek Nature Reserve, and Kumbatine National Park to the west. Eleven significant plant species and nine threatened animal species have been recorded in the park.

The New South Wales *National Parks and Wildlife Act 1974* requires that a plan of management be prepared for each national park. A plan of management is a legal document that outlines how a reserve will be managed in the years ahead.

A draft plan of management for Maria National Park was placed on public exhibition for three months from 31st May until 16th September 2002. The exhibition of the plan of management attracted 57 submissions which raised 17 issues. All submissions received were carefully considered before adopting this plan of management.

This plan of management provides for continued public vehicle access to the Fishing Spot for fishing and non-powered boat launching. It also provides for continued use of the park for horse riding, subject to monitoring showing that it is environmentally sustainable. In addition, it provides for the protection of the native plants and animals from introduced species and the finalisation of fire management strategies for the park.

This plan of management establishes the scheme of operations for Maria National Park. In accordance with section 75 of the *National Parks and Wildlife Act 1974*, this plan of management is hereby adopted.

BOB DEBUS
Minister for the Environment

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1 INTRODUCTION

1.1 LOCATION, GAZETTAL AND REGIONAL SETTING

Maria National Park, named for the Maria River that bisects the park, was created in 1999 as part of the outcomes of the Forest Agreement for Lower North East NSW. The park covers an area of 2335 ha which were formerly part of Maria River State Forest and vacant crown lands. The Maria River was named either for Maria Wilson (who was sister-in-law of the commander of the Port Macquarie settlement, Commandant Allman) or for Commandant Allman's second daughter. The Maria River is joined downstream by the Wilson River and flows into Hastings River.

Maria National Park has an elevation range of 0-40m above sea level and is primarily a slightly undulating forested area surrounding an upper estuarine environment. The park lies approximately 5km south east of Kempsey, to the east of the north coast rail line. See figure 1.

Past use of the lands now in the park was primarily hardwood logging for sawlogs, with other forest products such as poles, sleepers, fencing materials and firewood also harvested. The park was, and is still, used by beekeepers, primarily for the blossom of ironbark, tea tree and heath species.

Forested lands generally surround the park. To the west and south lies Maria River State Forest, some of which is native hardwood and exotic pine plantations. Freehold rural land, mostly supporting natural vegetation, is located to the north, east and south of the park. In the vicinity of the park's northern boundary are several subdivisions of rural residential blocks. Kempsey's rubbish tip and the Boral clay pit are located immediately to the north of the national park on crown land. Two blocks of freehold land are surrounded by the park; these are partly cleared and currently zoned 1(a) rural.

The park lies wholly within the Kempsey local government area.

This plan applies both to the land currently reserved as Maria National Park and to any future additions to the park. Where management strategies or works are proposed for additions that are not consistent with the plan, an amendment to the plan will be required.

1.2 SIGNIFICANCE OF MARIA NATIONAL PARK

The park is regionally significant for the following values:

Natural values including:

- forest communities, in particular the red bloodwood – forest red gum (*Corymbia gummifera* - *Eucalyptus tereticornis*) swamp sclerophyll forest, which are considered to be inadequately reserved in NSW;
- the park's location as part of an important wildlife corridor between the coastal reserves of Hat Head National Park and Limeburners Creek Nature Reserve, and Kumbatine National Park to the west;

- eleven significant plant species, most of which are at the known limit of their distribution; and
- habitat resources for nine threatened animal species.

Scenic values including:

- upper estuarine landscapes and low relief residual soil landscapes;
- attractive tall grass trees (*Xanthorrhoea* sp.) and tall forests dominated by scribbly gums (*Eucalyptus signata*).

Cultural heritage values comprising:

- head of navigation for early settlers travelling to Kempsey and the Macleay area.

2 MANAGEMENT CONTEXT

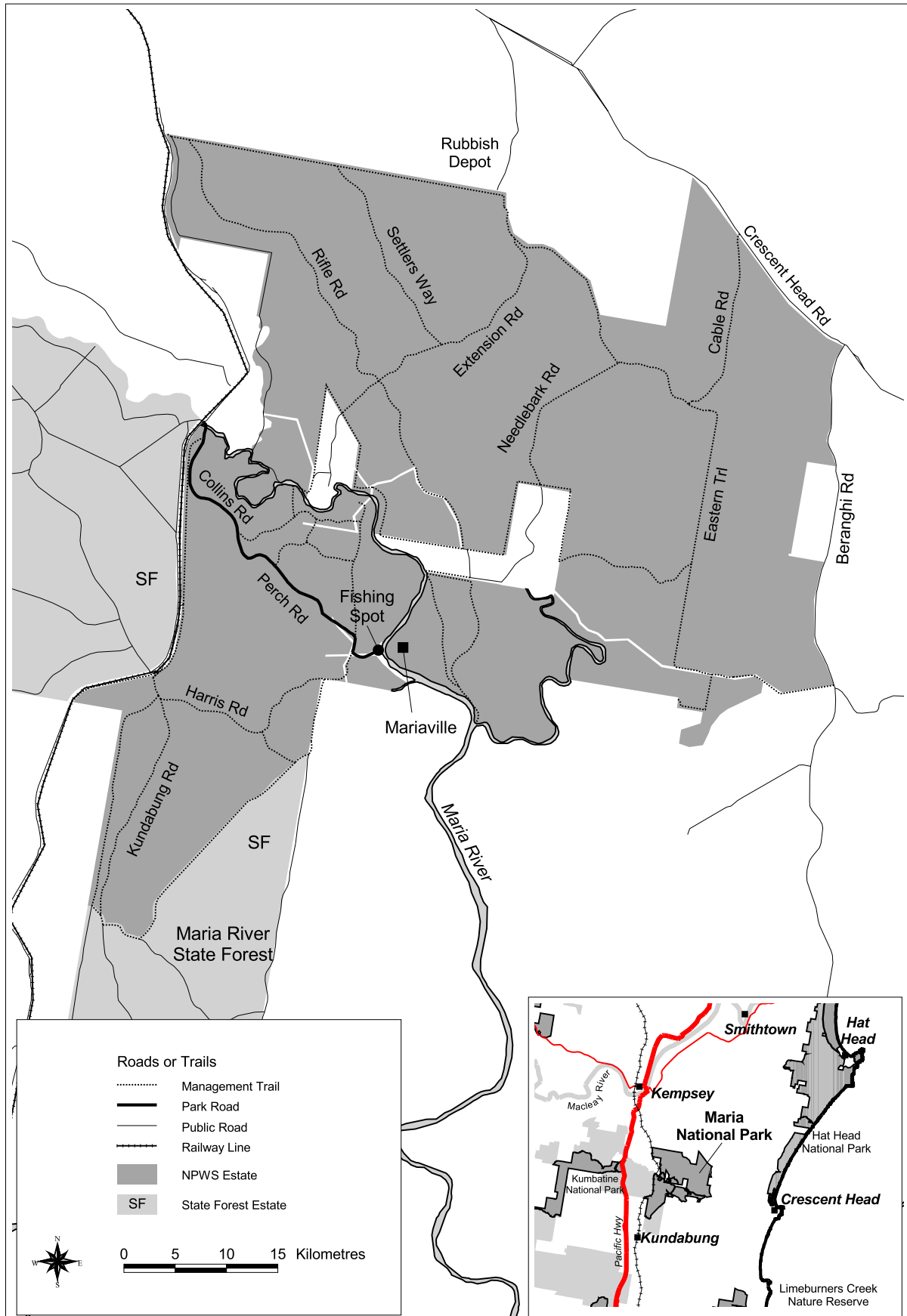
2.1 LEGISLATIVE AND POLICY FRAMEWORK

The management of national parks in NSW is in the context of the legislative and policy framework, primarily the *National Parks and Wildlife Act 1974* (NPW Act), the *Threatened Species Conservation Act 1995* (TSC Act), the NPW Regulations and the policies of the NSW National Parks and Wildlife Service (NPWS). The policies arise from the legislative background, the NPWS corporate goals and internationally accepted principles of park management. They relate to nature conservation, Aboriginal and historic site 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* (EP&A Act) requires the assessment and mitigation of environmental impacts of any works proposed in this plan.

