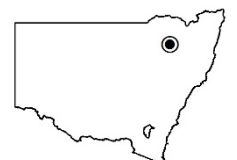




NSW NATIONAL PARKS & WILDLIFE SERVICE

Horton Falls National Park Community Conservation Area Zone 1

Plan of Management



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This plan of management was adopted by the Minister for the Environment on 8 August 2019.

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

The Department acknowledges that Horton Falls National Park Community Conservation Area Zone 1 is in the traditional Country of the Gamilaraay (Gomeroi) People.

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Front cover image: Horton River. Photo credit: Peter Croft, NPWS.

Published by:

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ISBN 978-1-922317-05-6
EES 2019/0490
September 2019

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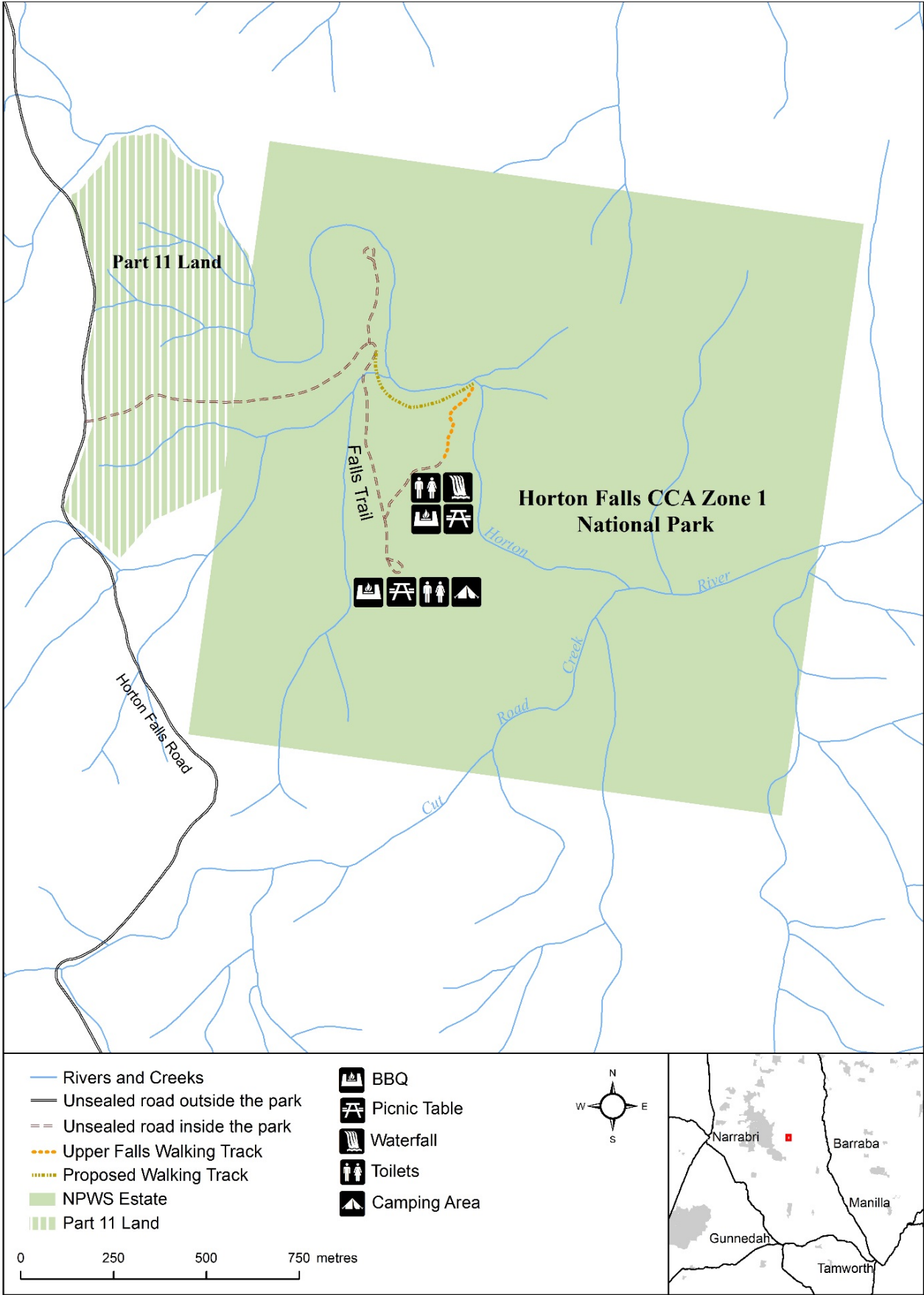


Figure 1. Horton Falls National Park

1. Introduction

1.1 Location, reservation and regional setting

This plan of management applies to lands reserved as Horton Falls National Park Community Conservation Area (CCA) Zone 1 and adjacent 'Part 11 lands' (see below) as shown in Figure 1. These areas are referred to collectively in this plan as 'the park'. This plan will also apply to any future additions to these areas.

Part 11 lands refer to unreserved lands that are vested in the Minister administering the *National Parks and Wildlife Act 1974* for the purposes of Part 11 of that Act. The Part 11 lands were acquired by the NSW National Parks and Wildlife Service (NPWS) in 2011 to increase the protection of threatened species habitat in the Horton Falls area and increase the area of, and improve access to, the park.

