Australian Government



Department of Climate Change, Energy, the Environment and Water

# State Party Report on the state of conservation of the Gondwana Rainforests of Australia (Australia)

Property ID 368bis In response to the World Heritage Committee decision 44 COM 7B.89 1 December 2022



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#### Acknowledgement of Country

We acknowledge the Traditional Custodians of Australia and their continuing connection to land and sea, waters, environment and community. We pay our respects to the Traditional Custodians of the lands we live and work on, their culture, and their Elders past and present.

#### **Cover image**

Wollomombi Falls lookout and walking tracks in Oxley Wild Rivers National Park. Photo: Barbara Webster

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# Acknowledgement of Country

First Nations peoples have a continuous and deep connection to their Country.

The Gondwana Rainforests of Australia spans the traditional Country of many First Nations communities.

The Australian Government acknowledges the First Nations peoples as the Traditional Custodians of the Gondwana Rainforests, including the Anaiwan, Banbai, Birpai, Bundjalung, Thunggutti, Geawegal, Githabul, Gumbaynggirr, Jukumbal, Ngarrabul, Wangerriburra, Widjabul Wia-bul, Wonaruah, Worimi, Yaegl, Yugambeh and Yuggera Ugarapul. We acknowledge their continuing connection to land and sea, waters, environment and community, and acknowledge that the Gondwana Rainforests represent areas of great spiritual and cultural significance to these First Nations peoples.

For First Nations peoples, the term 'Country' takes in everything within the physical, cultural and spiritual landscape – landforms, waters, air, trees, rocks, plants, animals, foods, medicines, minerals, stories and special places. It includes cultural practice, kinship, knowledge, songs, stories and art, as well as spiritual beings, and people; past, present and future.

We pay respect to Elders past, present and emerging, while recognising the strength, capacity and resilience of past and present First Nations people across the Gondwana Rainforests and beyond.

Throughout this report the term First Nations peoples is used to refer specifically to Australian Aboriginal peoples including Traditional Owners and Custodians of the lands, which comprise the reserves of the World Heritage listed Gondwana Rainforests of Australia. Australia recognises that Aboriginal peoples may identify themselves at local, state, national and international scale using a diversity of terms. These include but are not limited to: Aboriginal people, Aboriginal and Torres Strait Islanders, clan groups, tribal groups, language groups, Traditional Owners, Custodians, First Nations peoples, First peoples, First Nations groups, native title holders and common law holders.

We acknowledge the grief of First Nations peoples in response to the 2019–2020 fires and recognise that the actions we take today impact on the Country of First Nations peoples. We commit to working with First Nations peoples to improve the way we manage our environment and heritage now and in the future.

# **Executive summary**

This report responds to the request from the World Heritage Committee in 2021 (Decision 44 COM 7B.89 at **Appendix A**: Decision 44 COM 7B.89 on the Gondwana Rainforests of Australia adopted by the 44th session of the World Heritage Committee (Fuzhou, 2021)) for an updated report on the state of conservation of the Gondwana Rainforests of Australia (Gondwana Rainforests) to be submitted by 1 December 2022 for consideration by the Committee at its 46th session. The Committee requested an update on the assessment of the impacts of the 2019–2020 bushfires on the Outstanding Universal Value (OUV) of the property and its recovery prospects.

This report is an update to information provided in an initial report to the World Heritage Centre in April 2020 and its update in February 2021.

The Gondwana Rainforests is a World Heritage property comprising a series of reserves (40 individual components), largely national parks and nature reserves, in north-east New South Wales (NSW) and south-east Queensland.

Bushfires in the spring and summer of 2019–2020 impacted approximately 196,000 hectares, or 53%, of the property. While some areas of the property and particular plant and animal species appear to be recovering well, there are areas that experienced high to catastrophic ecological impacts from the fires. The recovery and conservation of the Gondwana Rainforests continues to be a strong collaborative effort by the Australian, NSW and Queensland governments in partnership with First Nations peoples, natural resource management organisations, ecologists, spatial scientists, research organisations and the community.

A comprehensive suite of monitoring and recovery actions has been put in place to track the ongoing health and recovery of areas and species impacted by the 2019–2020 fires and build their resilience. This will further guide the adaptive management strategies that are in place to support and strengthen the resilience of the property against future natural disasters.

This report includes a description of the property, its management and funding arrangements, and key findings of the most recent State of the Environment report relevant to the property (see Section 1). It also highlights the progress made by the Australian, NSW and Queensland governments in assessing the impacts of the 2019-2020 bushfires and monitoring the recovery of threatened species, and biological diversity that are central to the World Heritage property's OUV (see Section 2.1).

This report outlines the Australian and State governments' continuing actions to build an understanding of projected changes as a result of climate change and efforts to strengthen climate and disaster resilience (see Section 2.2). Australia's national climate policies have changed significantly since the February 2021 state of conservation report, including strengthened climate ambition through legislated targets as an enhanced Nationally Determined Contribution under the Paris Agreement to reduce Australia's emissions by 43% on 2005 levels by 2030 and achieve zero net emissions by 2050. Australia's target setting processes, along with the targets themselves, are enshrined in national legislation, the *Climate Change Act 2022*. Reducing the impacts of climate

change on Australia's World Heritage properties through adaptation planning and building resilience is a key focus of the Australian Government.

The Gondwana Rainforests encompass a wide variety of ecosystems and habitats and the protection of species which are vulnerable to extinction is a key priority in managing the OUV of the property, and in prioritising bushfire recovery projects. In October 2022, the Australian Government Minister for the Environment and Water released the *Threatened Species Action Plan 2022–2032*, which sets out a pathway for recovery of threatened species and threatened ecological communities over the next ten years with ambitious targets, including preventing any new extinctions of plants and animals in Australia. There are 110 species that are prioritised in the Action Plan, a number of which occur in the Gondwana Rainforests.

The report also outlines the outcomes of the Royal Commission into the National Natural Disaster Arrangements and the Australian Government's response (see Section 2.3) and describes other current conservation issues (see Section 3). These include efforts governments have taken to manage the impacts of major flood events, and the discovery of new species in the property that contribute to its OUV. Australia's process to regularly notify the World Heritage Centre of proposed projects which may impact OUV at Australian World Heritage properties is also included in the report (see Section 4).

The involvement of First Nations peoples in managing and protecting the property continues to be a priority. The report highlights specific initiatives that are informed by Traditional Owner knowledge. The report demonstrates how Australian and State governments are working to maintain the OUV of the property with strict systems of protection and management.