As well as Maria National Park, the planning area includes several Ministerial roads, which are vested in the Minister for the Environment on behalf of the Crown for the purposes of Part 11 of the NPW Act. These roads do not form part of the gazetted park area and were created by the *Forestry and National Parks Estate Act 1998* to ensure that the access arrangements which existed immediately before the park's creation (primarily for timber hauling and private property access) could continue, even if they were for purposes that did not meet the objectives of the NPW Act. The management of these roads is subject to the NPW Regulations and the requirements of the EP&A Act.

Figure 1. Maria National Park



2.1.1 National Parks in New South Wales

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, 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.

2.1.2 Regional Forest Agreements

Maria National Park was established during the process leading up to the Regional Forest Agreement (RFA) for North East NSW. Under this agreement, signed in 2000, all forest managers including NPWS must demonstrate ecologically sustainable forest management (ESFM).

ESFM aims to maintain or increase the full suite of forest values for present and future generations across the NSW native forest estate, including:

- ecosystem biodiversity, health, vitality, productive capacity and functional processes;
- soil and water productive capacity and functional processes;
- long term social and economic benefit; and
- natural and cultural heritage values.

ESFM is an over-riding management principle, applied to all ecosystem types, not just forests. This plan of management is part of the framework for ESFM.

This plan applies both to the land currently reserved and to any future additions. Where management strategies or works are proposed for additions that are not consistent with the plan, an amendment to the plan will be required.

2.2 MANAGEMENT DIRECTIONS FOR MARIA NATIONAL PARK

Maria National Park is regionally significant for its biological content and wildlife corridor values. The fragile nature of the soils, the fire prone nature of the vegetation and its role as a corridor for plant and animal species limit the capability of the park for intensive visitor use.

It will be managed to conserve its natural and cultural heritage while providing opportunities for limited sustainable public use.

Major strategies to achieve this are:

- *Application of fire regimes designed to maintain ecosystems through reduction of unplanned fires and arson.*
- *Maintenance of the current low-key recreation setting of the park.*
- *Consolidation of the national park as opportunities and funds permit.*
- *Rationalisation and maintenance of the roading in the park while retaining access to private property and the Fishing Spot.*
- *Monitoring of the impacts and density of weeds and feral predators and implementation of control strategies.*
- *Improved understanding of the cultural values of the Mariaville area through survey and assessment.*

3 CONSERVATION OF NATURAL AND CULTURAL HERITAGE

3.1 SCENIC AND CATCHMENT VALUES

The park contains the Maria River's upper estuary, as well as surrounding low relief forested landscapes. Attractive scenic features of the park include the understorey in the heathy dry sclerophyll forest, tall grass trees, open areas of Christmas bells (*Blandfordia grandiflora*) and tall forests dominated by scribbly gums.

There are no spectacular landforms in the park, with much of the park a low relief residual soil landscape. The flat terrain means that much of the park is poorly drained.

Creeks in the park flow into the upper estuaries of the Maria River. This does not supply domestic water, however, water quality is important to the Australian bass (*Macquaria novaemaculeata*) and other elements of the estuarine and marine environment. The area potentially has acid sulphate soils (Atkinson 1995). As part of a regional ground water study, the Department of Infrastructure, Planning and Natural Resources (DIPNR) is monitoring the water table along the Maria River. One of these sites is within the park immediately upstream from the Fishing Spot. This site consists of four 50mm water-sampling tubes sunk to below ground water level.

Desired Outcomes

- The scenic values of the park are protected.
- The park's catchment values and the water quality and health of park's creeks are maintained.

Strategies

- *Liase as needed with Kempsey Council and other authorities, including State Forests of NSW (SFNSW) and the State Rail Authority, to maintain the water quality of the park's catchments.*
- *Maintain the forested landscape and minimise developments that may lead to modification of the natural scenery of the park.*
- *Ensure activities in the park do not effect the water table and contribute to potential acid sulphate soils.*
- *Permit DIPNR to have continued access and use of the water table monitoring sites.*

3.2 NATIVE PLANTS AND ANIMALS

3.2.1 Native Plants

Vegetation mapping in Maria National Park has identified five plant communities (Kendall & Kendall 2000). More than 86% of the park supports dry sclerophyll forest. The heathy dry sclerophyll forest, which covers approximately half the park, is dominated by tall scribbly gums with a mid layer and understorey dominated by various shrubs. This community was not subjected to intensive logging and contains a high proportion of old-growth trees. This is in contrast to the extensive logging history of the grassy dry sclerophyll forest dominated by the popular timber species of tallowwood (*E. microcorys*), grey ironbark (*E. siderophloia*) and blackbutt (*E. pilularis*). Logging and silvicultural practices, such as ringbarking and burning, have resulted in this being the most modified community in the park, with a high proportion of young regrowth trees and few old-growth trees.

Wet sclerophyll forest accounts for 8.8% of the park's area. This occurs in narrow bands along the moister and more protected areas of Maria River, Reedy Creek and some of the smaller creek lines within the park. Areas of flooded gum (*E. grandis*) are revegetating following logging.

The remainder of the park supports two swamp sclerophyll forest communities which are confined to poorly drained soils adjacent to minor creek lines. The more common of these is dominated by swamp mahogany (*E. robusta*). Less than 1% of the park supports a swamp sclerophyll forest dominated by red bloodwood and forest red gum. Uncontrolled use of recreational 4WD vehicles and motor cycles in the past

has led to damage to the vegetation and water quality degradation in these forests, and has the potential to introduce weeds.

All of the forest communities in the park, with the exception of the heathy dry sclerophyll forest, are considered inadequately reserved. In particular, at the time of the RFA, the reserve system achieved only 40% of the conservation target for the swamp sclerophyll forest dominated by red bloodwood and forest red gum.

Maria National Park contains a number of significant species (refer to table 1). No threatened plant species have been recorded in the park.

