IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 15 June 2014

Please note: this is an archived Conservation Outlook Assessment for Gondwana Rainforests of Australia. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Gondwana Rainforests of Australia

SITE INFORMATION

Country:
Australia
Inscribed in: 1986
Criteria:
(viii) (ix) (x)

Site description:

This site, comprising several protected areas, is situated predominantly along the Great Escarpment on Australia’s east coast. The outstanding geological features displayed around shield volcanic craters and the high number of rare and threatened rainforest species are of international significance for science and conservation.
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SUMMARY

2014 Conservation Outlook

Good with some concerns

The Gondwana Rainforests is a serial property composed of 41 component parts, ranging in size from 36 hectares to 39,120 hectares. Each of the component parts conserve different values and are faced with different threats and management responses. More information is required for each component part before an assessment of the conservation status of the site as a whole can be more comprehensively assessed. However, in general the values for which the site was inscribed on the World Heritage List in 1986, with a large extension in 1994, have been mostly maintained apart from a decline in some significant species. Despite state-of-the-art management, given the large number of threats from both within and outside the site and potential additional threats brought about by climate change, the conservation outlook at this point in time is good with some concerns.

Current state and trend of VALUES

Low Concern
Trend: Data Deficient

While the geological values appear stable, the trends for some threatened species seem to be deteriorating, despite recovery and action plans. The greatest concern is for the amphibian species within the property, although declines in indicator bird species have also been reported. However this analysis remains superficial and more monitoring data is needed. In addition, if invasive species including pathogens continue to increase, natural ongoing evolutionary processes will be compromised. Although many biodiversity values are being well conserved in the site, the situation in the Gondwana Rainforests is of some concern.

Overall THREATS

High Threat

Although the list of current and potential threatening processes to the property is long, there have been major management responses to these threats. However even with excellent management response, given the sheer number and diversity of threats, the multi-use functions of the property and the somewhat fragmented disposition of its component parts, as well as the unquantified effect of climate change, the threats are still assessed as high.

Overall PROTECTION and MANAGEMENT

Mostly Effective

Protection and management of the component parts appears to be highly to mostly effective. The only question is, given this is a serial property, whether all the component parts are adequately buffered and as connected as possible. If it were possible to continue improving some boundary issues this would confer an even better protection of World Heritage values within the site.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **Outstanding examples of significant ongoing geological processes**
Criterion:(viii)

When Australia separated from Antarctica following the break-up of Gondwana, new continental margins developed and volcanoes erupted in sequence along the east coast resulting in the Tweed, Focal Peak, Ebor and Barrington volcanic shields. This sequence of volcanos is significant as it enables the dating of the geomorphic evolution of eastern Australia through the study of the interaction of these volcanic remnants with the eastern highlands. The Tweed Shield erosion caldera is possibly the best preserved erosion caldera in the world, notable for its size and age, for the presence of a prominent central mountain mass (Wollumbin/Mt Warning), and for the erosion of the caldera floor to basement rock. All three stages relating to the erosion of shield volcanoes (the planeze, residual and skeletal stages) are readily distinguishable. Further south, the remnants of the Ebor Volcano also provide an outstanding example of the ongoing erosion of a shield volcano (SoOUV, 2012).

► **Outstanding examples of relict plant species**
Criterion:(ix)

Age of the Pteridophytes’ from the Carboniferous Period with some of the oldest elements of the world’s ferns and and the ‘Age of Conifers’ in the Jurassic Period with one of the most significant centres of survival for Araucarians (the most ancient and phylogenetically primitive of the world’s

conifers) are represented in the site. Likewise the site provides an outstanding record of the ‘Age of the Angiosperms’. This includes a secondary centre of endemism for primitive flowering plants originating in the Early Cretaceous, the most diverse assemblage of relict angiosperm taxa representing the primary radiation of dicotyledons in the mid-Late Cretaceous, a unique record of the evolutionary history of Australian rainforests representing the ‘golden age’ of the Early Tertiary, and a unique record of Miocene vegetation that was the antecedent of modern temperate rainforests in Australia (SoOUV, 2012).