# Résumé

Ce rapport répond à une demande du Comité du patrimoine mondial, en 2021, (Décision 44 COM 7B.89, en **Annexe A**) de remise, avant le 1<sup>er</sup> décembre 2022, d'un rapport actualisé sur l'état de conservation des forêts humides Gondwana de l'Australie (les forêts humides Gondwana)) pour examen par le Comité à sa 46<sup>e</sup> session. Le comité avait demandé une mise à jour de l'évaluation des répercussions qu'ont eu les feux de brousse de 2019-2020 sur la valeur universelle exceptionnelle (VUE) du bien et sur ses perspectives de récupération.

Ce rapport fait donc le point sur les informations fournies dans un rapport initial remis au Centre du patrimoine mondial en avril 2020 et sur sa mise à jour en février 2021.

Les forêts humides Gondwana sont un bien du patrimoine mondial comprenant une série de réserves (40 composantes individuelles), essentiellement des parcs nationaux et des réserves naturelles, dans le nord-est de la Nouvelle-Galles du Sud (NSW) et le sud-est du Queensland.

Les feux de brousse du printemps et de l'été 2019-2020 ont touché près de 196 000 hectares, soit 53 % du bien. Si certaines zones, espèces animales et végétales semblent se remettre, d'autres ont subi des dégâts écologiques élevés, voire catastrophiques. La récupération et la préservation des forêts humides Gondwana continuent d'être le fruit d'une collaboration étroite entre les gouvernements fédéral, de la Nouvelle-Galles du Sud et du Queensland, en partenariat avec les peuples des Premières Nations, les organisations de gestion des ressources naturelles, les écologistes, les scientifiques dans le domaine spatial, les organismes de recherche et la communauté.

Un ensemble complet de mesures de surveillance et de récupération a été mis en place pour assurer un suivi de la santé et de la récupération en cours des zones et des espèces touchées par les feux de 2019-2020, permettant ainsi de renforcer leur résilience. Cela permettra aussi de mieux orienter les stratégies de gestion adaptative déjà en place ainsi que de soutenir et renforcer la résilience du bien contre les catastrophes naturelles à venir.

Ce rapport comprend une description du bien, de ses modalités de gestion et de financement, ainsi que les principales constatations du tout dernier rapport sur l'état de l'environnement du bien (cf. Section 1). Ce rapport souligne également les avancées réalisées par les gouvernements fédéral, de la Nouvelle-Galles du Sud et du Queensland dans l'évaluation des répercussions qu'ont eu les feux de brousse de 2019-2020 et dans la surveillance de la récupération des espèces menacées et de la diversité biologique qui sont au cœur de la VUE du bien inscrit sur la Liste du patrimoine mondial (cf. section 2.1).

Ce rapport présente les mesures permanentes prises par les gouvernements fédéral et de la Nouvelle-Galles du Sud pour bien comprendre les modifications envisagées en raison du changement climatique et les efforts déployés pour renforcer la gestion du climat et des catastrophes (cf. Section 2.2). Les politiques climatiques mises en œuvre par l'Australie à l'échelle nationale ont beaucoup évolué depuis le rapport sur l'état de conservation de février 2021. Le pays a, entre autres, renforcé ses ambitions climatiques en établissant des objectifs entérinés dans la loi comme contribution déterminée au niveau national, en vertu de l'Accord de Paris, afin de réduire ses émissions de 43 %, d'ici à 2030, par rapport aux niveaux de 2005 et d'atteindre, d'ici à 2050, l'objectif de neutralité carbone. Les objectifs de l'Australie et leur définition sont des processus inscrits dans la Loi de 2022 sur le changement climatique (*Climate Change Act 2022*). La réduction des effets du changement climatique sur les biens du patrimoine mondial australien, qui nécessite une planification de l'adaptation et un renforcement de la résilience, est une priorité absolue du gouvernement australien.

Les forêts humides Gondwana englobent un large éventail d'écosystèmes et d'habitats ; la protection des espèces vulnérables menacées d'extinction est une priorité essentielle dans le cadre de la gestion de la VUE du bien et la priorité est donnée aux projets de récupération suite aux feux de brousse. En octobre 2022, la ministre australienne de l'Environnement et de l'Eau a publié un plan d'action pour 2022-2032 pour les espèces menacées intitulé « *Threatened Species Action Plan 2022-2032* » (*Plan d'action 2022-2032*). Ce plan présente une voie de récupération des espèces et communautés écologiques menacées pour les dix prochaines années avec des objectifs ambitieux, notamment la prévention de toute nouvelle extinction de plantes et d'animaux en Australie. Ce Plan d'action donne la priorité à 110 espèces, certaines vivant dans les Forêts humides Gondwana.

Le rapport souligne également les résultats de la Commission royale concernant les dispositions prises face aux catastrophes naturelles nationales et la réponse du gouvernement australien (cf. Section 2.3). Il présente également d'autres thématiques de préservation actuelles (cf. Section 3), notamment des mesures que les gouvernements ont prises pour gérer les répercussions des importantes inondations ainsi que la découverte de nouvelles espèces au sein du bien qui contribuent à sa VUE. Le processus que suit l'Australie pour informer de manière régulière le Centre pour le patrimoine mondial des propositions de projets susceptibles d'avoir un impact sur la VUE des biens australiens inscrits sur la Liste du patrimoine mondial est également inclus dans ce rapport (cf. Section 4).

La participation des peuples des Premières Nations à la gestion et à la protection du bien reste une priorité. Le rapport présente des initiatives spécifiques guidées par les connaissances des propriétaires traditionnels. Il montre comment les gouvernements fédéral et des États travaillent pour préserver la VUE du bien grâce à des systèmes de protection et de gestion rigoureux.





# 1 Introduction

# **1.1** Decision of the World Heritage Committee

This State Party Report, prepared in cooperation with the New South Wales (NSW) and Queensland governments, responds to the 2021 decision of the World Heritage Committee (see Decision 44 COM 7B.89, at **Appendix A**: Decision 44 COM 7B.89 on the Gondwana Rainforests of Australia adopted by the 44th session of the World Heritage Committee (Fuzhou, 2021)).

Australia provided a state of conservation report on the impacts of the 2019–2020 bushfires in Australia in April 2020 and an update in December 2020. This report updates the information in those earlier reports.

## 1.2 The Gondwana Rainforests of Australia

The Gondwana Rainforests of Australia (Gondwana Rainforests) is a serial World Heritage property comprising reserves (40 individual components), that are largely parts of national parks and nature reserves, in north-east NSW and south-east Queensland. Listed for its biological and geomorphic values, it contains remnants of the once vast rainforests that covered Australia when the climate was cooler and wetter. Despite its name, the property contains diverse vegetation communities with varying degrees of fire tolerance. Rainforests in this area generally occur as discontinuous patches surrounded by fire-adapted eucalypt forest and agricultural lands.