Table 1. List of significant plant species recorded in Maria National Park

Common name	Scientific name	Significance	Forest community*
Christmas bell	<i>Blandfordia grandiflora</i>	disjunct population	HDSF
dwarf blue trumpet	<i>Brunoniella pumilio</i>	at northern limit of distribution	GDSF
a red mahogany	<i>E. resinifera</i> subsp. <i>hemilampra</i>	near southern limit of distribution	HDSF
a red mahogany	<i>E. resinifera</i> subsp. <i>resinifera</i>	near northern limit of distribution	GDSF, HDSF, SSF
narrow-leaved red gum	<i>Eucalyptus seeana</i>	near southern limit of distribution	GDSF
green midge orchid	<i>Genoplesium pumilum</i>	unknown - further work is needed to clarify the identity and significance of the species (Kendall & Kendall 2000)	
goodenia	<i>Goodenia heterophylla</i> subsp. <i>eglandulosa</i>	at northern limit of distribution	GDSF, SSF
screw fern	<i>Lindsaea dimorpha</i>	regionally uncommon	WSF
a perennial daisy	<i>Minuria leptophylla</i>	regionally uncommon	GDSF
swamp lily	<i>Ottelia ovalifolia</i>	regionally uncommon	SSF
narrow-leaved geebung	<i>Persoonia linearis</i>	at northern limit of distribution	GDSF
a geebung	<i>Persoonia stradbokensis</i>	at southern limit of distribution	GDSF, HDSF, SSF, WSF
a bacon and egg pea	<i>Pultenaea paleacea</i>	at northern limit of distribution	HDSF
king fern	<i>Todea barbara</i>	regionally uncommon	WSF

*Forest community in which the species is found: GDSF = grassy dry sclerophyll forest, HDSF = heathy dry sclerophyll forest, SSF = swamp sclerophyll forests, WSF = wet sclerophyll forest

In addition to logging, some areas of the park have in the past been subjected to firewood collection, illegal collection of Christmas bells and frequent fires, however, it is expected that most areas will naturally revegetate. Recovery will also be assisted by the implementation of introduced species control programs, use of appropriate fire regimes which recognise ecological requirement and visitor management (refer sections 4.2, 4.3 and 5).

Desired Outcomes

- The full range of native plant species found in the park is conserved.
- Vegetation structural diversity and habitat values are conserved, and are restored where subject to past logging.
- The habitat and populations of all significant plant species are protected.

Strategies

- *Protect native vegetation, in particular threatened and significant plant species or restricted plant communities from visitor impacts, effects of introduced species and inappropriate fire regimes (refer sections 4.2 Introduced Species, 4.3 Fire Management and 5 Visitor Opportunities and Education).*
- *Monitor natural regeneration of logged areas.*
- *Liaise with SFNSW, neighbours, Landcare, vegetation management committees and other relevant land use managers to encourage retention and, if possible, expansion of areas of native vegetation close to the park.*

3.2.2 Native Animals

Despite previous disturbance, the forest communities in the park are known to provide habitat for a diversity of animal species, including ten threatened native animals and potential habitat for five more (refer to table 2). In part this reflects the importance of the park as part of a corridor of vegetated lands linking the eastern escarpment of the Great Dividing Range to coastal habitats. Past land uses have altered the ecosystems through activities such as timber harvesting. High fire frequency and introduced species have also impacted on park values. In particular there is a scarcity of hollow-bearing trees in the grassy dry sclerophyll forest. Each of the forest types, however, still retain important habitat elements for fauna. Retention of vegetation on private lands in the vicinity of the park will enhance the area's value as a wildlife corridor.

All records of native animals are collected and stored on the NSW Wildlife Atlas, a state-wide database established by NPWS.

NPWS is required by the TSC Act to prepare and implement recovery plans for all listed threatened species. These are progressively being prepared and will be used to guide management of threatened species in the area.

Table 2. Threatened species known or expected to occur in Maria National Park**Recorded from the park**

Common name	Scientific name	Status under the TSC Act
Mammals		
koala	^r <i>Phascolarctos cinereus</i>	Vulnerable
squirrel glider	<i>Petaurus norfolcensis</i>	Vulnerable
yellow-bellied glider	^r <i>Petaurus australis</i>	Vulnerable
brush-tailed phascogale	^r <i>Phascogale tapoatafa</i>	Vulnerable
little bent-wing bat	^r <i>Miniopterus australis</i>	Vulnerable
golden-tipped bat	^r <i>Kerivoula papuensis</i>	Vulnerable
grey-headed flying fox	<i>Pteropus poliocephalus</i>	Vulnerable #
Birds		
glossy black-cockatoo	<i>Calyptorhynchus lathami</i>	Vulnerable
powerful owl	^r <i>Ninox strenua</i>	Vulnerable
masked owl	^r <i>Tyto novaehollandiae</i>	Vulnerable

Expected to occur in the park

Mammals		
spotted-tailed quoll	^r <i>Dasyurus maculatus</i>	Vulnerable #
eastern chestnut mouse	<i>Pseudomys gracilicaudatus</i>	Vulnerable
Birds		
osprey	^r <i>Pandion haliaetus</i>	Vulnerable
square-tailed kite	<i>Lophoictinia isura</i>	Vulnerable
Amphibians		
green-thighed frog	<i>Litoria brevipalmata</i>	Vulnerable

^r recovery plan in preparation.

also considered vulnerable at a national level and listed under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*

Desired Outcomes

- The full range of native animal species found in the park is conserved.
- The habitat and populations of the threatened native species that occur in the park are restored.

Strategies

- *Retain scarce habitat resources, such as hollow-bearing trees and stags in the grassy dry sclerophyll forest.*
- *Continue to record the distribution of fauna species.*
- *Encourage bird watchers and other groups to pass on information gathered in the park.*

3.3 ABORIGINAL HERITAGE

The park is within the Kempsey Local Aboriginal Land Council area, and is part of the Dughutti tribal area.

Aboriginal communities have an association and connection to the land. The land and water biodiversity values 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.

There are no recorded Aboriginal sites within the park although there is a report of a scarred tree near the Maria River in the vicinity of 'Mariaville' and the Maria River was a likely food source for the Aboriginal people. Open campsites, stone arrangements and Bora /ceremonial grounds have been recorded in close proximity to the park though none is known from the park. The topography, soils and past land use are likely to have militated against the preservation of evidence of occupation and use of the area by the Aboriginal people.

While NPWS has legal responsibility for the protection of Aboriginal objects, it acknowledges the right of Aboriginal people to make decisions about their own heritage. It is NPWS policy to encourage the Aboriginal community to participate in the management of Aboriginal cultural heritage and NPWS actively consults with relevant persons for cultural heritage information and advice.

Desired Outcomes

- Aboriginal sites and places are protected from damage by human activities.
- Aboriginal people are involved in management of Aboriginal cultural values in the park.

Strategies

- *Encourage further research into the Aboriginal heritage of the park, including any post contact sites of cultural significance to the community.*
- *Liase with the Kempsey Local Aboriginal Land Council whenever research into Aboriginal heritage is undertaken.*
- *Any information on Aboriginal cultural heritage in the park uncovered by NPWS, including copies of research findings, will be provided to the Kempsey Local Aboriginal Land Council and the Dunghutti Elders.*
- *Manage Aboriginal heritage in consultation with the Kempsey Local Aboriginal Land Council, the Dunghutti Elders group and other relevant Aboriginal community organisations.*
- *Verify the presence of the reported scarred tree. If found, enter it on the register of Aboriginal sites and investigate in consultation with the local Aboriginal community means of protecting it from fire and damage from people.*

3.4 HISTORIC PLACES

Early European settlement of the Kempsey area was by way of water transport from Port Macquarie via the Hastings, Wilson and Maria Rivers to the head of navigation at Mariaville, which now lies within the park. Settlers then proceeded to Kempsey by wagon, using Rifle Road and Settlers Way. Mariaville was surveyed in 1872 but was never built, although evidence of the foundations of a house were reported in the late 1970s.