► Outstanding examples of relict and other vertebrate and invertebrate species

Criterion:(ix)

The site contains an outstanding number of songbird species, including lyrebirds (Menuridae), scrub-birds (Atrichornithidae), treecreepers (Climacteridae) and bowerbirds and catbirds (Ptilonorhynchidae), belonging to some of the oldest lineages of passerines that evolved in the Late Cretaceous. Outstanding examples of other relict vertebrate and invertebrate fauna from ancient lineages linked to the break-up of Gondwana also occur in the site (SoOUV, 2012). Relict frogs include all frogs in Myobatrachidae and Hylidae, families having Gondwanan origins. Relict species of reptiles include chelid turtles Emydura signata and Elseya latisternum, Leaf-tailed Gecko (Saltuarius spp.) and the Southern Angle-headed Dragon (Hypsilurus spinipes). Relict invertebrates include fresh-water crayfish; land snails; velvet worms; a number of beetle families including flightless carabid beetles; the second largest butterfly in Australia the Richmond Birdwing (Troides richmondia) and glow-worms (Nomination, 1994; Hunter, 2004).

► Outstanding examples of ongoing evolutionary processes

Criterion:(ix)

Ongoing evolutionary processes continue within the site’s rainforests which have been described as ‘an archipelago of refugia, a series of distinctive habitats that characterise a temporary endpoint in climatic and geomorphological evolution’. The distances between these ‘islands’ of rainforest represent barriers to the flow of genetic material for those taxa which have low dispersal ability, and this pressure has created the potential

for continued speciation (SoOUV, 2012).

► Endemic and threatened plants

Criterion:(x)

The Gondwana Rainforests protects the largest and best stands of rainforest habitat remaining in this region, containing many endemic and threatened plant species. Altogether 170 families, 695 genera and 1625 species of vascular plants have been recorded, with about 150 endemics (IUCN Evaluation, 1994; SoOUV, 2012).

► Endemic and threatened mammals

Criterion:(x)

The Gondwana Rainforests protects endemic and threatened mammals. While no mammals are restricted to the site, the region represents the major distribution of the Hastings River Mouse (Pseudomys oralis) and Parma Wallaby Macropus parma). Thirty-one species of bats, half of all Australia’s bat species, occur in the site (IUCN Evaluation 1994; SoOUV, 2012).

► Endemic and threatened birds

Criterion:(x)

More than 270 species of birds have been recorded (about 38% of all Australian birds) with two species of lyrebirds (Albert’s Lyrebird (Menura alberti) and Superb Lyrebird (M. novaehollandiae) and the rare Rufous Scrub-bird (Atrichornis rufescens) particularly significant. Other species listed as rare in the region include the Coxen's Fig-Parrot (Cyclopsitta diophthalma coxeni), Plumed Frogmouth (Podargus ocellatus plumiferus), Topknot Pigeon (Lopholaimus antarcticus), Wonga Pigeon (Leucosarcia melanoleuca), Black-breasted Button-quail (Turnix melanogaster) and Eastern Bristle-bird (Dasyornis brachypterus) (Nomination, 1994).

► Endemic and threatened frogs

Criterion:(x)

Some 45 species of frogs, about 25% of Australia’s total frog fauna, includes the significant species the Hip-pocket Frog Assa darlingtoni . Other frogs with distributions largely confined to the site include Mountain Frog Philoria

(=Kyarranus) kundagungan; Loveridge’s Frog P. (=K.) loveridgei; Sphagnum Frog P. (=K.) sphagnicolus; Fleay’s Frog Mixophyes fleayi; Booroolong Frog (Litoria (= Utoria) booroolongensis; Pearson’s Frog L. pearsoniana and Glandular Frog L. subglandulosa (Nomination, 1994).

▶ **Endemic and threatened reptiles**
Criterion:(x)

About 110 species of reptiles, including the world’s largest skink the Land Mullet (Egernia (=Bellatorias) major). Several other species with the major part of their distribution within property include Southern Angle-headed Dragon Gonocephalus spinipes; Northern Leaf-tailed Gecko Phyllurus 'cornutus' (probably two species); Rainforest Cool-skink Harrisoniascincus (=Cautula) zia, Three-toed Snake-tooth Skink Coeranoscincus reticulatus; Border Ranges Shadeskink Saproscincus (=Lampropholis) challengerii; Montane Sunskink Lamphrophlis caligula (restricted to Barrington Tops region); Short-limbed Snake-skink Ophioscincus truncatus and Murray’s Skink Eulamprus murrayi (Nomination, 1994).