Features	Description
Location	The park is located 38 kilometres, by road, west of the town of Barraba and 10 kilometres east of Mount Kaputar National Park on the north-west slopes of the New England Tablelands in New South Wales.
Area	Horton Falls National Park CCA Zone 1 is 260 hectares. The boundaries of the national park are straight lines based on cadastral boundaries rather than landscape features. The Part 11 lands comprise 40 hectares. The park includes part of the bed of Horton River and a number of other smaller creeks and tributaries.
Reservation date	Horton Falls National Park CCA Zone 1 was reserved on 1 December 2005 under the <i>Brigalow and Nandewar Community Conservation Area Act 2005</i> .
Previous tenure	Horton Falls National Park CCA Zone 1 was previously a Crown reserve (Horton Reserve), managed by Barraba Shire Council (now part of Tamworth Regional Council). Permissive occupancies existed over this land until 2000. The national park is named after the waterfalls that are a significant landscape feature of Horton River, which flows through the park. The Part 11 lands were previously freehold land.
Regional context	
Biogeographic region	The park is located in the Nandewar Bioregion on the foot slopes of the Nandewar Range, 10 kilometres east of Mount Kaputar National Park.
Surrounding land use	The park is a small isolated area of bushland with surrounding landscapes largely cleared for agriculture.
Other authorities	The park is located within the administrative areas of Anaiwan Local Aboriginal Land Council, North West Local Land Services and Tamworth Regional Council.

1.2 Statement of significance

The park is significant because of its natural and cultural values.

Landscape and catchment values

The park is situated on the eastern footslopes of the Nandewar Range. It is bisected by the Horton River, which is characterised by pools, cascades, gorges and the dramatic Horton Falls that drop 83 metres. The park protects the headwaters of the Gwydir River.

Biological values

The park is an important refuge for an array of forest species that are characteristic of the western tablelands, slopes and Mount Kaputar region. The ecological significance of the park is greatly enhanced because the surrounding landscape of the Nandewar Bioregion has been extensively cleared for agriculture. Species diversity within the park is high, most likely due to the undisturbed nature of the communities present, particularly those occurring in the northern half of the national park. There are old-growth forests, with many trees containing multiple hollows. The park also supports high-quality riparian areas. The park is known to protect the threatened squirrel glider (*Petaurus norfolcensis*), two threatened bat species and nine threatened bird species, including the regent honeyeater (*Anthochaera phrygia*) which is critically endangered and of state and national significance.

The low incidence of fire is also significant to the biodiversity of the park, allowing the spread of sweet pittosporum (*Pittosporum undulatum*) and associated dry rainforest species. These species are usually restricted to very narrow zones along creeks and rivers in the area due to the high frequency of fire in the region.

Recreation and tourism values

Although Horton Falls National Park is a small and remote park, its appeal to visitors has been recognised since 1907 when it was designated a Crown reserve for the purpose of public recreation. The scenery, particularly the majestic waterfall, sheer cliff views, pools, cascades and gorges, attract over 2000 visitors a year. Visitors come to walk, picnic, appreciate the scenic landscape and access the river for swimming and fishing.

2. Management context

2.1 Legislative and policy framework

The management of the park is in the context of a legislative and policy framework, primarily the National Parks and Wildlife Act and Regulation, the Community Conservation Area Agreement developed under the Brigalow and Nandewar Community Conservation Area Act, the *Biodiversity Conservation Act 2016* and NPWS policies.

Other legislation, strategies and international agreements may also apply to management of the area. In particular, the *Environmental Planning and Assessment Act 1979* may require assessment of the environmental impact of works proposed in this plan. The *Heritage Act 1977* may apply to excavation in known archaeological sites or in sites with potential to contain historical archaeological relics. The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* may apply in relation to actions that impact matters of national environmental significance, such as migratory and threatened species listed under that Act.

A plan of management is a statutory document under the National Parks and Wildlife Act. Once the Minister has adopted a plan of management, the plan must be carried out and no operations may be undertaken within the park except in accordance with the plan. It is anticipated the Part 11 lands will soon be added to the park. This plan will apply to any future additions to the park. Should management strategies or works be proposed in future that are not consistent with this plan, an amendment to the plan will be required.

2.2 Management purposes and principles

Community conservation areas

Community conservation areas are established under the Brigalow and Nandewar Community Conservation Area Act. This Act provides for four dedicated management zones of which Zones 1, 2 and 3 relate to land reserved under the National Parks and Wildlife Act as a national park, Aboriginal area or a state conservation area, respectively. Land in Zones 1, 2 and 3 are managed consistent with the management principles set out in the National Parks and Wildlife Act.

Zone 1 national parks

Zone 1 community conservation areas are reserved as a national park under the National Parks and Wildlife 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 section 30E of the Act, Zone 1 community conservation areas 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 re-use) of any buildings or structures or modified natural areas having regard to conservation of natural and cultural values
- provide for appropriate research and monitoring.

The primary purpose of Zone 1 community conservation areas is to conserve nature and cultural heritage. In doing so, opportunities are provided for appropriate and sustainable recreation.

2.3 Specific management directions

In addition to the general principles for the management of community conservation area Zone 1 national parks (see Section 2.2), the following specific management directions apply to the management of the park.