The Mariaville site is not a registered historic place; there are no other known historic places within the park.

Desired Outcome

- All historic features are appropriately conserved and managed.

Strategies

- *Consult with the Macleay Valley Historic Society, Kempsey Historic Society the Mid North Coast Maritime Museum and other relevant interest groups regarding the historic values of the Mariaville area.*
- *Carry out a cultural heritage assessment of the Mariaville area to determine if it warrants entry on the NPWS Historic Places Register.*

4 PARK PROTECTION

4.1 SOIL EROSION

The majority of the park's soils are weathered in situ from the underlying sedimentary rock, except for alluvial soils on the southern end of Reedy Creek and the Maria River (Atkinson 1999). The roads north of Maria River are on a duplex soil, with thin white clay overlaying red clay. This soil has moderate general erosion risk, but the subsoil is highly erodible and highly plastic. If the subsoil is exposed, rapid gully erosion occurs on moderate slopes and roads on level terrain become un-trafficable in wet weather. Previous gravelling of some sections of roads in the park has been ineffective as the gravel has been ultimately forced below the soil surface.

The soils south of the Maria River are derived from a different parent rock which contains fine red gravel, the result being that roads in this area are much more stable. Thus, soil type has major implications for managing the park's road network (refer to section 5.1).

Desired Outcome

- Soil erosion in the park is minimised.

Strategies

- *Design and undertake all works in a manner that minimises soil erosion.*
- *Use Geo-textile or other stabilising material on boggy sections of road that require gravelling.*

4.2 INTRODUCED SPECIES

An introduced species is defined as any plant or animal species not native to the national park. Introduced species within the national park are of concern because they have the potential to have detrimental effects on ecological values and can spread to neighbouring land. In addition, the *Noxious Weeds Act 1993* and the *Rural Lands Protection Act 1998* require public authorities to control noxious weeds and declared pest animals, respectively, on land that they occupy.

The NPWS Mid North Coast Region has a Regional Pest Management Strategy (NPWS 2001) that is reviewed every five years.

Plants

Weed species are currently a minor problem within the national park, with a low density and a low number of species recorded. Most weed species in the park appear to be associated with past disturbance. There is the potential for weeds to be spread by vehicles.

The majority of introduced species are considered unlikely to threaten the vegetation of the national park however the following five species are known to require monitoring:

- Bitou bush (*Chrysanthemoides monilifera*) – present at low density. A declared noxious weed which is potentially very invasive and which has been listed under the TSC Act as a key threatening process.
- Camphor laurel (*Cinnamomum camphora*) – present at low density. Not a declared noxious weed but potentially very invasive.
- Lantana (*Lantana camara*) – present but does not appear to be affecting the diversity of native plant species. The red flowered variety, which has been listed as noxious, has not been noted on the park.
- Groundsel bush (*Baccharis halimifolia*) – present at very low density. A declared noxious weed, with a high priority for control.
- Hypericum (*Hypericum hypericoides*) – located in low numbers. Not a declared noxious weed and its invasive potential is currently unknown.

Animals

Introduced animals can have a significant impact on native flora and fauna, and can also impact on the activities of park neighbours. There is little information on the density or abundance of introduced animals in the park, but foxes (*Vulpes vulpes*), cats (*Felis catus*) and wild dogs (*Canis familiaris*) are known to occur within the park

(RLPB 1998). There have also been several reports of unattended domestic dogs within the park.

Wandering stock is generally not a problem in the park. Procedures for removing stock are contained in the memorandum of understanding between the NPWS Mid North Coast Region and the NSW Farmers Association.

Desired Outcome

- The impact of introduced species on native plants and animals is minimised.

Strategies

- *Monitor the presence and impacts of introduced species and implement control in accordance with the Regional Pest Management Strategy.*
- *Control, and eradicate if possible, the small outbreak of groundsel bush.*
- *Seek the cooperation of neighbours, the Kempsey Rural Lands Protection Board, State Forests NSW, Kempsey Council, the Mid North Coast Weeds Advisory Council and other stakeholders in implementing weed and pest animal control programs.*
- *Ensure gravel used within the park is won from sterile hard rock quarries, to minimise the possibility of importation of pest plant species.*

4.3 FIRE MANAGEMENT

Fire is a natural feature of the environment and is essential to the survival of some plant and animal communities. Inappropriate fire, however, can damage natural and cultural heritage and endanger park visitors and neighbours. Management must aim to achieve both long-term conservation of native plant and animal communities and ongoing protection of life and property within and adjacent to the park.

Fire history

Fire histories predating gazettal of the park have been maintained by SF NSW. More recently, the park has been subjected to frequent and intense fires in September 1991, the north-western area in September 2000 and the southern section burnt in the period 1990-1994. Many of these fires have originated from the burning of abandoned stolen vehicles and arson. Several fires are known to have originated from the north coast rail line.

Ecological requirements

Bushfire regimes are a major determinant of the distribution and abundance of plants and animals in the park. They also affect erosion patterns, hydrological regimes and nutrient cycles. Ecological research suggests that a fire frequency of between 5 and 30 years is generally appropriate for the park's vegetation communities, except the

wet sclerophyll forest, which should have a less frequent fire regime. This community is considered a fire sensitive community as it contains many rainforest species in the mid and lower strata. Indications are that this community has acted as a natural firebreak, at least in the past 15 years. The vegetation diversity of the wet sclerophyll community is likely to be enhanced by the continued exclusion of fire for the next 40+ years.

This recorded fire history and previous anecdotal accounts indicate the park has been subjected to fire at a greater frequency than is desirable to maintain the park's biodiversity.

Variability of fire intervals and area burnt is important to conserve floristic diversity and provide diversity of habitat for animals. The fires most damaging to fauna communities are those that occur during the breeding season because of direct killing of young and increased exposure.

Fire management planning

Draft fire management strategies have been prepared for the park. These identify the bushfire threat, requirements for the conservation of native plants and animals, and community protection measures in areas where it is identified that fire is a threat to property. In particular, the protection of the existing inholdings requires the maintenance of fire trails that could otherwise be closed and revegetated, and this is identified in the plan. The protection of private property will also require that some sections of the park be burned more frequently for bushfire hazard reduction than otherwise would be required to maintain biodiversity.

The fire strategies also set out guidelines for threatened fauna species recorded or predicted to occur in the park. These mainly involve protection of potential nesting sites and preventing canopy fires, as well as restricting fires to only part of the distribution of a vegetation community at any one time and ensuring that, for most of the park, thresholds for biodiversity conservation are not exceeded.

The draft strategies also include fuel reduction, fire trails, detection and cooperative arrangements. Close to boundary areas, fuel reduction programs and fire trail maintenance will be designed and implemented in cooperation with neighbours.

The draft strategies are consistent with the Kempsey District Bush Fire Risk Management Plan developed by the Kempsey District Bush Fire Management Committee. The NPWS is a member of this committee.