Assessment information

Threats

Current Threats
High Threat

Although the list of threatening processes to the property is long, there have been major management responses to these threats. However, even with excellent management response, given the sheer volume and diversity of threats facing the various component parts of the property, the threats are still assessed as high.

▶ **Housing/ Urban Areas**
High Threat

Outside site

Incompatible land-use on adjoining properties and pressure for residential and tourist development due to increasing urbanization and population pose a high threat. Diversity in local government zoning policies creates a potential for inconsistent planning (Periodic Report, 2003). Off-site activities such as clearing and erosion within upstream catchments and creation of urban landfills near the site are a potential if not current threat for biodiversity values.

► Tourism/ visitors/ recreation

Low Threat
Inside site
Outside site

Tourism development, due to increasing visitor pressure and infrastructure (Periodic Reoprt, 2003) is a threat included in park management plans. More than one million people are expected to settle in South East Queensland in the next 20 years (Sunshine Coast Council http://www.sunshinecoast.qld.gov.au, 2012).

► Fire/ Fire Suppression

Low Threat
Inside site
Outside site

Uncontrolled or inappropriate use of fire is considered a threat to the values of the site (Periodic report, 2003). A better understanding of the interactions between fire and rainforest is necessary to develop fire management strategies. In particular, fire management must be designed to suit not only the rainforest areas but also the surrounding habitats (Hunter, 2004).

► Other

High Threat
Inside site
Outside site

The site is a serial property of eight separate groups of reserves composed of 41 component parts (http://whc.unesco.org/en/list/368/). Some of these components are very small with little or no connectivity to other parts and in

some cases no buffer zone. The size of small components such as the 136 hectare Iluka Nature Reserve, which is being surrounded by houses and has a major Bitou Bush invasion on the coastal side, is an example of the intrinsic threat of some small and fragmented components in this serial property.

► Invasive Non-Native/ Alien Species

High Threat
Inside site
Outside site

A variety of invasive plant species have been recorded including Bitou Bush and Boneseed (Chrysanthemoides monilifera subsp. rotundata and subsp. monilifera) which affect coastal areas; Mist Flower (Ageratina riparia), Crofton Weed (Ageratina adenophora) Lantana (Lantana camara), Camphor Laurel (Cinnamomum camphora and Kahill ginger (Hedychium gardnerianum), Madeira Vine (Andredera cordifolia), Scotch Broom (Cytisus scoparius) and others. Management response to these invasives have been strong with Threat Abatement Plans (e.g. DEC, 2006) and management plans for most of the reserves in place. However despite the best plans, these invasive species continue to affect the values of the site (SOC, 2003). It appears that there are still large areas of the property which are uninvaded and as of 2003 the values are considered to have been maintained (Periodic Report, 2003), although increased invasive plant issues, particularly with climate change, is expected.
Introduced animals include fox (Vulpes vulpes), rabbit (Oryctolagus cuniculus), feral cat (Felis catus), black rat (Rattus rattus) the common house mouse (Mus musculus), goat (Capra hircus), wild dog (Canis lupus familiaris or hybrids with Canis lupus dingo), feral pig (Sus scrofa), feral deer (Cervidae spp.) and others. All these animals have an impact on the park either by displacement, predation or competition and their management is included in management plans (PWS, 1998; PWS, 2005; DERC, 2011). Straying stock (cattle, Bos taurus) pose a problem in some parts of the site (Chester & Bushnell, 2005).
A number of introduced pathogens include Phytophthora cinnamomi, a fungus which infects native plants, Amphibian Chytrid Disease infecting native frogs; Psittacine Circoviral (beak and feather) Disease infecting parrots and Myrtle Rust Disease and Bell Miner Disease (Horton, 2012) which affects Eucalypts. All these pathogens are dealt with in management plans although

continue to pose high threat. It will be quite difficult to impose biosecurity controls on this site to keep the pathogens out.

► Storms/Flooding

High Threat
Inside site
Outside site

Global/human-induced climate change (Periodic Report, 2003). Floods, cyclones, drought and increase in temperatures have already caused problems and are expected to increase.