The Gondwana Rainforests of Australia was inscribed on the World Heritage List in 1986 and was extended in 1994. It was inscribed on the World Heritage List under criteria (viii) (ix) and (x) and has strong integrity as the largest and most significant remaining stands of subtropical rainforest, Antarctic Beech cool temperate rainforests and warm temperate rainforest in Australia and the world. The Statement of Outstanding Universal Value (SOUV) for the property, adopted by the World Heritage Committee in 2012, is at **Appendix B**: Statement of Outstanding Universal Value for the Gondwana Rainforests of Australia, adopted by the World Heritage Committee in 2012.

### 1.3 Management and governance of the Gondwana Rainforests

Under Australia's federal system of government, management of the Gondwana Rainforests is the primary responsibility of the NSW and Queensland state governments for the components of the property in their respective jurisdictions. A Management Committee and a Coordinating Committee, both comprised of representatives of the managing agencies in each of the three jurisdictions (NSW, Queensland and the Australian Government), meet regularly to deliver strategic coordinated management.

Each reserve within the Gondwana Rainforests has a management plan or statement of management intent.

Management planning for the property by the NSW and Queensland governments is collaboratively developed with First Nations peoples. A Strategic Overview for Management 2000 provides high-

level policy and strategic direction for the property. Updated strategic plans for the property are being prepared by each state in consultation with First Nations peoples.

Each state jurisdiction oversees advisory arrangements that allow for community, technical and scientific input into the management of the reserves that constitute the Gondwana Rainforests.

# 1.4 Protection of the Gondwana Rainforests

Australia's national environmental law, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), provides an overarching level of protection for the OUV of the Gondwana Rainforests. Under the EPBC Act, World Heritage values (Outstanding Universal Value) are one of the protected 'matters of national environmental significance'. Any proposed activity that is likely to have a significant impact on the OUV, whether the proposal is inside or outside the property, requires assessment and approval under the EPBC Act. In addition, environmental assessments are undertaken by a state government under state regulatory requirements.

The EPBC Act allows the Australian Government Minister for the Environment and Water to grant or refuse approval to a proposed action, or to impose conditions on the taking of an action where it is approved. Under the EPBC Act, the Minister cannot approve a proposal that would be inconsistent with Australia's obligations under the World Heritage Convention. The EPBC Act imposes substantial civil and criminal penalties on a person who takes an unlawful action.

The recovery of threatened species and ecological communities nationally listed under the EPBC Act is guided by conservation advice. For some threatened species and ecological communities with more complex planning needs the Minister can make or adopt and implement recovery plans. These plans apply to some species that contribute to the OUV of the property, and aim to maximise their long-term survival in the wild. Preparation of recovery plans includes consultation with environment ministers in the relevant jurisdictions, the Australian Government Threatened Species Scientific Committee (an independent committee comprising scientific experts), and the public.

Across NSW and Queensland, eight additional legislative instruments protect and conserve the Gondwana Rainforests.

Together these legal instruments ensure the Australian, NSW and Queensland governments can do whatever is necessary to protect the property's OUV. This includes for example, developing and implementing plans of management, regulating development within and near the World Heritage property and controlling feral animals and weeds.

# 1.5 Funding

It is estimated that the NSW Government spends over A\$17 million annually for management actions within NSW Gondwana Rainforests reserves including infrastructure maintenance, visitor management, feral animal and weed control, access management, survey and monitoring, fire and biodiversity and threatened species management. This is an approximate figure only, noting that there are many shared NPWS costs which cannot be accurately allocated to individual areas.

The Queensland Government spends more than A\$6.7 million annually towards the management of the Gondwana Rainforests. This funding includes both operational and capital works, contributing to the ongoing maintenance and upgrade of facilities and assets.

The Australian Government has provided A\$180,000 each year from 2018–2023 to fund one NSW based Executive Officer and Advisory Committees for the property. The Queensland Government provides additional funds to support a second Executive Officer and Advisory Committee for the Queensland sections of the property.

The Australian Government also provides one-off grants for specific purposes for the protection of the values of the property. These projects have included works on bushfire recovery, climate change adaptation, and infrastructure.

## 1.6 2021 State of the Environment report

Every five years, the Australian Government publishes a <u>report on the state of the environment</u>. The most recent report was released on 19 July 2022. The report combines scientific, traditional, and local knowledge to provide a rigorous, peer-reviewed assessment of every aspect of the environment of Australia. The purpose of the report is to document the current condition of the environment.

Some key findings of the report, which are relevant to the Gondwana Rainforests include:

- bushfires are likely to be of higher intensity due to climate change, with the bushfire season starting earlier and lasting longer. This will reduce time in between fire seasons to undertake hazard reduction and may also impact fire-fighting resource sharing with the Northern Hemisphere, which has previously provided assistance during intense bushfire seasons in Australia such as in 2019–2020.
- fire weather is projected to worsen as measured by several indices.

The overall conclusion of the report is that:

- further changes to climate and the environment are inevitable so adaptation will be essential.
- climate change is already having, and will continue to have, an impact on natural heritage places in Australia.
- global climate action is required to protect heritage in Australia from climate change.

#### 1.6.1 Threatened Species Action Plan 2022–2032

In October 2022, the Australian Government Minister for the Environment and Water released a <u>Threatened Species Action Plan 2022–2032</u> (the Action Plan). The Action Plan sets out a pathway for recovery of threatened species and threatened ecological communities over the next ten years with ambitious targets, including preventing any new extinctions of plants and animals in Australia.

There are 110 species that are prioritised in the Action Plan, a number of which occur in the Gondwana Rainforests, including the brush-tailed rock-wallaby and the mountain frog.

# 2 Response to the 2021 Decision of the World Heritage Committee 44 COM 7B.89

The Committee requested an update on the process made assessing the impacts of the 2019–2020 bushfires and of climate change on the OUV of the property and its recovery prospects.

Relevant paragraphs from the decision are quoted in this report, and Australia's State Party response is provided for each.

# 2.1 Update on the 2019–2020 bushfires impacts and recovery

#### Decision 44 COM 7B.89 Paragraphs 2 and 3:

<u>2) Expresses its utmost concern</u> about the unprecedented fires that affected more than half of the property, which is not normally subject to recurring fire events, and severely affected some of its components and some attributes of its Outstanding Universal Value (OUV);

<u>3) Welcomes</u> the information provided by the State Party regarding the immediate management responses across different components of the property, the assessment of impacts and the plans for longer-term actions, including funding commitments to ensure long-term recovery, and <u>requests</u> the State Party to submit to the World Heritage Centre, for review by IUCN, an update on the process made assessing the impacts of fires on the OUV of the property and its recovery prospects as soon as any new significant information becomes available;

#### State Party's response

#### 2.1.1 Overview

Bushfires in the spring and summer of 2019–2020 impacted approximately 196,000 hectares, or 53%, of the World Heritage property.