Desired Outcomes

- Fire regimes are appropriate for long-term maintenance of the park's plant and animal communities.
- The potential for spread of bushfires on, from, or into the park is minimised.
- Persons and property on, or immediately adjacent to, the park are protected from bushfires.
- Aboriginal sites, historic places and culturally significant features are protected from damage by bushfires.

Strategies

- *Finalise and implement fire management strategies for the park within the next 2 years.*
- *Heavy fire fighting machinery should only be used on existing roads and trails.*
- *Continue to actively participate in the Kempsey Bush Fire Management Committee. Maintain close contact and cooperation with Council's fire officers, State Forests of NSW, the State Rail Authority, other neighbours and volunteer bush fire brigades.*
- *Update the NPWS data base to include fire history information from SFNSW.*
- *Where designated in the fire management strategies, carry out fuel management on the park's boundaries in cooperation with neighbours for mutual protection.*
- *Close the park to public use during periods of extreme fire danger.*

5 VISITOR OPPORTUNITIES AND EDUCATION

5.1 ACCESS

There is an extensive network of roads and trails through the park, many of which are required for fire management purposes. The most popular roads in the park are Collins and Perch Roads, which provide access to the Fishing Spot. In the past, there has been uncontrolled recreational vehicle-based use of the road network, which has led to erosion, as well as problems with refuse dumping and arson.

Sections of roads throughout the park are often boggy due to the general poor drainage offered by the flat terrain. This is a particular problem in the forest communities associated with minor creek lines or located on frequently wet soils. Where vehicular trails cross these communities, boggy areas tend to form. Vehicles detouring around these boggy sections of road enlarge the problem and contribute to vegetation destruction, the spread of weeds, sedimentation and degradation of water quality. Temporary detours around fallen trees and branches are also particularly frequent in those sections of park which support the heathy dry sclerophyll forest, as this community has a high proportion of senescent trees.

A network of roads and trails providing visitor access to the Fishing Spot, as well as the necessary access for fire management and apiarists has been determined, and is shown on figure 1. Gating of some management trails may become necessary to prevent unauthorised access. The primary access routes to private property will remain Ministerial roads (refer to section 7).

Desired outcome

- Use of the park's roads and trails is sustainable.

Strategies

- *Maintain management trails indicated on figure 1 primarily for management and private property access. Close and rehabilitate all trails not shown on the map.*
- *Regularly remove obstacles such as fallen trees from roads and trails to prevent detours.*
- *Where practicable, stabilise creek crossings on roads and trails.*
- *Maintain Perch and Collins Roads to allow access to the Fishing Spot by the public in 2WD vehicles.*
- *Do not promote any roads in the park other than the access via Collins and Perch Roads to the Fishing Spot.*
- *Gate and/or sign all management trails within the park (refer figure 1) as required.*
- *Review the road and trail network in the park to determine whether the number of roads and trails can be reduced.*

5.2 RECREATION OPPORTUNITIES

Visitor opportunities provided in national parks are generally low key, in natural and undeveloped settings. Recreational uses, which are ecologically sustainable and which directly contribute to the visitor's understanding and appreciation of the park, are considered appropriate. Provision for visitor use of the park also needs to be considered in a regional context. Public land managed by the NPWS and other authorities in the region provides opportunities for a range of recreational activities.

The only site regularly visited by the public is the Fishing Spot on the Maria River, which is used for launching canoes, mainly for fishing downstream. This is currently on Crown land and not within the gazetted park boundary. There are no facilities at the site. Although bank erosion is not a problem at the moment, increasing use of the site may lead to erosion and degradation of the site's values. The Fishing Spot is accessed via Collins and Perch Roads through the western part of the park. Previously another site south east of the Fishing Spot on the northern bank of the Maria River was also used to launch boats. This is now closed as the access road crosses private property.

The park has been used for many years for recreational horse riding, mostly by park neighbours and by a volunteer group providing an annual ride for disadvantaged and disabled persons through the park to the coast.

There is no established use of the park for camping and more desirable camping sites are available at the formal boat launching ramp and picnic area provided by Kempsey Shire Council at Kundabung, downstream from the park.

Desired Outcomes

- A variety of low key recreation opportunities are available that encourage appreciation of the natural environment.
- Maria National Park caters for a low level of recreational use by neighbours but does not provide a venue for high intensity recreational use.

Strategies

- *Monitor the use of the Fishing Spot. Upgrade this site if necessary by formalising the car parking area to prevent damage to vegetation.*
- *Monitor the condition of the riverbank at the Fishing Spot and stabilise the bank if necessary to prevent erosion.*
- *Ensure the northern bank launch site remains closed.*
- *Do not provide barbecues, toilets or picnicking facilities within the park.*
- *Do not permit camping in the park.*
- *Allow fuel stoves only in the park.*
- *Allow horse riding on the park roads and trails designated on Figure 2.*
- *Do not promote the park for horse riding.*
- *Restrict horse riding during wet weather. During wet weather prohibit horse riding on roads and trails designated as “dry weather only” as shown on Figure 2 (page 19). Closure of roads and trails will be determined by NPWS.*
- *Prohibit competitive horse riding events, commercial horse riding, overnight camping with horses and riding off roads and trails in the park.*
- *Allow horse riding on the Northern Trail once the crossings over the tributaries of Reedy Creek are gravelled.*
- *Non competitive group horse riding by groups (defined as more than 10) will require a consent from NPWS. No more than 5 consents for group riding will be given in any one calendar year.*
- *Monitor horse riding routes to determine sustainability including: trail conditions; environmental and cultural impacts; interaction with other park visitors; and trail capacity. Establish monitoring points in consultation with the National Parks Association (NPA) and horse rider representatives.*
- *Review horse riding after 5 years taking into account of the results of the monitoring of horse riding trails and amend horse riding strategies if necessary. This may include changes to horse riding routes and will involve consultation with*

NPA and horse riding representatives. Any changes will require an amendment to this plan of management.

- *If necessary, temporarily or permanently close horse riding roads or trails (in consultation with horse riding associations/groups and NPA) should excessive erosion prove to be attributable to or exacerbated by horse riding. Roads and trails may also be closed during periods of high fire danger.*
- *Install signs advising of roads and trails where horse riding is permitted.*
- *Remove cattle grids and restore the road surface south of the Kundabung / Harris Road intersection.*
- *Access to the park through private property will require the consent of the private property owner.*

5.3 INFORMATION PROVISION

Promotion to target user groups, such as bushwalkers, canoeists and bicycle riders, will generally be off park in the form of information and support. The park is currently not suitable for promotion as a destination and signage needs to be erected on Extension Road, Beranghi Road and Collins Road advising the public of the activities that are not permitted. Internal signage is also needed to direct visitors to appropriate routes out of the park.