Potential Threats

High Threat

Risk management is in place although it is likely that invasive species and pathogens could still arrive into the site given the multi-use functions of the property and the somewhat fragmented disposition of its component parts. Management responses to climate change are difficult, although mitigation by increasing connectivity between the different components could help.

► Invasive Non-Native/ Alien Species

High Threat
Inside site
Outside site

Other invasive species and pathogens could still be introduced to the site although biosecurity plans are in place.

► Temperature changes

Very High Threat
Inside site
Outside site

Potential threats include higher temperatures, Increased carbon dioxide (CO2) concentrations; periods of prolonged drought; a rise in the orographic cloud layer; exacerbation of fire regimes that are inappropriate to maintenance of rainforest species (ANU, 2009).

Protection and management

Assessing Protection and Management

▶ Relationships with local people

Data Deficient

Data deficient

▶ Monitoring

Mostly Effective

There is currently no overall coordinated monitoring programme for the site, however there are a number of reserve-specific projects being undertaken which provide baseline and trend data. These projects are undertaken to the limit of available resources, often guided by political priorities. Examples of these include vegetation mapping; visitation indicators; species specific and flora/fauna communities projects; threatening processes – particularly fire, weeds and pest species; and agencies own integrated ‘state of the park’ reporting. Monitoring has been identified as a management objective in the Strategic Overview (SOC, 2003). A monitoring strategy has been published (Chester & Bushnell, 2005).

▶ Research

Highly Effective

Each year approximately 200 - 300 scientific and technical studies are undertaken in the area, with a number of new discoveries taking place (SOC, 2003).

▶ Integration into regional and national planning systems

Highly Effective

Good (Periodic Report, 2003).

▶ Management system

Mostly Effective

Management plans exist for most of the component parts, and are in draft or planned for the others. A Strategic Overview for Management aimed at guiding cooperative management was published in 2000 and is currently under review (SoOUV, 2012).

► Management effectiveness

Highly Effective

Management effectiveness said to be good (Periodic Report, 2003). Although not aimed at the site, management effectiveness for some of the component parts can be monitored, at least for New South Wales, in the State of the Parks Report (DEC, 2004). A monitoring system for the site has been developed (Chester & Bushnell, 2005).

► Implementation of Committee decisions and recommendations

Mostly Effective

The Committee decisions for this site were related to the extension of the property, change of its name and recently to the adoption of Retrospective Statement of Outstanding Universal Value. No other decisions or recommendations which would require implementation were adopted.

► Boundaries

Some Concern

Since inscription there have been major tenure changes, meaning most flora reserves that were previously managed by State Forests of New South Wales were revoked and incorporated into new or existing national parks and nature reserves managed by the New South Wales National Parks and Wildlife Service. In Queensland, all State Forests in the property have been converted to Forest Reserve as a holding tenure, prior to being added to the protected area estate. Whilst the boundaries of the World Heritage Property have not changed, the boundaries of some of the reserves have been extended. This has led to enhanced protection of the property (SOC, 2003). There have also been major expansions in the National Park estate in both New South Wales and Queensland, including significant additional areas of rainforest that could be added to the property in the future (Feros, 2009). However, in some areas it would seem that additional buffer zones and

connectivity would enhance long-term protection.

▶ Sustainable finance

Mostly Effective

Funding is largely the responsibility of the State management agencies. However, funding has been made available by the Australian Government to assist with additional management and presentation activities. The Australian Government has also funded the position of the Gondwana Rainforests Executive Officer and provided funding support for the Advisory Committees since 1994 (Feros, 2009). Funding is provided by State and Commonwealth agencies to carry out priority issues, but some threatening processes are by necessity not able to be adequately addressed. Some examples include weed and pest control, rehabilitation of degraded areas and systematic monitoring and research (SOC, 2003).

▶ Staff training and development

Data Deficient

Data deficient.

▶ Sustainable use

Data Deficient

Data deficient. Unlikely that sustainable use is allowed within the site, as the vast majority lies within National Parks, although there may be some.

▶ Education and interpretation programs

Highly Effective

Excellent tourism management and interpretation (Periodic Reporting, 2003).