This plan aims to conserve the natural and cultural heritage values of the park, while providing opportunities for low-key, ecologically sustainable visitor use. This will be achieved through the following:

- protecting threatened and biogeographically significant species and communities
- providing appropriate recreation opportunities in a remote natural setting consistent with the protection of the park's natural and cultural values
- improving habitat corridor linkages between the park and the surrounding landscape
- maintaining relationships with neighbours and other organisations to enhance the protection and viability of the park
- protecting Aboriginal and shared cultural heritage values and involving local Aboriginal people in managing these values
- controlling and, where possible, eradicating introduced plant and animal species
- protecting water catchment values
- managing fire to protect life and assets, and conserve biodiversity.

3. Values

This plan aims to conserve the natural and cultural values of the park. The location, landforms and plant and animal communities of an area have determined how it has been used and valued by both Aboriginal and non-Aboriginal people. These values may be attached to the landscape as a whole or to individual components, for example to plant and animal species used by Aboriginal people.

To make this plan clear and easy to use, various aspects of natural heritage, cultural heritage, threats and ongoing use are dealt with individually, although these features are interrelated.

3.1 Geology, landscape and hydrology

The landscape of the park is undulating with a deeply incised valley headed by Horton Falls on the Horton River. The Horton River starts below Mount Kaputar and drops 83 metres at Horton Falls into a deep gorge, eventually merging with the Gwydir River beyond the park boundary. Cut Road Creek enters the south of the park and joins Horton River. See Figure 1.

The park ranges in elevation from 590 metres above sea level on the Horton River below the falls to 834 metres above sea level on the northern boundary of the park.

The underlying geology is clastic sediments (arenite, conglomerate, siltstone, tuff etc.) of the Palaeozoic era (Carboniferous period). As a result, the soil comprises a skeletal thin layer that is highly erodible.

Issues

A number of human activities have the potential to affect the geological, landscape and catchment values of the park, including vehicle use, use of walking tracks and other visitor activities. Skeletal soils make the park particularly vulnerable to erosion where there is disturbance to vegetation cover.

Vehicle access in the park is on an unsealed road that requires appropriate maintenance to ensure safety and avoid erosion. The Upper Falls Walking Track in the park has recently been upgraded. Activities around the edges of the river, such as use of swimming holes and fishing, have the potential to result in erosion and sediment movement into the river. While visitor numbers are relatively low, monitoring the park for any undue impacts from visitor activities is important so that preventative or remedial measures can be taken.

Desired outcomes

- Human-induced soil erosion is minimised and disturbed areas are rehabilitated.

Management response

- 3.1.1 Implement a cyclic maintenance program for roads and walking tracks to maintain access and minimise erosion.
- 3.1.2 Monitor visitor use areas for erosion and disturbance, particularly those adjacent to the river, and where necessary stabilise and rehabilitate areas.

3.2 Native plants

The park is located in the Nandewar Bioregion (Thackway & Cresswell 1995). This region is one of the most extensively cleared areas in Australia, with 74% of the native vegetation cleared for agriculture and less than 5% of remaining vegetation in protected areas.

While the park is located near Mount Kaputar National Park, it shares many more affinities with the nearby eastern parts of the Nandewar Range. In particular, there is an affinity with the higher altitude parts of the Nandewar Range that lie between Ironbark Nature Reserve, Watsons Creek Nature Reserve and Warrabah National Park.

Four vegetation communities have been identified in Horton Falls National Park (Hunter 2009):

- Rough-barked Apple – River Oak
- Sweet Pittosporum – Rosewood Forest
- Caley's Ironbark – Orange Gum Woodland
- Black Cypress Pine – Tumbledown Gum Woodland.

Species diversity in Horton Falls National Park is high, and the significance of this diversity is enhanced by the undisturbed nature of the communities present, particularly those occurring in the northern half of the national park. Old-growth forest exists, with many trees containing multiple hollows. The riparian areas are also in very good condition.

The low incidence of fire has encouraged the spread of sweet pittosporum and associated dry rainforest species from the riparian and gully zone into hill slopes. This is rare in the region due to the high frequency of fire in the Mount Kaputar area which generally restricts such occurrences to very narrow zones along creeks and rivers. Parts of the Sweet Pittosporum – Rosewood Forest community may fall within the definition of the Semi-evergreen Vine Thicket in the Brigalow Belt South and Nandewar Bioregions Endangered Ecological Community listed under the *Biodiversity Conservation Act 2016* (Hunter 2009).

A total of 216 plant species were recorded in Horton Falls National Park during a 2009 native plant survey (Hunter 2009) and through opportunistic sampling. Only 2% of the species identified were non-native, or exotic, reflecting the low levels of disturbance and highly intact nature of the vegetation communities in this national park. No plant species of national or state significance have been found during surveys of the national park.

The Part 11 lands support Silvertop Stringybark – Orange Gum Shrubby Open Forest. To date, no on-ground vegetation surveys have been conducted in this area.

Strategies for the recovery of threatened species, populations and ecological communities have been set out in a statewide *Biodiversity Conservation Program* (OEH 2017, formerly known as the *Threatened Species Priorities Action Statement*). These actions are currently prioritised and implemented through the *Saving our Species* program, which aims to maximise the number of threatened species that can be secured in the wild in New South Wales for 100 years (OEH 2013c). Individual recovery plans may need to be prepared for threatened species listed under the Commonwealth's Environment Protection and Biodiversity Conservation Act (EPBC Act).