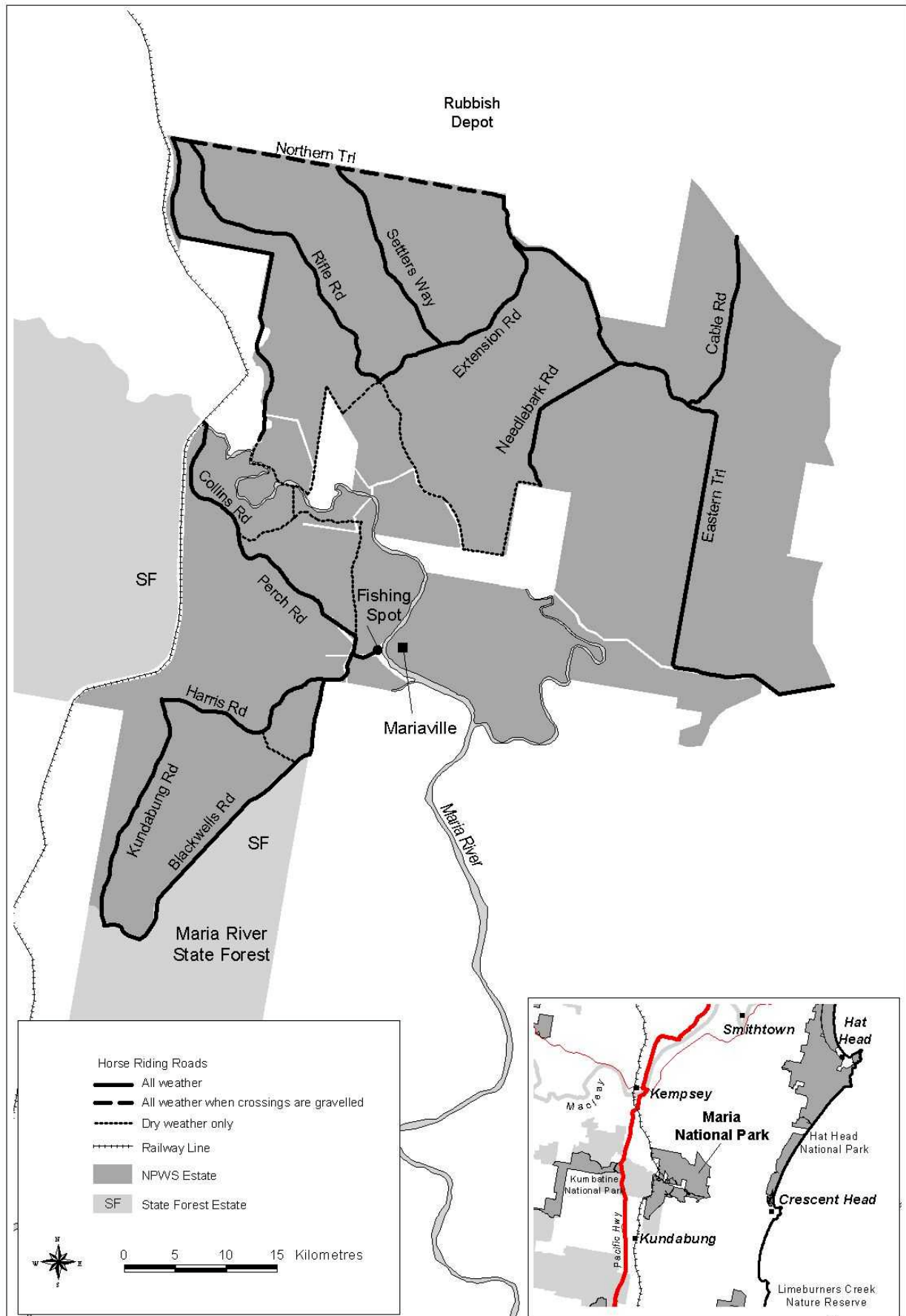
Desired Outcomes

- There is widespread community understanding and appreciation of the park's natural and cultural values.
- Visitors adopt minimal impact behaviour.

Strategies

- *Liaise with neighbours and community organisations to promote community understanding of park values and management strategies.*
- *Emphasise the following themes in promotion:*
 - *Biodiversity;*
 - *Linking of national parks, nature reserves and other vegetated areas to create corridors for wildlife; and*
 - *Appropriate visitor behaviour.*
- *Install and maintain low key directional signage at major trail and road junctions within the park.*
- *Erect entry signs to advise that wood fires and camping are not permitted.*
- *Prepare a park information brochure once signage is installed.*

Figure 2. Horse Riding Trails in Maria National Park



5.4 COMMERCIAL AND GROUP ACTIVITIES

Usage by groups in the past has been limited to cycling and horse riding, and very occasionally painting, birdwatching, bushwalking and boat launching. Competitive mountain bike tours have been undertaken in the park.

Due to the fragile nature of the soil and the need to minimise vehicular traffic within the park, vehicle-based commercial and group activities are considered inappropriate in the park. The only commercial and group activities considered appropriate are those with minimal impact (e.g. bushwalking or nature observation) or those wishing to use the Fishing Spot for the purpose of launching or landing canoes.

Desired outcome

- Commercial and group use is compatible with the purposes of the park, has minimal impact on the environment and does not create conflict with other users.

Strategies

- *Permit commercial and group activities subject to the following conditions:*
 - *the only site to be visited by vehicle will be the Fishing Spot for non-motorised boat launching (to be accessed only by Collins and Perch Roads);*
 - *there will be limits on group sizes and frequency of use if necessary to minimise environmental impacts and conflicts with other park users;*
and
 - *prior permission for groups of more than 12 people will be required.*
- *Ensure all commercial activities operating within the park are licensed. Commercial canoe or kayak activities will require licensing by NSW Waterways Authority.*
- *Permit, subject to appropriate conditions, low impact non vehicle based group and commercial activities, such as bushwalking, bird watching, wildflower viewing and cycling.*
- *Allow non-competitive group horse riding subject to consent (refer 5.2 Recreation Opportunities). Prohibit commercial horse riding.*

6 RESEARCH AND MONITORING

The purpose of scientific study in a national park is to improve understanding of its natural and cultural heritage, and the processes which affect them. Research also establishes the requirements for management of particular species.

It is NPWS policy that research involving Aboriginal heritage or culture is carried out in consultation with the Aboriginal community.

In Maria National Park, research to date has been limited to surveys aimed at describing the plants and animals that occur in the park (Kendall & Kendall 2000; NPWS 1999) and monitoring of ground water (refer to section 3.1). The vegetation survey has established five permanent plots which can be used to monitor changes in plant communities. SF NSW Forestry E.I.S. surveys and subsequent pre-logging surveys in nearby areas also provide additional information that may be relevant to management of the park.

Achievement of ecologically sustainable forest management (ESFM) requires continuous improvement based on evaluation and monitoring of the impact of management actions. Performance indicators of ESFM have been identified for the Lower North East Region of NSW and a monitoring program is being developed using the indicators to provide feedback on management programs and directions for future adaptive management.