▶ Tourism and interpretation

Highly Effective

Excellent tourism management and interpretation (Periodic Reporting, 2003).

▶ Legal framework and enforcement

Highly Effective

Most of the property lies within national park boundaries. National environmental law [The Environment Protection and Biodiversity Conservation Act 1999], as well as various state laws (Queensland Nature Conservation Act 1992, and the NSW National Parks and Wildlife Act 1974 and Environment Planning and Assessment Act 1979], protects the property from threats originating both inside and outside the properties boundaries (Feros, 2009; SoOUV, 2012).

Overall assessment of protection and management

Mostly Effective

Protection and management of the component parts appears to be highly to mostly effective. The only question is, given this is a serial property, whether all the component parts are adequately buffered and as connected as possible. If it were possible to continue improving some boundary issues this would confer an even better protection of World Heritage values within the site.

► Assessment of the effectiveness of protection and management in addressing threats outside the site

Data Deficient

More information is required to understand protection and management outside the site. In many of the reserves it appears that they are protected by additional protected areas, but not all of them.

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Outstanding examples of significant ongoing geological processes

Good
Trend:Stable

No reports of any significant damage to the reserves in which these

processes are occurring (Periodic Report, 2003).

► Outstanding examples of relict plant species

Data Deficient
Trend:Stable

No reports of any significant loss of relict plant species occurring within the site (Periodic Report, 2003). However more recent information concerning the conservation status of the flora in the property is required.

► Outstanding examples of relict and other vertebrate and invertebrate species

Data Deficient
Trend:Deteriorating

No reports of any significant loss of relict bird species occurring within the property (Periodic Report, 2003). However more recent information concerning the conservation status of the birds in the property is required. While the conservation status of many of the species identified as relicts (Nomination, 1994) appear stable, the decline in the Rufous Scrub-bird and Eastern Bristle-bird (see V7), both identified as relict fauna, indicates a deterioration in this value.

► Outstanding examples of ongoing evolutionary processes

Low Concern
Trend:Stable

No reports of any significant damage to the reserves in which these processes are occurring (SOC, 2003). However if the area covered by invasive plants increase, this will pose a greater risk to evolutionary processes.

► Endemic and threatened plants

Low Concern
Trend:Stable

Monitoring of species in each of the IUCN Categories (Commonwealth and New South Wales / Queensland Status) for all species has been suggested (Chester & Bushnell, 2005). It is beyond the scope of this evaluation to do this for all the flora in the property, especially as 1625 plant taxa (170

threatened) were listed in the nomination and many of these are on the EPBC list of threatened flora (http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=flora). This means that these threatened taxa are receiving specific attention. However, no reports of any plant taxa becoming increasingly threatened within the property have been reported (Periodic Report, 2003).

► Endemic and threatened mammals

Data Deficient
Trend:Deteriorating

In addition to monitoring the conservation status of the 75 species of mammals listed as occurring in the site, it has been suggested that arboreal fauna as well as Rufous Bettong (Aepyprymnus rufescens), Broad-toothed Rat (Mastacomys fuscus), Spotted-tailed Quoll (Dasyurus maculatus) and Hastings River Mouse (Pseudomys oralis) serve as indicators (Chester & Bushnell, 2005). There are recovery plans for the Hastings River Mouse (DECC, 2005) and the Broad-toothed Rat (DECC, 2007), and an Action Plan for the Spotted-tailed Quoll (ACT, 2003). . While such species as Brush-tailed Phascogale (Phascogale tapoatafa); Common Planigale (Planigale maculata); Common Dunnart (Sminthopsis murina); Mountain Brushtail Possum (Trichosurus caninus); Common Brushtail Possum (Trichosurus vulpecula); Feathertail Glider (Acrobates pygmaeus); Eastern Pygmy Possum (Cercartetus nanus); Greater Glider (Petauroides volans); Yellow-bellied Glider (Petaurus australis); Sugar Glider (Petaurus breviceps); Squirrel Glider (Petaurus norfolcensis); Common Ringtail Possum (Pseudocheirus peregrinus); and Koala (Phascolarctos cinereus) are not listed as threatened (apart from Brush-tailed Phascogale and Great Glider listed as Near Threatened, and the Koala is listed in Australia as Vulnerable and has recovery plans), Chester & Bushnell (2005) note that all populations of these species have declined by 10% to 50% (Maxwell et al., 1996). The Parma Wallaby (Macropus parma) has been listed as Near Threatened by IUCN (Lunney & McKenzie, 2008). However, no reports of any mammal taxa becoming increasingly threatened within the property have been reported (Periodic Report, 2003).