Desired outcomes

- Populations of significant plant species and ecological communities are conserved.
- Negative impacts on threatened species are minimised.

- The habitat and populations of all threatened plant species are protected and maintained.
- Structural diversity and habitat values are restored in degraded areas.

Management response

3.2.1 Implement relevant strategies in line with the *Biodiversity Conservation Program* and recovery plans for threatened species, populations and ecological communities present in the park.

3.2.2 Undertake vegetation surveys of the Part 11 lands and any future additions to the park.

3.3 Native animals

Twelve animals of national or state significance have been identified during opportunistic surveys in Horton Falls National Park (see Table 1). No systematic fauna surveys have been undertaken in the Part 11 lands, however, the area is likely to support habitat of a number of threatened woodland bird species known to occur in the national park.

Table 1: Threatened animals recorded in Horton Falls National Park

Common name	Scientific name	Status	
		BC Act ^A	EPBC Act ^B
Birds:			
Brown treecreeper (eastern subspecies)	<i>Climacteris picumnus victoriae</i>	Vulnerable	–
Diamond firetail	<i>Stagonopleura guttata</i>	Vulnerable	–
Dusky woodswallow	<i>Artamus cyanopterus cyanopterus</i>	Vulnerable	–
Flame robin	<i>Petroica phoenicea</i>	Vulnerable	–
Little lorikeet	<i>Glossopsitta pusilla</i>	Vulnerable	–
Regent honeyeater	<i>Anthochaera phrygia</i>	Critically endangered ^C	Critically endangered
Speckled warbler	<i>Chthonicola sagittata</i>	Vulnerable	–
Turquoise parrot	<i>Neophema pulchella</i>	Vulnerable	–
Varied sittella	<i>Daphoenositta chrysoptera</i>	Vulnerable	–
Mammals:			
Corben's long-eared bat	<i>Nyctophilus corbeni</i>	Vulnerable	Vulnerable
Large-eared pied bat	<i>Chalinolobus dwyeri</i>	Vulnerable	Vulnerable
Squirrel glider	<i>Petaurus norfolcensis</i>	Vulnerable	–

^A BC Act = Biodiversity Conservation Act (NSW).

^B EPBC Act = Environment Protection and Biodiversity Conservation Act (Commonwealth).

^C Migratory species listed under EPBC Act.

A number of other threatened species may also be present in the park:

- swift parrot (*Lathamus discolor*) – endangered in New South Wales and critically endangered at the national level
- black-chinned honeyeater (eastern subspecies) (*Melithreptus gularis gularis*) – vulnerable in New South Wales
- koala (*Phascolarctos cinereus*) – vulnerable at state and national levels.

Issues

All of these species are affected by threatening processes that act at a landscape level. These threats include loss and fragmentation of habitat, loss of hollow-bearing trees, lack of fallen timber, grazing or compaction of the understorey, predation by a range of pest animal species and competition from other species.

The relatively undisturbed nature of the park offers a significant, though small, refuge for these species. The presence of hollow-bearing trees in the national park further increases the significance of the area for the long-term survival of species such as the turquoise parrot, brown tree creeper and squirrel glider.

A number of these threatened bird species forage for insects among fallen timber. Given that wood fires are permitted in this park (see Section 3.6) it is important this activity is monitored to ensure that collection of firewood is not impacting these threatened species.

Desired outcomes

- Populations of significant animal species are conserved.
- Negative impacts on threatened species are minimised.
- The habitat and populations of all threatened animal species are protected and maintained.
- Structural diversity and habitat values are restored in degraded areas.

Management response

3.3.1 Implement relevant strategies in the *Biodiversity Conservation Program* and recovery plans for threatened species and populations present in the park.

3.4 Aboriginal heritage

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

The park lies within the traditional Country of the Gamilaraay (Gomeroi) People, within the administrative area of the Anaiwan Local Aboriginal Land Council and within an area of land over which there is a registered Native Title Claim that has not yet been determined (NC2011/006 under the *Native Title Act 1993*).

Aboriginal sites are places with evidence of Aboriginal occupation or that are related to other aspects of Aboriginal culture. They are important as evidence of Aboriginal history and as part of the culture of local Aboriginal people. No Aboriginal sites or places are recorded within the park.

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

Issues

The Aboriginal history and cultural significance of the park to Aboriginal people is not well documented. Working with Aboriginal people to enhance knowledge and understanding of Aboriginal connections to the park would support the protection of any sites or places that may be identified in the future.

Desired outcomes

- Significant Aboriginal places and values are identified and protected.
- Aboriginal people are involved in managing Aboriginal cultural values of the park.
- Impacts on Aboriginal heritage values are minimised.
- Understanding of the cultural values of the park is improved.

Management response

- 3.4.1 Continue to consult and involve the Anaiwan Local Aboriginal Land Council and other relevant Aboriginal community organisations in the management of their Country, including the management of Aboriginal sites, places and cultural and natural values.
- 3.4.2 Undertake an archaeological survey and cultural assessment prior to all works with the potential to impact Aboriginal sites or values.
- 3.4.3 Encourage further research into the Aboriginal cultural heritage values of the park with the Anaiwan Local Aboriginal Land Council and other relevant Aboriginal community organisations.