Desired Outcomes

- Research enhances the information base and assists management of the park.
- Research causes minimal environmental damage.
- Monitoring programs are in place to detect any changes in the status of park resources and are used to inform better management practices.
- The Aboriginal community is involved in research into their heritage or culture

Strategies

- *Promote research priorities identified under the RFA along with topics identified in this plan of management. Key areas of research and monitoring will be those relevant to management and will include:*
 - *The ecology of threatened species, such as the golden-tipped bat and brush-tailed phascogale.*
 - *Fire regimes for maintenance of biodiversity and the impact of fire regimes on weed invasion.*
 - *The optimum number of hollow-bearing trees and the effectiveness of artificial roosts for forest bat species, arboreal mammals and forest owls.*
 - *Targeted searches for threatened species that have potential habitat within the national park, or have not been recorded in the last 10 years.*
 - *Impacts of predation by foxes and/or other feral animals.*
 - *Erosion of the river bank at the Fishing Spot.*
 - *Sustainability of horse riding routes.*
- *Maintain and monitor the five vegetation survey plots established by Kendall and Kendall (2000).*

7 OTHER USES

Bee keeping

There are eight occupation permits for apiary sites within the park. These existed at the time of the park's creation and are generally used only once every 3-5 years, depending on fire and on the flowering of the favoured species (e.g. ironbark, tea tree, native peas and other heathland species). It is NPWS policy to continue to permit existing apiary sites in national parks but no additional sites will be approved.

Most sites are located adjacent to roads and trails which will be maintained for management purposes. Maintenance, however, is dictated by available resources and NPWS priorities and will generally not relate to the permit holder's requirements.

Access to private property

Within the park, Extension, Cable and Needlebark Roads currently provide access to private property. These roads will be retained as Ministerial roads to provide access to these properties as long as necessary.

Desired Outcomes

- Non-NPWS uses have minimal environmental impact.
- Access to private property is maintained.

Strategies

- *Permit apiarists to clear a minimal area of their existing sites for hives by mowing/ slashing only.*
- *Monitor use of beehive sites to ensure compliance with consent requirements and to detect possible escaped swarms in nearby tree hollows.*
- *Do not permit new beehive sites, except in the case of relocating an existing site that needs to be closed because of environmental and/ or visitor safety requirements.*
- *Retain Extension, Cable and Needlebark Roads as Ministerial roads and maintain as necessary to provide access to private property.*
- *Review the need for Ministerial roads following tenure changes.*

8 MANAGEMENT OPERATIONS

Management facilities

As discussed in sections 4.3 and 5, there will be no facilities provided within the park other than signage, and the park road and trail network shown on figure 1.

Park additions

Within the park's outline, there are several unformed road reserves, the alignments of which are generally unsuitable for road construction and which are not required for access given the many roads already in existence. Although not technically part of the park, the road reserves are unmarked on the ground and current NPWS management includes these lands. The Fishing Spot occurs on one of these road reserves.

Desired Outcomes

- Management facilities adequately serve the needs of park management and have acceptable environmental impact.
- The park perimeter is rationalised to facilitate improved management of the park.

Strategies

- *Review the management trail network in the park to determine whether the number of trails can be reduced.*
- *Seek to have the unconstructed road reserves gazetted as additions to the park.*
- *Seek to acquire the inholdings if they become available for purchase and if funds are available.*

9 PLAN IMPLEMENTATION

This plan of management is part of a system of management developed by the National Parks and Wildlife Service. The system includes the NPW Act, management policies, established conservation and recreation philosophies, and strategic planning at corporate, directorate and regional levels. The latter may include development of related plans such as regional recreation plans, species recovery plans, fire management plans and conservation plans.

Section 81 of the Act requires that this plan of management shall be carried out and given effect to, and that no operations shall be undertaken in relation Maria National Park unless they are in accordance with the plan.

Implementation of this plan will be undertaken within the annual programs of the NPWS Mid North Coast Region. The actions identified in the plan are those to which priority will be given in the foreseeable future. Other management actions may be developed consistent with the plan objectives and strategies.

Relative priorities for identified activities are set out in the table below. These priorities are determined in the context of directorate and regional strategic planning, and are subject to the availability of necessary staff and funds and to any special requirements of the Director-General or Minister.

The environmental impact of proposed activities will be assessed at all stages in accordance with established environmental assessment procedures. Where impacts are found to be unacceptable, activities will be modified in accordance with the plan policies.

This plan of management does not have a specific term and will stay in force until amended or replaced in accordance with section 73B of the NPW Act. The implementation of the plan will be monitored and its success in achieving the identified objectives will be assessed.

Strategies

- *Undertake an annual review of progress in implementing this plan of management.*
- *Undertake an assessment after 5 years of the effectiveness of managing the national park in accordance with this plan and of the degree of success in achieving the plan's objectives and desired outcomes. Base the evaluation on the monitoring programs set out in this plan and any others that may be developed.*

IMPLEMENTATION TABLE

Section	Actions	Priority
Conservation of natural and cultural heritage		
3.1	<ul style="list-style-type: none"> • Liaise with other authorities to maintain water quality. • Minimise developments that may degrade the scenery. • Ensure activities in the park do not effect the water table and contribute to potential acid sulphate soils. • Permit DIPNR to use water table monitoring sites. 	High High High Low
3.2.1	<ul style="list-style-type: none"> • Protect native vegetation from visitor impacts, effects of introduced species and inappropriate fire regimes. • Monitor natural regeneration of logged areas. • Liaise to encourage retention and, if possible, expansion of areas of native vegetation close to the park. 	High Medium High
3.2.2	<ul style="list-style-type: none"> • Retain hollow-bearing trees and standing dead trees. • Continue to record the distribution of fauna species. • Encourage groups to pass on information about wildlife observations. 	High Medium Low

Section	Actions	Priority
3.3	<ul style="list-style-type: none"> • Encourage research into Aboriginal heritage. • Liaise with the Kempsey Local Aboriginal Land Council regarding research into the park's cultural heritage. • Pass on any information obtained about Aboriginal cultural heritage to the Kempsey Local Aboriginal Land Council and the Dunghutti Elders, including copies of research findings. • Consult with the Kempsey Local Aboriginal Land Council and the Dunghutti Elders group regarding management of Aboriginal heritage. • Verify the presence of the reported scarred tree. 	High High High High Medium
3.4	<ul style="list-style-type: none"> • Consult with the Macleay Valley Historic Society, Kempsey Historic Society the Mid North Coast Maritime Museum and other relevant interest groups regarding the historic values of the Mariaville area. • Carry out a cultural heritage assessment of the Mariaville area. 	Medium Medium
Park protection		
4.1	<ul style="list-style-type: none"> • Carry out all works in a manner that minimises soil erosion. • Use stabilising material on boggy sections of road that require gravelling. 	High High
4.2	<ul style="list-style-type: none"> • Monitor and control introduced species in accordance with the Regional Pest Management Strategy. • Control the outbreak of groundsel bush. • Seek the cooperation of neighbours, and other stakeholders in implementing weed and pest animal control programs. • Ensure gravel used within the park is won from sterile hard rock quarries. 	Medium High Medium High
4.3	<ul style="list-style-type: none"> • Finalise fire management strategies for the park. • Use heavy fire fighting machinery on existing roads and trails only. • Actively participate in the Kempsey Bush Fire Management Committee and maintain close cooperation with neighbours, other fire authorities and volunteer bush fire brigades. • Update NPWS data base to include information from SFNSW. • Carry out fuel management on the park's boundaries in cooperation with neighbours for mutual protection. • Close the park to public use during periods of extreme fire danger. 	High High High High High High