► Endemic and threatened birds

Low Concern
Trend:Deteriorating

Monitoring of Albert's Lyrebird (Menura alberti), Rufous Scrub-bird (Atrichornis rufescens), and Eastern Bristle-bird (Dasyornis brachypterus) to serve as indicators has been suggested (Chester & Bushnell, 2005). Albert's Lyrebird appears to be stable (Birdlife, 2012) which lists this species as Near Threatened. Two subspecies of the Rufous Scrub-bird occur within the site. This species has been extensively studied and monitored (www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=67058). Birdlife (2012) notes that "some subpopulations of A. r. rufescens are thought to have disappeared within the last 2 decades, including those at Mt Warning and Spicers Gap, while declines in A. r. ferrieri are inferred because of a reduction in area occupied by calling males in New England National Park (Garnett and Crowley 2000)." Therefore it appears that there has been a decline of this species within the site since inscription, although the protected areas where this species occurs are its last refuge. The Eastern Bristle-bird has also been divided into two subspecies with the northern subspecies rapidly decreasing (CR) and the southern subspecies stable, although the threat of destructive fires in the majority of this species' habitat means that an overall future decline is very likely so it has been listed as EN (Birdlife, 2012). While monitoring just 3 threatened species of the 270 present in the property is not representative, at the same time these 3 species were identified at time of nomination as exceptional for criteria ix and x. Until it is demonstrated that their populations are at least stable or increasing within the property there is cause for concern.

► Endemic and threatened frogs

Critical
Trend:Deteriorating

45 species of frogs were listed at time of inscription with no special mention of threatened species. Today 11 of these species are listed as globally threatened and 2 Near Threatened (IUCN, 2012), with other reports of regional decline. Causes of decline are still unclear and may be due to several factors including loss of habitat due to feral animals, weed

infestation, change in river flows due to upstream timber harvesting and urban development, fish predation, climate change and Chytrid infection (Hines et al., 2004; Hunter & Gillepsie, 2011). Chytrid infection has been implicated for species including Fleay's Barred-frog (Mixophyes fleayi) (EN and largely restricted to the property) and the Giant Barred River-frog (Mixophyes iteratus) (EN) (Ehmann 1997; Berger et al. 1998; Hines et al. 1999; Hines & McDonald 2000; Hines et al., 2002, 2004). A recovery plan (up to 2005) exists (Hines et al., 2002), as well as one for M. balbus (VU) (Gillepsie et al., 2004; Hunter & Gillepsie, 2011). A recovery plan for the Critically Endangered Booroolong Frog (Litoria booroolongensis) has recently been published (Hero et al., 2004; OEH, 2012), as has a threat abatement plan for Chytrid infection DEC, 2011). Serious attention is being paid to this problem but until these amphibian populations stabilise or improve the threat to some amphibians in the property must be viewed as critical.

► Endemic and threatened reptiles

Data Deficient
Trend:Stable

About 110 species of reptiles have been reported in the site. Of the 7 species reported to be mostly restricted to the property, none are on the EPBC list. Two species listed as present in the property are listed on the EPBC list as VU (Three-toed Snake-tooth Skink Coeranoscincus reticulatus and Collared Delma Delma torquata). No reports of any significant increase in number of threatened reptile species occurring within the property (Periodic Report, 2003).

Summary of the Values

► Assessment of the current state and trend of World Heritage values

Low Concern

Trend: Data Deficient

While the geological values appear stable, the trends for some threatened species seem to be deteriorating, despite recovery and action plans. The greatest concern is for the amphibian species within the property, although declines in indicator bird species have also been reported. However this analysis remains superficial and more monitoring data is needed. In addition,

if invasive species including pathogens continue to increase, natural ongoing evolutionary processes will be compromised. Although many biodiversity values are being well conserved in the site, the situation in the Gondwana Rainforests is of some concern.