3.5 Historic heritage

Heritage places and landscapes are made up of living stories as well as connections to the past that individuals and communities have inherited and wish to conserve for current and future generations, and can include natural resources, objects, customs and traditions. Cultural heritage comprises places and items that may have historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance. NPWS conserves the significant heritage features of the parks and reserves that it manages.

The explorer Allan Cunningham was the first European in the area in 1827. His explorations brought him within 30 kilometres of the park when he crossed the Manilla River just west of what is now the town of Barraba. The Cunningham Memorial (a roadside obelisk) marks the spot where he crossed the Manilla River.

The early history of the Horton Falls area is not well documented. It appears to have been owned in the 1840s by a Mr Rusden, whose brother was in state parliament during this period, and much of the surrounding land was cleared. In 1874, a 14-strand dog-proof fence with wooden posts was erected in the vicinity of the park, possibly by Chinese contract labourers. Sections of this fence still survive outside the park (Boileau 2007). No sections of the fence have been found in the park. On 11 December 1907, a Crown reserve was

established around Horton Falls for the purpose of public recreation. The Crown reserve was grazed at times under permissive occupancies.

In 1984, a number of visitor facilities were installed in the Crown reserve under a community employment program conducted by Barraba Shire Council. These concrete structures included a water tank, covered seating areas and a barbecue. Two walking tracks were also constructed, one above the waterfall to a popular swimming area; and a second, longer walk down to the base of the waterfall.

In 2000, at the request of Barraba Shire Council, the permissive occupancy over the reserve was not renewed and Barraba Shire Council was appointed as the Trustee to manage the Crown reserve, known as Horton Reserve. The council continued to manage this reserve until its reservation as a community conservation area national park in 2005 when responsibility for its management passed to NPWS. Following reservation the existing concrete visitor facilities were found to be unsafe and were removed and replaced with new facilities.

No historic heritage items or sites were identified in the Horton Falls National Park area during the Nandewar Western Regional Assessment, which led to the reservation of the park. There are no known heritage items in the Part 11 lands.

Issues

The history of the area suggests there may be some relics of early farming practices within the park. Environmental planning for any works or activities within the park should address the potential for the presence of heritage items.

Desired outcomes

- Negative impacts on historic heritage values are minimised.
- Understanding of the cultural values of the park is improved.

Management response

3.5.1 Address the potential for impacts on historic heritage values in all environmental planning for works and activities within the park. Where identified, record and assess heritage items, places or values and manage them in accordance with their assessed level of significance.

3.6 Visitor use

NPWS parks provide a range of opportunities for recreation and tourism including opportunities for relaxation and renewal as well as appropriate active pursuits. Visitor opportunities provided in the natural and undeveloped settings afforded by the parks system are mostly those at the low-key end of the spectrum. NPWS aims to ensure visitors enjoy, experience and appreciate the parks while park values are conserved and protected.

Planning for visitor use of the park focuses on providing for sustainable visitor use and enjoyment that is compatible with the conservation of natural and cultural values. The park provides opportunities for visitation in a natural, western-slopes setting which includes old-growth forests, rivers, waterfalls, cliffs and gorges. Public vehicle access to the park is via the unsealed Horton Falls Road, west of the town of Barraba. Within the park, the unsealed Falls Trail provides vehicle access for visitors (see Figure 1).

Visitor activity in the park is concentrated at the ends of the three branches of Falls Trail from where there is access to the river. Activities undertaken in the park include bushwalking, camping, swimming, fishing, picnicking, photography and birdwatching. Peak visitation

occurs in the summer months. To date, no formal visitation figures for the park have been gathered, however, it is estimated that approximately 2000 people visit the park each year.

Day use facilities

Current facilities include two-day use areas at the southern and eastern ends of Falls Trail. A low-key camping area is also located at the end of the southern arm of Falls Trail. Day use area facilities include toilets, picnic tables and fireplaces with swing barbecue plates. Remote bush camping is also permitted in the park.

The Upper Falls Walking Track leads to the swimming hole above the falls. This walking track is classified as a Grade 3 track in line with the *Australian Walking Track Grading System* that encompasses the Australia Standard for walking tracks (DSE no date). It is proposed that a new track be marked from the swimming hole following along the river and connecting back to the Falls Trail (see Figure 1). This proposed Upper Falls Loop Track would be established and maintained as a Grade 5 track with minimal signage or track modification. An old walking track to the base of the falls has been closed because it is unsafe.

The park is located in the New England North West Tourism Region. Other areas managed by NPWS, other authorities and private operators in the region provide opportunities for a range of recreation activities. Mount Kaputar National Park is located 10 kilometres west of the park and receives more than 50,000 visits each year. This much larger park offers a range of visitor activities including bushwalking and camping in addition to adventure activities such as rock climbing and abseiling. The low-key facilities provided in Horton Falls National Park complement Mount Kaputar National Park as an important tourist attraction for visitors to the Narrabri, Barraba, Moree and Bingara areas where tourism is of growing economic benefit to these local communities.

Cycling and horse riding

There is no known cycling or horse riding in the park. This may be due to the remote location, the nature of the access roads and the limited length of trails available within the park. Under NPWS policy, cycling is allowed only on management trails in national parks. The Falls Trail is the only management trail in this park.

The NPWS *Strategic Directions for Horse Riding in NSW National Parks* (OEH 2012c) establishes a process for providing riding opportunities in eight priority regions in New South Wales, including the Northern Tablelands Region. Horse riding opportunities in numerous other national parks in the region are being progressed in accordance with the *Horse Riding Work Plan Northern Tablelands Region* (OEH 2013a). Horse riding is not suitable in this park due to the high-quality, undisturbed vegetation communities and lack of connectivity to other horse riding trails.