Section	Actions	Priority
Visitor opportunities and education		
5.1	<ul style="list-style-type: none"> • Maintain management trails for management and private property access. Close and rehabilitate all trails not shown on figure 1. • Regularly remove obstacles such as fallen trees from roads and trails. • Where practicable, stabilise creek crossings on roads and trails. • Maintain Perch and Collins Roads to allow public vehicular access to the Fishing Spot. • Do not promote any roads in the park other than the access via Collins and Perch Roads to the Fishing Spot. • Gate and/or sign management trails as required. • Review the road and trail network in the park to determine whether the number of roads/trails can be reduced. 	<p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Medium</p> <p>High</p> <p>Medium</p> <p>Medium</p>
5.2	<ul style="list-style-type: none"> • Monitor the use of the Fishing Spot and formalise car parking area if necessary. • Monitor the condition of the river bank at the Fishing Spot and stabilise the riverbank if necessary. • Ensure the northern bank launch site remains closed. • Do not provide barbecues, toilets or picnicking facilities. • Do not permit camping. • Do not permit wood fires. • Allow recreational horse riding as shown on Figure 2 • Do not promote the park for horse riding. • Restrict horse riding during wet weather. • Prohibit competitive and commercial horse riding and riding off roads and trails. • Allow riding on Northern Trail once creek crossings are gravelled. • Require consent for group rides and limit to 5 per year. • Establish monitoring points and monitor riding routes. • Review horse riding strategies after 5 years. • Close riding routes if necessary because of erosion or fire. • Install signs on routes where horse riding is permitted. • Remove cattle grids south of Kundabung/Harris intersection. • Advise riders of need for consent to cross private property. 	<p>Medium</p> <p>Medium</p> <p>Medium</p> <p>High</p> <p>High</p> <p>High</p> <p>High</p> <p>High</p> <p>High</p> <p>High</p> <p>Low</p> <p>High</p> <p>High</p> <p>High</p> <p>High</p> <p>High</p> <p>Medium</p> <p>High</p>
5.3	<ul style="list-style-type: none"> • Promote community understanding of park values and management strategies. • Emphasise the listed themes in promotion of the park. • Install and maintain signage at major trail and road junctions. • Erect entry signs to advise that horse riding, wood fires and camping are not permitted. 	<p>Low</p> <p>Low</p> <p>Medium</p> <p>Medium</p>

Section	Actions	Priority
5.4	• Permit commercial and group activities subject to the listed conditions.	Low
	• Ensure all commercial activities operating within the park are licensed.	High
	• Permit, subject to appropriate conditions, minimal impact non-vehicle based group and commercial activities.	Low
Research and monitoring		
6	• Promote research priorities identified in the plan.	Medium
	• Maintain and monitor the five vegetation survey plots.	Medium
Other uses		
7	• Permit apiarists to mow or slash a minimal area of their existing sites for hives by mowing/ slashing only.	High
	• Monitor use of beehive sites.	High
	• Do not permit new beehive sites.	High
	• Retain Extension, Cable and Needlebark Roads as Ministerial roads and maintain as necessary.	High
	• Review the need for Ministerial roads following tenure changes.	High
Management operations		
8	• Review the management trail network in the park to determine whether the number of trails can be reduced.	Medium
	• Seek to have the unconstructed road reserves gazetted as additions to the park.	Medium
	• Seek to acquire the inholdings.	Low
Plan implementation		
9	• Review implementation of the plan every year.	High
	• Assess the effectiveness of managing the national park in accordance with this plan after 5 years.	High

High priority activities are those imperatives 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.

10 GLOSSARY

10.1 ACRONYMS USED

DIPNR	NSW Department of Infrastructure, Planning and Natural Resources
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
ESFM	Ecologically sustainable forest management
NPW Act	NSW <i>National Parks and Wildlife Act 1974</i>
NPWS	NSW National Parks and Wildlife Service
RFA	Regional Forest Agreement
RTA	NSW Roads and Traffic Authority
TSC Act	NSW <i>Threatened Species Conservation Act 1995</i>

10.2 SELECTED DEFINITIONS

Biodiversity Biological diversity, namely the variety of life forms: the different plants, animals and microorganisms, the genes they contain, and the ecosystems they form. It is usually considered at three levels: genetic diversity, species diversity and ecosystem

Bushfire hazard reduction work The establishment or maintenance of fire breaks on land, by reduction or modification of available fuels within a predetermined area to mitigate against the spread of a bushfire. Fuel reduction may be achieved by the controlled application of appropriate fire regimes, manual removal, slashing, grazing or other means. Fuel modification is a manipulation of fuels (e.g. through lopping, chipping, crushing and mowing) to reduce their flammability

Bushfire management plan A plan of operations to prevent, detect and suppress unplanned fires and to reduce bushfire hazard, prepared by a Bushfire Management Committee, constituted under the RF Act for coordinated fire management and operations within a rural fire district.

Cultural heritage Encompasses past and present cultural associations of all people in Australia, including tradition, knowledge and customs. It can be tangible (i.e. have physical manifestations in the form of art, buildings etc.) or intangible (i.e. spiritual or social associations, songs, stories and cultural practices). Cultural significance includes values that are social, spiritual, aesthetic, historic and scientific. When natural resources acquire meaning for a particular group, they become cultural resources as well.

Ecologically sustainable use Using society's natural resources within the capacity of the species and ecosystems, so that the health, diversity and productivity of the environment and the ecological processes on which life depends are conserved and enhanced, and the quality of life, now and in the future, can be increased.

- Fauna** Any mammal, bird, reptile or amphibian. NPWS has responsibility for the conservation of fauna. Note this definition excludes fish or invertebrates.
- Feral species** A domesticated species that has become wild
- Fire authorities** Organisations (including land management authorities such as NPWS) vested by the *Rural Fires Act* with the responsibility to suppress fires. Under the *Rural Fires Act*, fire management activities on NPWS reserves are the responsibility of NPWS
- Fire Management** Includes all activity associated with the use and control of fire in bushland designed to achieve stated objectives for the protection of life and property, and the maintenance of wildlife communities.
- Historic places** Landscapes, sites buildings or other works together with pertinent contents and surroundings and include structures, ruins, archaeological sites and areas
- Introduced species** A species occurring in an area outside its historically known natural range as a result of intentional or accidental dispersal by human activities. Also known as exotic or alien species.
- Ministerial roads** Road corridors through the park/ reserve which, although managed by NPWS, do not form part of the gazetted area of the park/ reserve. Typically the access to adjacent State forest or private land, these roads are vested in the Minister for the Environment.
- Park roads** Access roads, which form part of the gazetted area of a park/ reserve, maintained by the NPWS for public use primarily to access visitor facilities and points of interest.
- Policy** A statement of attitude and courses of action, directed toward the attainment of NPWS corporate goals and/or objectives.
- Recovery plan** A document, prepared under the TSC Act, that identifies the actions to be taken to promote the recovery of a threatened species, or endangered population or ecological community.
- Regeneration** The recovery of natural integrity following disturbance or degradation. This can be achieved through totally natural processes or an assisted process, where human intervention (through removing weeds or planting seedlings) accelerates recovery.
- Senesce** The loss of limbs from the canopy as a tree ages, creating hollows in the limbs or trunk. Most relevant for eucalypt trees, this indicates the tree has reached late maturity.

11 REFERENCES

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