While some areas of the property and particular plant and animal species appear to be recovering well, there are areas of the property that experienced high to catastrophic ecological impacts from the fires. As described in Sections 2.1.2 to 2.1.6, a comprehensive suite of monitoring and recovery actions have been put in place to track the ongoing health and recovery of areas and species impacted by the 2019–2020 fires and build their resilience.

Significant rain and flooding in Eastern Australia in 2022, as reported in Section 3.1, have delayed some bushfire impact assessment and recovery actions, such as pest and weed control activities.

Impact assessment has shown some recovery of some species following the bushfires. For example:

• Population recovery of threatened macropods, such as long nosed potoroo populations and brush-tailed rock-wallaby (*Petrogale penicillata*), are variable across the World Heritage

property, however the population of the brush-tailed rock-wallaby in Oxley Rivers National Park, for example is in good condition following the fires (see **Case Study 1**).

Some threatened plant species in fire affected areas have recovered since the 2019–2020 bushfires, however other species such as the Nightcap oak (*Eidothea hardeniana*) require regeneration efforts. 20% of the population of the Nightcap oak was impacted by the fires with an estimated 50% mortality according to one study. More assessment and stabilisation of the population including replanting is required (see Case Study 2).

Additional monitoring and research is required to assess the impact of fire on other species such as the Antarctic beech (*Nothofagus moorei*) (see **Case Study 3**) and the impact of climate change, for example on Mountain angelica (*Gingidia rupicola*) (see **Case Study 4**).

#### 2.1.2 Assessment of impacts

Since the April 2020 and February 2021 reports to the World Heritage Centre, the impacts of the 2019–2020 bushfires on the OUV of the Gondwana Rainforests have been further assessed with support from the Australian, NSW, and Queensland governments.

In NSW, ecological consultants were contracted to undertake an assessment of the most heavily impacted reserves within the Gondwana Rainforests including Barrington Tops, Gibraltar Range, Washpool, New England, Oxley Wild Rivers, Werrikimbe, and Willi Willi national parks and the Castles Nature Reserve. They used a range of remote, aerial and field survey techniques to complete the rapid assessment with recommendations made for priority areas of impact and further work, such as identifying ecological communities to target recovery efforts. NSW NPWS staff assessed impacts in the remaining reserves.

In Queensland, the state government has led four projects across the fire-impacted Lamington, Mt Barney and Main Range National Parks that assess impacts on threatened species and their habitats. Assessments using remotely sensed data and field surveys provided insights to guide ecologists in further monitoring efforts, and park managers to reduce key threats to recovery including weed invasion, myrtle rust dieback and feral animals.

#### 2.1.3 Post fire recovery

The Gondwana Rainforests are valued as a hub of biological diversity, including primitive and relict plant and animal species, and species which are restricted in range to the World Heritage property. The property encompasses a wide variety of ecosystems and habitats, and species continue to be discovered. Species vulnerable to extinction are central to the OUV of the property and protection of these species is a key priority in managing the property and is a major focus of bushfire recovery work.

Efforts to increase collaboration with the First Nations peoples of the Gondwana Rainforests, ongoing monitoring, pest plant and animal control, and enhanced fire management are being undertaken and will assist with recovery. Both NSW and Queensland are investing in new methods to monitor the health of the Gondwana Rainforests (together with other protected areas) and to evaluate management effectiveness and inform future actions.

Under the Australian Government's A\$200 million investment in bushfire recovery, over A\$1.4 million has been provided for four projects in Queensland to support the recovery of fire

affected wildlife and ecological communities, including some species within the Gondwana Rainforests. Enhanced pest animal control efforts have targeted feral pigs, cats and the exclusion of cattle from the national parks. Removing ecosystem transforming weeds has also been a priority for on-ground works across the fire impacted sections of the property. Reducing the risk and severity of future fires, and capacity for an emergency fire response, has been addressed through strategic planned burns, enhanced firelines and the provision of water tanks in a remote area. A further A\$9.2 million has been invested in 10 projects in NSW with some activities occurring within and adjoining the Gondwana Rainforests. Activities across these 14 projects include First Nations-led caring for country activities, weed and pest control, fire management actions and threatened species recovery actions.

First Nations peoples' use of culturally managed fire is important to enhance and protect natural and cultural heritage values; to express and maintain culture, kinship and identity; and to continue to share knowledge and practice.

The NSW NPWS Cultural Fire Management Policy helps promote and facilitate greater inclusion of First Nations communities in fire management activities on NPWS-managed lands, including the Gondwana Rainforest reserves. The NSW Government provided funding to two First Nations organisations in 2020 (Githabul and Western Bundjalung) to support rapid assessments of fire impacts on cultural heritage within fire affected areas in national parks under joint management agreements across NSW, including the Gondwana Rainforests.

First Nations peoples in Queensland provide invaluable strategic leadership and are involved in onground fire management across the protected area estate. This includes continuing to develop and share expertise through cultural burning, which reduces fire intensity and minimises fire risk to cultural and environmental values.

The Australian Government is investing in priority bushfire recovery projects led by First Nations peoples in several Gondwana Rainforest reserves where native title has been recognised. Native title refers to the legal recognition of First Nations peoples' rights and interests to their land that derive from their traditional laws and customs. Priority projects include bush regeneration, weed and feral animal management, cultural heritage surveys, management and monitoring, access to Country, and cultural practice.

### 2.1.4 Recovery of threatened species

#### Additional legislative protections

As part of the Australian Government's bushfire response, accelerated assessments of fire-affected species and ecological communities (and some at risk of impacts from future fire events) are being completed.

The OUV of the property includes the high biodiversity found across the multiple reserves that make up the Gondwana Rainforests. Many of the hundreds of highly valued species of fauna and flora for which the property was World Heritage listed (detailed in Appendices 1–5 of the 1992 nomination and referenced in SOUV at **Appendix B**: Statement of Outstanding Universal Value for the Gondwana Rainforests of Australia, adopted by the World Heritage Committee in 2012) were impacted by the 2019–2020 bushfires. Recovery efforts are therefore being focussed on these species, such as the brush-tailed rock-wallaby outlined in **Case Study 1**.

The accelerated process of assessment includes using expert scientific groups to undertake assessments on groups of species or ecological communities based on a taxonomic grouping or geographic region.

A NSW Independent Inquiry into the 2019–2020 bushfires highlighted a need to improve ways to identify and protect priority assets, including environmental and cultural assets, well in advance of bushfire or other emergency events. As a result, the *NSW National Parks and Wildlife Act 1974* was amended in 2021 to enable the NSW Minister for the Environment and Heritage to declare land in the national parks reserve system as an environmental or cultural asset of intergenerational significance (AIS). This is defined as an area of exceptional natural or cultural value that warrants special protection, including dedicated management measures.