Issues

Recreation in the park needs to be carefully managed because visitors can negatively impact natural and cultural values. The nature and severity of visitor impacts depend on the type, frequency and interaction of activities, visitor numbers and behaviour, site capacity and durability, and the sensitivity of the natural and cultural values.

The thin, rocky soils in this park are easily eroded by high volumes of foot traffic. Care needs to be taken in the design and maintenance of walking tracks and day use areas to avoid erosion, loss of vegetation and safety risks to visitors. Remote bush camping, collection of wood for campfires and other visitor activities need to be monitored to ensure they are not unduly impacting park values. Significant increases in visitor numbers or a concentration of activities in particular locations may result in impacts such as loss of vegetation cover,

erosion and pollution. If this occurs, restrictions on these activities may need to be applied in order to protect park values. This may include restricting camping to designated camping areas only. In this situation, consideration will be given to establishing an additional low-key camping area to meet visitor needs.

As recreational fishing is managed by the NSW Department of Primary Industries (DPI), NPWS will work with NSW DPI to manage any impacts from this activity and ensure access is sustainable.

There are no authorised walking tracks providing access to the river from the northern branch of Falls Trail. Establishing a walking track in this location could provide a scenic, riverside bushwalking experience and mitigate any impacts that may result from existing informal walking access. This location will be considered a priority for any further expansion of walking tracks in this park.

There is currently no visitor information provided in the park. A visitor information sign could address safety issues, emergency procedures, information about park values and minimising visitor impacts. This type of information is particularly important as there is little or no mobile phone coverage in the park. Safety advice should include the closure of the walking track to the base of the falls.

Desired outcomes

- Visitor use is appropriate and ecologically sustainable.
- Visitor opportunities encourage appreciation and awareness of the park's values and their conservation.
- Negative impacts of visitors on park values are minimised.
- Facilities and activities are planned and managed to provide a satisfying visitor experience and minimise impacts.

Management response

- 3.6.1 Provide and promote opportunities for walking, picnicking and low-impact camping in the park.
- 3.6.2 Provide public vehicle access on Falls Trail (see Figure 1). Maintain this road as an unsealed road (see management response 3.1.1).
- 3.6.3 Maintain Upper Falls Walking Track.
- 3.6.4 Establish a Grade 5 walking track from Upper Falls Walking Track along the river to Falls Trail.
- 3.6.5 Install a visitor information sign that includes information on park values, permitted activities, visitor safety and relevant emergency procedures.
- 3.6.6 Monitor day use and camping activities in the park for unsustainable impacts on park values. Implement restrictions on activities where necessary to protect park values.

4. Issues

4.1 Pests

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

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

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

NPWS prepares regional pest management strategies which identify pest species and priorities for control, including relevant actions listed in the *Biodiversity Conservation Program*, threat abatement plans and other strategies.

The NPWS pest management strategy for Northern Tablelands Region (OEH 2012b) identifies pest species and priority programs for this park. The overriding objective of the pest management strategy is to minimise adverse impacts of introduced species on biodiversity and other park and community values while complying with legislative responsibilities. The strategy also identifies where other site- or pest-specific plans or strategies need to be developed for a more detailed approach. Significant pest species recorded in the park are listed in Table 2 and discussed below.

Feral goats (*Capra hircus*) are the pest species of most concern in the park and across the surrounding landscape. The impact of feral goats on conservation values is substantial because they graze native plants, compete with native animals for shelter, spread weeds, trample vegetation and damage Aboriginal heritage sites. Congregations of feral goats in favoured locations can result in erosion and impacts on amenity. Competition and habitat degradation by feral goats has been listed as a key threatening process under the Biodiversity Conservation Act (NSW SC 2004). Competition and land degradation by feral goats is also listed as a key threatening process under the Environment Protection and Biodiversity Conservation Act (DoE 2009).

Pigs (*Sus scrofa*), donkeys (*Equus asinus*) and rabbits (*Oryctolagus cuniculus*) have been found on properties adjacent to the park.

All weed and pest animal species recorded or considered likely to occur in the park are listed in Table 2. Overall, the distribution and extent of all weed species in the park is considered very limited. This is most likely due to the limited disturbance of the park in the past. The population size and distribution of pest animal species in the park is generally not known except for goats, which are considered widespread within the park.

The regional pest management strategy (OEH 2012b) identifies feral goats as the priority for pest management in the park. Management is undertaken as a part of a cooperative program with neighbouring properties and Local Land Services, using aerial and ground shooting.

Control of sweet briar is identified as the priority for weed species, to protect stringybark- and ironbark-dominant forests and woodlands.

Fox and feral cat predation are listed as key threatening processes under the Biodiversity Conservation Act (NSW SC 1998; NSW SC 2000c) and the Environment Protection and Biodiversity Conservation Act (DoE 2009). Predation by these species may impact the population sizes of a range of native wildlife, including mammals, ground-nesting birds and reptiles.