Additional information

Key conservation issues

▶ Climate change

Global

Climate change has already been identified as a threatening cause, debatably increasing the strength and frequency of cyclones, flooding, drought, and temperature rise leading to uncontrolled wildfires.

▶ Pathogens

Local

Chytrid disease may be just one of several reasons for the decline in amphibian populations, and other pathogens such as Phytophthora, Bell Miner Disease and the newly introduced Myrtle Rust disease have the potential to devastate the biodiversity values of the site very quickly.

▶ Invasive species

Local

Invasive animals displace, predate, out-compete and destabilise habitat of native wildlife, and invasive plants, apart from predation, do much the same. Intensive management to prevent and combat invasive species is in place but continued effort and new tools and methods are required.

▶ Fire

Local

Management of the property is principally aimed at protecting rainforests and associated fauna, but other habitats and species that require fire also occur in

the property. While the risk of uncontrolled wildfire needs to be reduced, planned fire regimes that maintain all biodiversity values is necessary. Fire risks will probably increase with climate change.

▶ **Fragmentation and incompatible land-use off-site**
Regional

Since the property is made up of 41 component parts and some of these parts are very small, outside influences are greater than if the property covered just one large land area. Incompatible land-use outside the property could come from forestry, mining or farming operations opening up pathways for invasive species and pathogens or contaminating water within the property from silt and run-off or neighbouring land-fills.

▶ **Increasing population**
Local

Increasing population pressure in the areas surrounding the different component parts are going to bring increased conflict in land use as well as increased tourist pressure.

Benefits

Understanding Benefits

▶ **Is the protected area valued for its nature conservation?**

The property is the last refuge for an enormous amount of endemic biodiversity and provides the opportunity for ongoing evolution.

▶ **Does management of the site provide jobs (e.g. for managers or rangers)?**

Park management, interpretation, education and tourism all generate jobs.

▶ **Outdoor recreation and tourism**

The site is a major destination for a large number of tourists.

▶ **Sacred natural sites or landscapes**

The larger component parts provide wilderness and landscape values.

▶ **History and tradition, Wilderness and iconic features**

Many of the component parts conserve historical, cultural and spiritual values.

▶ **Carbon sequestration, Soil stabilisation, Water provision (importance for water quantity and quality)**

Many of the component parts provide major environmental services in carbon sequestration, controlling erosion and conserving and maintaining water quality.

▶ **Importance for research, Contribution to education**

The site is a natural laboratory for a wide range of scientific questions generating new knowledge and for providing education to the public

Summary of benefits

The property provides a wide array of benefits to the surrounding community as well as nationally and internationally. This includes an essential role in nature conservation, tourism, generation of jobs and knowledge, and provision of environmental services. Although cultural and spiritual values were not inscribed for this site, the local as well as national and international community benefits from their conservation in this property.

Projects

Compilation of active conservation projects

№	Organization/individuals	Project duration	Brief description of Active Projects

1	Govt of Australia “Caring for our Country” projects	Weed management programs to reduce the impact of priority weeds in priority locations; Management of Bell Miner Associated Dieback (BMAD); Monitoring of amphibian chytrid fungus; Sampling for the pathogen Phytophthora cinnamomi, and the preparation of a management plan; Threatened species monitoring for the Hastings river mouse and the spotted-tailed quoll; A regional assessment of climate change impacts and the development of appropriate actions for threat mitigation; Monitoring of endemic high mountain dwelling frog species in relation to climate change; An assessment of fire impacts on rainforest.
2	Australia Heritage (Govt of Australia)	Gondwana Rainforests of Australia. Total funding 2009-2013: $2 361 963 Funding will be provided over four years to target specific threats across the World Heritage area to protect sites from climate-change induced habitat modification, invasion of pest species including weeds and pathogens and inappropriate recreation and tourism activities.
3	Royal Botanic Gardens Sydney	Rainforest Seed Project.
4	Friends of Gondwana Forest	Cave Creek Rainforest Rehabilitation Scheme (Springbrook NP)
5	Australian Rainforest Conservation Society	Springbrook Rainforest Restoration Project (and others)
6	Wild Mob Volunteers for Wilderness Conservation	Lamington National Park Conservation Project

REFERENCES

№	References
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