The first tranche of 270 declared sites that are assets of intergenerational significance included key important areas of habitat for at least 11 threatened species within the Gondwana Rainforests. NPWS has a statutory obligation that each of these AIS sites will have a conservation action plan, which sets out priority actions to reduce risks to habitat, and to monitor population health, to be prepared and implemented to protect these important assets. NPWS continues to identify and assess other areas in the NSW national parks system, including the Gondwana Rainforests, that may merit declaration and management as an AIS. Consultation with relevant First Nations organisations is integral to the naming and identification of AIS sites, and the development of conservation action plans.

In Queensland, work to reconnect fragmented landscapes is being supported through a Great Eastern Range initiative, which the Gondwana Rainforests is connected to, and private protected area program. A key aspect of this work is building stronger First Nations partnerships to co-manage protected areas. Measures to increase public awareness and opportunities for collaborative responses are being progressed through the Queensland Department of Environment and Science Open Data Strategy, making biodiversity data and mapping publicly available.

#### Case Study 1 Brush-tailed rock-wallaby

#### Brush-tailed rock-wallaby Petrogale penicillata

Bushfire recovery efforts are focussed on species that contribute to the high biodiversity of the Gondwana Rainforests. For example, the brush-tailed rock-wallaby is a specialised macropod which has extensive habitat among the cliffs, rock outcrops and boulder piles of Oxley Wild Rivers National Park (a component of the property). Following the fires, suitable food was delivered to the brush-tailed rock-wallaby colonies to assist with recovery and reduce the need for them to venture away from their refuges to graze, decreasing the risk of predation. The NSW Government has identified two sections of brush-tailed rock-wallaby habitat within Oxley Wild Rivers National Park as Assets of Intergenerational Significance (AIS).

Baseline surveys have been completed which indicated the populations in areas identified as AIS were in good condition following the drought and fires.

Work is also being undertaken at the landscape level to establish a coordinated and comprehensive long-term monitoring program of metapopulations. Based around the Macleay Gorges, including Oxley Wild Rivers National Park, this program will allow for an assessment of change in these populations over time. This region has long been considered a key stronghold of the species and this work will assist with identifying both the impacts of major events (such as fire and drought) and the effectiveness of management actions (including predator control).



Brush-Tailed Rock-Wallaby. Photo: Michael Van Ewijk

#### Habitat recovery projects

The Australian, NSW and Queensland governments are taking action to address threats to the postfire recovery of threatened species and their habitats, such as controlling weeds and feral animals, and supporting longer term resilience. The focus is on protecting species and habitats that contribute to the OUV of the Gondwana Rainforests.

The Australian Government has funded large-scale aerial shooting and aerial baiting of vertebrate feral species across multiple protected areas in the Gondwana Rainforests. There is also significant investment in controlling weeds, which can rapidly invade burnt areas and transform ecological communities.

The recovery of priority threatened species is a multi-species, cross-tenure project which is delivering on-ground actions for several species identified as contributing to the OUV of the Gondwana Rainforests. Activities to support the recovery of these species include:

- Rufus Scrub-bird: develop fire management plans and implement on-ground hazard reduction work around key habitat; undertake feral predator control at key sites; and develop and implement a monitoring program.
- Eastern Bristlebird: plan and deliver prescribed burns at key sites on private land; supplement existing captive populations with the intention to re-establish wild populations; and create and implement a disease management plan.
- Hastings River Mouse/Koontoo and New Holland Mouse/Pookila: deliver targeted trapping to determine post-fire presence and inform on-ground actions, including predator control, habitat supplementation, weed management, bush regeneration or collection of genetic material.
- Mountain mist frogs (*Philoria* spp.): deliver targeted feral animal and weed control at key sites; monitor disease (chytrid); trial and develop husbandry protocols for captive breeding using existing facilities; and trial release at various stages of development.
- Threatened microbats, including Large-eared Pied Bat and Golden-tipped Bat: validate status post-fires, protect habitat, and augment roosts, including installation of bat 'furniture'.
- Threatened flora: various actions for targeted species, including feral animal control, seed and plant collection, ex-situ propagation, targeted weed control, translocation, and in-situ hand pollination.

#### NSW Saving our Species program

The NSW Government's flagship threatened species conservation program, Saving our Species, has invested A\$175 million over 10 years (2016–26) and has contributed to the assessment of impacts of fire on threatened species and threatened ecological communities in the Gondwana Rainforests in NSW. The program includes the development of strategies for each threatened species and ecological community, establishment of a framework for setting priorities, and a process for monitoring and reporting on the overall outcomes of the program. A list of species which occur within the Gondwana Rainforests that have benefitted from Saving our Species project funding since 2019 is at **Appendix C**: NSW Government Saving our Species projects.

Results indicate that some threatened plant species in fire affected areas have recovered since the 2019–2020 bushfires, including Gibraltar grevillea *Grevillea rhizamatosa*, Gibraltar mallee *Eucalyptus* 

*dissita*, soft grevillea *Grevillea mollis*, mountain wax-flower *Philotheca obvatifolia*, and bird orchid *Chiloglottis anaticeps*. The orchid *Diuris eborensis* appears to be recovering slowly and Gorge Rice-flower *Pimelea cremnophila* has recovered in one of three known locations. The shrub *Leionema westonii* which has one known population, was severely impacted by the 2019–2020 bushfires. Ongoing searches since the fires failed to find any plants at the single known site until July 2022 when signs of regeneration were discovered. Given the vulnerability of this species to extreme conditions, ex situ material is held by the Australian National Botanic Gardens (in Canberra) to support restoration and translocation if needed in the future.

A pre and post fire study of macropods, in the north-eastern NSW component of the property, showed that recovery of long nosed potoroo populations was variable among reserves with post fire records for individuals in Nightcap National Park but none in Tooloom National Park. Red-legged pademelons in these reserves appeared to prefer unburnt areas post fire indicating the importance of refugia for some species.

#### **Recovery monitoring**

Several additional monitoring programs have been introduced to assess the recovery of threatened species in fire affected areas, such as the Nightcap oak, outlined in **Case Study 2.** 

NSW has implemented a state-wide monitoring program to evaluate the effectiveness of feral animal control programs including aerial control programs, camera detection of feral animals in bushfireaffected reserves to detect change, and several specific programs aimed at improving the effectiveness of control, such as trialling the use of thermal cameras to improve detection of large herbivores under varying canopy cover.