Table 2: Weed and pest animals recorded or likely to occur in the park

Common name	Scientific name	Distribution/extent
Weeds:		
Common chickweed	<i>Stellaria media</i>	Very limited
Sweet briar ^R	<i>Rosa rubiginosa</i>	Very limited
Catsear	<i>Hypochaeris radicata</i>	Very limited
Spear thistle	<i>Cirsium vulgare</i>	Very limited
Flaxleaf fleabane	<i>Conyza bonariensis</i>	Very limited
Tall fleabane	<i>Conyza sumatrensis</i>	Very limited
Proliferous pink	<i>Petrorhagia nanteuilii</i>	Very limited
Coolatai grass	<i>Hyparrhenia hirta</i>	Very limited
Blackberry ^{SR}	<i>Rubus fruticosus</i> agg.	Very limited
Prickly pear	<i>Opuntia</i> spp.	Very limited
Pest animals:		
Feral goat	<i>Capra hircus</i>	Widespread
European red fox ^P	<i>Vulpes vulpes</i>	Unknown
Feral cat	<i>Felis catus</i>	Unknown
Rabbit ^P	<i>Oryctolagus cuniculus</i>	Unknown
European honeybee	<i>Apis mellifera</i>	Unknown

^A Weed of National Significance.

^S State-level priority weeds (North West LLS 2017).

^R Regional priority weeds (North West LLS 2017).

^P Declared 'pest' under the *Local Land Services Act 2013*.

The *Biosecurity Act 2015* and regulations provide specific legal requirements for the prevention, eradication or containment of state-level priority weeds. These requirements apply equally to both public and privately owned land. A regional strategic weed management plan prepared under the Biosecurity Act identifies those pest plants that are being prioritised for management action, investment and compliance effort within the North West Local Land Services region (North West LLS 2017). These priorities will be implemented via the relevant NPWS pest management strategy.

Desired outcomes

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

Management response

- 4.1.1 Continue pest species control programs as outlined in pest strategies relevant to the park.
- 4.1.2 Monitor regional priority and significant environmental weeds and their impacts. Treat any new outbreaks where possible.
- 4.1.3 Seek the cooperation of neighbours in implementing pest control programs. Undertake control in cooperation with North West Local Land Services.

4.2 Fire

The primary objectives of NPWS fire management are to protect life, property, community assets and cultural heritage from the adverse impacts of fire, while managing fire regimes to maintain and protect biodiversity. NPWS also assists in developing management practices that contribute to conserving biodiversity and cultural heritage across the landscape and implements cooperative and coordinated fire management arrangements with other fire authorities, neighbours and the community (OEH 2012a, 2013b).

Fire is a natural feature of many environments and is essential for the survival of some plant communities. However, inappropriate fire regimes can lead to loss of particular plant and animal species and communities, and high frequency fires have been listed as a key threatening process under the Biodiversity Conservation Act (NSW SC 2000b).

Within the park there has been a very low incidence of fire (more than 30 years since the last fires) and limited verified historical information on earlier fires in the park. This has led to an increase of communities with dominant fire-sensitive plants such as Sweet Pittosporum – Rosewood Forest and dry rainforest species.

A fire management strategy has been prepared for the park (NPWS 2008). The fire management strategy outlines the recent fire histories of the park, key assets within and adjoining the park including sites of natural and cultural heritage value, fire management zones which may include asset protection zones, and fire control advantages such as management trails and water supply points.

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

Desired outcomes

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

Management response

- 4.2.1 Implement the fire management strategy for the park.
- 4.2.2 Continue to be involved in the Tamworth Bush Fire Management Committee and maintain cooperative arrangements with local Rural Fire Service brigades and surrounding landowners in regard to fuel management and fire suppression.

4.3 Climate change

Human-induced climate change is listed as a key threatening process under the Biodiversity Conservation Act (NSW SC 2000a) and the associated loss of habitat is listed under the Environment Protection and Biodiversity Conservation Act (TSSC 2001).

The latest information on projected changes to climate are from the NSW and ACT Regional Climate Modelling (NARClim) project (OEH 2014). The climate projections for 2020–39 are described as ‘near future’; and projections for 2060–79 are described as ‘far future’. The snapshot shown in Table 3 is for the New England North West region which includes Horton Falls National Park (OEH 2014).

Table 3: New England North West climate change snapshot

Projected temperature changes	
Maximum temperatures are projected to increase in the near future by 0.4–1.0°C	Maximum temperatures are projected to increase in the far future by 1.9–2.7°C
Minimum temperatures are projected to increase in the near future by 0.5–1.0°C	Minimum temperatures are projected to increase in the far future by 1.6–2.7°C
The number of hot days (i.e. > 35°C) will increase	The number of cold nights (i.e. < 2°C) will decrease
Projected rainfall changes	
Rainfall is projected to decrease over most of the region in winter	Rainfall is projected to increase in autumn
Projected Forest Fire Danger Index changes	
Average fire weather is projected to increase in summer, spring and winter in far future	Severe fire weather days are projected to increase in summer and spring in far future

Source: OEH 2014.

The projected increases in temperature, number of hot days and severe fire weather days (OEH 2014) are likely to influence bushfire frequency and intensity across the New England North West region and the bushfire season is likely to be extended (DECCW 2010). Rainfall in autumn is likely to increase and runoff and flood-producing rainfall events are likely to increase in frequency and intensity (DECCW 2010).

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

The potential impact of climate change on the park is difficult to assess as it depends on the compounding effects of other pressures, particularly barriers to migration and pressure from introduced animals.