In Queensland, after initial surveys of fire impacted threatened species in 2020–21, ongoing monitoring protocols have been established for 12 threatened vertebrate species and five threatened plant species, which includes the use of field assessments, faunal cameras, thermal scopes and acoustic recorders. Monitoring has highlighted concerns for some species, such as the Glossy Black Cockatoo, where the availability of quality *Allocasuarina torulosa* feed trees are now limited due to fire-related tree death or impacts on cone production. Protecting unburnt refugia with high-value food trees is now a priority. For other species, such as the Hastings River mouse, field assessments confirmed its survival after both the prolonged drought and the subsequent bushfire. Moreover, at one site, the trapped population was relatively high suggesting that the fire-induced change to the habitat structure was favourable for this species.

#### Case Study 2 Nightcap oak

#### Nightcap oak

The Nightcap oak was discovered in 2000 with less than 500 individuals remaining in the Gondwana Rainforests. It is listed as critically endangered under the EPBC Act. Some 20% of the population was impacted by the 2019–2020 bushfires with estimates of 50% mortality in one study. To enhance recovery, competing weeds and fast-growing natives are being controlled in Nightcap oak habitat. The Australian Botanic Gardens in Sydney have been growing seedlings from seed or cuttings for replanting to create insurance populations and increase genetic diversity.

Early in 2020 a total of 416 seeds were collected from 54 trees with an additional 103 seeds collected from 29 trees in 2021. The seeds were delivered to a specialist rainforest nursery for propagation. A total of 50 seedlings have germinated from the 2019–2020 collections, 20 of these have been planted at eight sites in Mt Jerusalem and Nightcap National Parks. To supplement seed-based propagation, a cutting-based propagation project has been started with the Australian Botanic Gardens in Mt Annan, Sydney. In 2021–2022, cuttings from non-seed producing trees that provide additional genetic diversity will be propagated. After the February 2022 floods, NSW NPWS staff surveyed accessible individuals of Nightcap oak and found there has been some undermining of individuals close to creeks and minor land slips. More assessment and stabilisation will be done in coming months.



Transplanting seedlings of Nightcap oak Photo: Justin Mallee

#### 2.1.5 Fire management

Both NSW and Queensland governments have undertaken spatial assessments to inform future fire planning and activities to protect the OUV of the property.

The NSW Government is using spatial modelling and assessment to identify the impacts and future risks from the fires and the compounding threats after the fires. A specific project is assessing impacts and future risks to World Heritage values that contribute to the OUV of the property. Modelling and mapping have identified:

- vegetation communities most likely to contain World Heritage values
- priority threatened species and ecological communities impacted by the fires
- burnt areas with significant fire impacts on World Heritage values
- unburnt areas that serve as an initial refuge for World Heritage values
- other threatening processes that could be compounded by future impacts of fire.

This assessment is informing where to direct management actions to support the recovery and resilience of OUV. An example of this targeted research is the monitoring of the Antarctic beech, described in **Case Study 3**.

The Queensland Government has completed reports on the post-fire ecological assessment of heritage values for Lamington, Mt Barney and Main Range National Parks components of the property. A new assessment methodology was developed to incorporate the use of remotely sensed spatial data for fire severity with fine resolution vegetation mapping to visually display the ecological impacts, and better inform decision makers (Laidlaw et al, 2022). Recommendations include the strategic use of planned burns to reduce fuel and the ongoing risk of fire to fire-sensitive vegetation communities and priority controls for pest animals, weeds and pathogens, such as myrtle rust. These reports are available on the Queensland Government Department of Environment and Science website.

The Queensland Government has established an enhanced dedicated fire management team to implement a strategic planned burn program across south-east Queensland, including the Gondwana Rainforests, to reduce risks of future fires. The Queensland Government is also updating fire management strategies for the Main Range, Mount Barney and Lamington national parks to guide fire management priorities over the next 5 years, installing strategic firelines, reducing fuel hazards and installing new water storage to support fire management within these reserves.

#### **Case Study 3 Antarctic beech**

#### Antarctic beech Nothofagus moorei

One example of work being undertaken to support the conservation of the OUV of the area is the monitoring of the Antarctic beech. The Antarctic beech is one of the relict species of Gondwanan flora still present in the World Heritage property, referenced in both appendix 1 of the 1992 World Heritage nomination and the SOUV (**Appendix B**: Statement of Outstanding Universal Value for the Gondwana Rainforests of Australia, adopted by the World Heritage Committee in 2012).Volunteers and staff from the NSW NPWS are undertaking the following actions to inform longer term conservation management including:

- digitising hard copy maps from the 1970s of the extent of *Nothofagus moorei* communities to compare changes over time
- assessing patches of Nothofagus moorei affected by fire in the region to inform management planning
- collecting leaf samples for genetic analysis to inform conservation initiatives.

Volunteers are supporting research into the resilience to fire of Antarctic Beech rainforests under past, current and future climatic conditions. A study in Werrikimbe and Willi National Parks within the Gondwana Rainforests is using long term research plots established in these reserves in 1959, some of which were burnt in the 2019–2020 fires (Peacock and Baker, 2022). The study built on previous research to investigate the effects of fire in these forests given the emerging threat of climate change (Peacock, 2017).

A partnership project is underway with the NSW Royal Botanic Gardens assessing the genetic diversity of Antarctic beech. This will assess the importance of individual populations which may be at risk of local extinction and will investigate the diversity across the full geographic range of the species. Volunteers and NPWS and Queensland staff have collected samples across the species range.



Barrington Tops plateau two years post fire (2022) – Aerial image showing what had been eucalypt woodland, with dead fallen trees as a result of the 2019–2020 wildfires, and subsequent high winds. The green forest in the bottom right of the photo is surviving Antarctic beech sheltered on a steep south-easterly slope. Photo: NPWS

#### 2.1.6 Myrtle rust

Myrtle rust (*Austropuccinia psidii*) is a plant pathogen that causes severe die-back in species of the Myrtaceae family, a family of plants which occur within the Gondwana Rainforests. Myrtle rust has impacted regeneration of vegetation after fire as the rust prefers young leaves and the mass of new epicormic regrowth and young seedlings after fire provided the ideal conditions for the development and spread of the pathogen.

Extensive surveys assessing the impact of Myrtle rust were conducted following the 2019–2020 wildfires, funded by the Threatened Species Hub of the Australian Government National Environmental Science Program.

Myrtle rust symptoms and damage were found in all survey sites in fire-affected areas of the Gondwana Rainforests. Significant impacts were identified on *Rhodamnia rubescens* (scrub turpentine). Ongoing work will include monitoring of key sites, collection of material for ex-situ propagation, and augmentation of key populations with ex-situ material when required. The range of restricted and endangered *Uromyrtus australis* (peach myrtle), was also identified as being impacted. Work to address these impacts will include actions to exclude fire from relevant sites, monitoring myrtle rust and other threats, and further assessment of germination to identify issues affecting poor recruitment.

In Queensland, the threat of myrtle rust is also being included in post-fire updates to inform National Park planning processes. In addition, in certain National Parks, hygiene protocols are being strengthened with improved vehicle washdown and visitor footbath facilities as part of the Bushfire Recovery Program.

### 2.2 Impacts of climate change

#### Decision 44 COM 7B.89 Paragraph 4:

<u>Recalling</u> Decision **41 COM 7**, which reiterated the importance of States Parties undertaking the most ambitious implementation of the Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC), <u>notes with concern</u> that climate change is recognized as an increasing threat to the property and <u>also</u> <u>welcomes</u> the efforts of the State Party to build understanding of projected changes as a result of climate change in relation to the property's OUV and to strengthen climate and disaster resilience;

#### State Party's response

#### 2.2.1 Overview

In May 2022, Australia held a federal election, which resulted in a change of government for the country. The newly elected Government has committed to work towards combatting climate change, reducing emissions, transitioning to renewable energy, and building climate resilience and readiness in Australia. One of the first actions of the new government was to legislate new climate targets.

The Australian Government is committed to the most effective action to manage the impact of climate change. Australia's target to reduce greenhouse gas emissions by 43% below 2005 levels by 2030 puts it on track to achieve net zero emissions by 2050. Achievement of Australia's 2030 and 2050 emissions reduction targets will contribute towards the Paris Agreement global temperature

goal of holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

The 2030 target is a floor, not a ceiling, in Australia's emissions reduction ambition. Australia's trajectory to net zero will be set through successive emissions reduction targets. Successive targets will be informed by advice from the independent Climate Change Authority that will explain how the targets have taken into account the matters set out in Article 2 of the Paris Agreement, including the global temperature goal. These target setting processes, along with the targets themselves, are enshrined in national legislation, the *Climate Change Act 2022*.

The legislation also strengthens accountability through an annual statement by the Minister for Climate Change to Parliament, and tasks the independent Climate Change Authority to provide advice on Australia's progress towards these targets and on what Australia's future targets should be.

Reducing the impacts of climate change on Australia's World Heritage properties through adaptation planning and building resilience is a key focus of the Australian Government. Some of the monitoring and conservation actions to respond to the 2019–2020 bushfires reported in Section 2.1, such as actions assisting with recovery of plant and animal populations and increasing the size and health of those populations, will also help to build the resilience of the Gondwana Rainforests.

The Australian Government established a new portfolio, the Department of Climate Change, Energy, the Environment and Water in 2022. The World Heritage functions of the Australian Government are managed by this department.

#### 2.2.2 Persistence in the landscape project

The NSW Government is undertaking further work to support the persistence of species that comprise the OUV (and others) of the property in the face of climate change. This work is being done under the NSW Government Saving our Species project, which models the current distribution of 76 threatened species. It forecasts, using NSW climate projections, the ability of the species to persist in the landscape into the future considering predicted climate change between 2030 and 2070, existing habitat impacts such as clearing, and the movement ability of the population. This is used to look at impacts, landscape capacity to support the species and potential climate refugia.

Preliminary results are being used in planning for threatened species conservation, and highlight the importance of mountain landscapes, such as the Gondwana Rainforests, for supporting species to persist despite projected climate change. The results indicate that high altitude areas such as montane areas within the Gondwana Rainforests are likely to provide refugia for many species due to the cooler temperatures at these altitudes. The report outlines those species which are unlikely to persist in-situ and for which ex-situ measures are required (such as translocation, seedbanks, and potentially establishing populations in climate-controlled herbaria). It also provides information on species which may persist with habitat augmentation and more intensive management. A project to protect Mountain angelica, an example of a species identified as vulnerable to climate change, is highlighted in **Case Study 4**.

#### **Case Study 4 Mountain angelica**

#### Mountain angelica Gingidia rupicola

The NSW Government is working to protect species in the property that are at increased risk from climate change. For example, the Mountain angelica (*Gingidia rupicola*) is known from only two locations within New England National Park, a reserve within the Gondwana Rainforests of Australia. The total population size is estimated to be approximately 50 individuals. It grows in snow gum (*Eucalyptus pauciflora*) woodland and at the edge of Antarctic Beech (*Nothofagus moorei*) populations, mostly on cliff faces at altitudes of 1400–1750 m above sea level.

These montane escarpment species receive a high proportion of their moisture from mists and clouds. Drought and rising cloud base pose significant threats to the viability of this and other species on the site. A new project will be established to protect this species and other rare cloud forest species within New England National Park within the property. The project will include monitoring the cloud layer, and installation of a sprinkler system to support the species should moisture input be too low.



Mountain angelica Gingidia rupicola. Photo: Shane Ruming

# 2.3 Royal Commission into National Natural Disaster Arrangements and other inquiries

#### Decision 44 COM 7B.89 Paragraph 5:

<u>Appreciates</u> the efforts made through the Royal Commission into National Natural Disaster Arrangements to look at lessons learned and to develop recommendations on how to strengthen emergency management and climate and natural disaster risk reduction and implement reforms based on the experience made, and <u>encourages</u> the State Party to share the lessons learned with other States Parties to the Convention facing similar threats, promoting knowledge exchange on fire management strategies at natural World Heritage properties;

#### State Party's response

#### 2.3.1 Overview

The outcomes of the Royal Commission into National Natural Disaster Arrangements were provided to the World Heritage Centre in February 2021 as part of an update to the April 2020 state of conservation report. On 13 November 2020, the Australian Government published its response to the Royal Commission – <u>A national approach to national disasters</u>. The Australian Government supported, or supported in principle, all recommendations directed to the Commonwealth.

In 2020, the Australian Government agreed to the establishment of the National Emergency Management Ministers Meeting to coordinate implementation of the recommendations of the Royal Commission. <u>Details of the implementation</u> of the 80 recommendations are available on the National Emergency Management Agency website.

The lessons learned from the 2019–2020 bushfires in the Gondwana Rainforests of Australia (and Greater Blue Mountains Area) are available to other States Parties to the Convention in reports and web links in the Bibliography of this report. The Australian Government welcomes the opportunity to share lessons learned with other States Parties to the Convention whose World Heritage properties are facing similar threats.

#### 2.3.2 Responses to other inquiries

#### The NSW Bushfire Inquiry into the 2019–2020 season

The NSW Bushfire Inquiry into the 2019–2020 bushfire season made 76 recommendations, all of which were accepted by the NSW Government. <u>Further information</u> is available from the NSW Government Department of Premier and Cabinet website.

Between 2020 and 2022 the NSW Government provided a series of funding packages (of over A\$275 million) in response to several NSW Bushfire Inquiry recommendations, and increased NSW NPWS capacity for both hazard reduction and bushfire response.