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

Desired outcomes

- The impacts of climate change on natural systems are minimised.

Management response

- 4.3.1 Continue existing fire, pest and weed management programs and adapt where required to minimise climate change–induced threats.

4.4 Isolation and fragmentation

The area surrounding Horton Falls National Park has been extensively cleared, which has resulted in a high loss of biodiversity and fragmentation of habitat. The park is relatively small and isolated and subject to edge effects, making it more vulnerable to disturbances. Adjacent land uses place pressure on the park through the incursion of pest animal species such as goats, and a range of weed species.

Cooperative arrangements with neighbours are important for the management of access, fire, weeds and pest animals. The nature of the boundaries of the national park, straight lines that do not take into account topography or access needs, increases the need for cooperative arrangements with neighbouring landholders. Additionally, long-term conservation of biodiversity depends upon the protection, enhancement and connection of remaining habitat across the landscape, incorporating vegetation remnants on both public and private lands.

Desired outcomes

- The negative impacts of isolation and fragmentation are reduced.

Management response

- 4.4.1 Maintain cooperative arrangements with nearby landholders to support the protection and enhancement of native vegetation and habitat values on public and private lands in the vicinity of the park, including the management of access, fire and pest species (see management responses 4.1.3 and 4.2.2).

5. Implementation

This plan of management establishes a scheme of operations for Horton Falls National Park and neighbouring Part 11 lands. Implementation of this plan will be undertaken within the annual program of the NPWS Northern Inland Branch.

Identified activities for implementation are listed in Table 4. Relative priorities are allocated against each activity as follows:

- **High priority** activities are imperative to achieve 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 necessary to achieve the objectives and desired outcomes but are not urgent.
- **Low priority** activities are desirable to achieve the objectives and desired outcomes but can wait until resources become available.
- **Ongoing** activities are undertaken on an annual basis or in response to an issue that arises.

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

Table 4: List of management responses

Action no.	Management response	Priority
Geology, landscape and hydrology		
3.1.1	Implement a cyclic maintenance program for roads and walking tracks to maintain access and minimise erosion.	Ongoing
3.1.2	Monitor visitor use areas for erosion and disturbance, particularly those adjacent to the river, and where necessary stabilise and rehabilitate areas.	Ongoing
Native plants		
3.2.1	Implement relevant strategies in line with the <i>Biodiversity Conservation Program</i> and recovery plans for threatened species, populations and ecological communities present in the park.	Ongoing
3.2.2	Undertake vegetation surveys of the Part 11 lands and any future additions to the park.	Low
Native animals		
3.3.1	Implement relevant strategies in the <i>Biodiversity Conservation Program</i> and recovery plans for threatened species and populations present in the park.	Ongoing
Aboriginal heritage		
3.4.1	Continue to consult and involve the Anaiwan Local Aboriginal Land Council and other relevant Aboriginal community organisations in the management of their Country, including the management of Aboriginal sites, places and cultural and natural values.	Ongoing
3.4.2	Undertake an archaeological survey and cultural assessment prior to all works with the potential to impact Aboriginal sites or values.	Ongoing

Action no.	Management response	Priority
3.4.3	Encourage further research into the Aboriginal cultural heritage values of the park with the Anaiwan Local Aboriginal Land Council and other relevant Aboriginal community organisations.	Low
Historic heritage		
3.5.1	Address the potential for impacts on historic heritage values in all environmental planning for works and activities in the park. Where identified, record and assess heritage items, places or values and manage them in accordance with their assessed level of significance.	Ongoing
Visitor use		
3.6.1	Provide and promote opportunities for walking, picnicking and low-impact camping in the park.	Ongoing
3.6.2	Provide public vehicle access on Falls Trail (see Figure 1). Maintain this road as an unsealed road (see management response 3.1.1).	Ongoing
3.6.3	Maintain Upper Falls Walking Track.	Ongoing
3.6.4	Establish a Grade 5 walking track from Upper Falls Walking Track along the river to Falls Trail.	Low
3.6.5	Install a visitor information sign that includes information on park values, permitted activities, visitor safety and relevant emergency procedures.	Medium
3.6.6	Monitor day use and camping activities in the park for unsustainable impacts on park values. Implement restrictions on activities where necessary to protect park values.	Ongoing
Pests		
4.1.1	Continue pest species control programs as outlined in pest strategies relevant to the park.	Ongoing
4.1.2	Monitor regional priority and significant environmental weeds and their impacts. Treat any new outbreaks where possible.	Ongoing
4.1.3	Seek the cooperation of neighbours in implementing pest control programs. Undertake control in cooperation with North West Local Land Services.	Ongoing
Fire management		
4.2.1	Implement the fire management strategy for the park.	Ongoing
4.2.2	Continue to be involved in the Tamworth Bush Fire Management Committee and maintain cooperative arrangements with local Rural Fire Service brigades and surrounding landowners in regard to fuel management and fire suppression.	Ongoing
Climate change		
4.3.1	Continue existing fire, pest and weed management programs and adapt where required to minimise climate change-induced threats.	Ongoing
Isolation and fragmentation		
4.4.1	Maintain cooperative arrangements with nearby landholders to support the protection and enhancement of native vegetation and habitat values on public and private lands in the vicinity of the park, including the management of access, fire and pest species management (see management responses 4.1.3 and 4.2.2).	Ongoing

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