#### Review of fire management by the Queensland Inspector-General of Emergency Management

A review of fire management was conducted in response to bushfires on the World Heritage listed K'gari (Fraser Island) by the Queensland Inspector-General of Emergency Management and was released in May 2021. Several recommendations were made which are relevant to the management of all World Heritage properties in Queensland, including the Gondwana Rainforest reserves in Queensland.

The Queensland Government supported, or supported in-principle, all 38 recommendations of the <u>K'gari (Fraser Island) Bushfire Review 2020–21</u> and implementation of the recommendations is well advanced.



Spiny-crayfish in Lamington National Park, Queensland. Photo: Darran Leal

# 3 Other current conservation issues identified by the State Party which may have an impact on the property's Outstanding Universal Value

### **3.1** Managing the impact of major flood events

In February and March 2022, major flooding occurred on the east coast of Australia. Flooding began in south-east Queensland and extended into the northern and central Coasts of NSW. The flooding resulted in loss of life and extensive damage to property and infrastructure.

A number of national parks were closed during this time in Queensland and NSW and recovery efforts continue to face a number of challenges, such as landslides.

Funding has been provided under the Australian Government's Environment Restoration Fund for an initial impact assessment of the flood events on matters of national environmental significance, including the impacted World Heritage properties. This work is being undertaken by the Natural Resource Management organisations in northern NSW and south-east Queensland, covering both private and public lands. This impact assessment will inform a prioritised response to flood impacts with recovery plans that may be used to leverage future funding opportunities.

#### 3.1.1 NSW

The flooding events of early and mid-2022 along the east coast of Australia, following major floods in early 2020 and 2021, caused further landslides, tree falls, flood debris, and major repeat damage to facilities and infrastructure including roads, fire trails, bridges, causeways and walking tracks across the Gondwana Rainforests. Damage is still being assessed in more remote areas. There have been property-wide and local closures for visitor safety, and general warnings about the risk of entering bushland areas in all reserves from rising creeks, landslides and tree falls.

The management of infrastructure, especially damaged assets that threaten the integrity of a park's natural, cultural and social values, is one of the principal land management functions of NPWS. NPWS in NSW has a statutory obligation to ensure recovery of damaged assets following on from a major flood event, ensuring they are safe and functional to protect not only the environment, but also staff, park visitors and neighbours.

In March 2022, the NSW Government announced the NSW Parliamentary Flood Inquiry into the response to the major flooding that occurred across NSW in early 2022. The <u>final report</u> was released on 9 August 2022 and included 37 recommendations to the NSW Government.

There was also an <u>independent inquiry into the flood response in NSW</u>, which put forward 28 recommendations which have all been supported or supported in principle by the NSW Government.

### 3.1.2 Queensland

The Queensland Parks and Wildlife Service reported minimal damage to major visitor nodes in the Gondwana Rainforests reserves, however significant erosion was observed, as well as damage to fire break access tracks.

The implementation of some on-ground actions under the Queensland Bushfire Recovery Program to reduce the risk of future fires, control pest animals and reduce the impact of weeds have been delayed due to the recent floods and the preceding La Nina rain events.

### 3.2 Discovery of new species

New species continue to be identified in the World Heritage property including two new species of frog described in the past year.

A new species of frog endemic to Wollumbin National Park was described in 2021 (Mahoney et al, 2021). In consultation with First Nations Elders of the Wollumbin Consultative Group, it has been named *Assa wollumbin sp. nov.* after the First Nations name for its mountain habitat. It is a tiny frog and one of only two known species that store their tadpoles on their bodies in "hip pockets". Genetic research revealed that the population on Wollumbin is a separate species to a similar species (*Assa darlingtonii*) at sites in the surrounding caldera. *Assa wollumbin* has been listed as critically endangered due to its small population and restricted distribution to one known site. To support its conservation, the NSW Government has declared >2000 hectares of its habitat as an Asset of Intergenerational Significance (see Section 2.1.4), contributing to enhanced monitoring and management efforts for this species.



Top: Wollumbin pouched frog, *Assa wollumbin*, Wollumbin National Park. Bottom: Mount Ballow Mountain Frog, *Philoria knowlesi*, from Lever's plateau, Border Ranges National Park, south-eastern Queensland. Photos: Stephen Mahony

Genetic research has also identified a new species of mountain mist frog known as *Philoria knowlesi* that was formerly thought to be *Philoria loveridgei*. *Philoria knowlesi*, is found in rainforest habitats at least 690 metres above sea level in northern NSW and south-eastern Queensland. The species appears to be more widespread in wetter, high-altitude rainforests while in the lower drier rainforests, the species is confined to seepages and margins of drainages.

There are seven known species of mountain frog in the genus *Philoria*, six of which are found only in the Gondwana Rainforests. The Queensland Bushfire Recovery Program, led by Queensland and supported by the Australian Government's A\$200 million investment in bushfire recovery found that

the mountain frogs had survived the fires and were persisting at sites that had been burnt during the bushfires. The increased survey has also allowed researchers to gather further information on seasonal timing of frog calling, which will support the design of future surveying and acoustic monitoring of the species.

Botanical surveys have also recently located 11 fern taxa not previously known in northern NSW. Several of these may represent novel species previously unknown to science. Eight of the fern species are more common further north in Australia and represent southerly range extensions. Two of the taxa are potentially undescribed novel species endemic to the Border Ranges. *Antrophyum austroqueenslandicum* represents a narrow range endemic to the Border Ranges that was previously described and named but had gone extinct from Queensland, only to be rediscovered at several sites in NSW.

The spike moss, *Selaginella brisbanensis*, is uncommon in south-eastern Queensland and was previously not recorded in NSW. Surveys in Limpinwood Nature Reserve and Numinbah Nature Reserve since 2016 have found this species to be a common component of high elevation cloud forest ground layers on the southern side of the NSW caldera rim.



Selaginella brisbanensis from Limpinwood Nature Reserve. Photo: Lui Weber

### **3.3** Retrospective Inventory Project

As part of the World Heritage Centre's Retrospective Inventory Project, Australia has been asked to submit updated maps of the Gondwana Rainforests of Australia.

A total of 51 updated maps representing 46 component parts of the Gondwana Rainforests of Australia have been provided to the Centre, along with explanatory notes. Following a meeting with the Centre on 28 March 2022, further work is underway to update maps to reflect the boundaries of this World Heritage serial property as inscribed on the World Heritage List in 1986 and extended in 1994.



Clouds from the Skywalk in Dorrigo National Park. Photo:

# 4 Potential major restorations, alterations and/or new construction(s) intended within the property, the buffer zone(s) and/or corridors or other areas, where such developments may affect the Outstanding Universal Value of the property, including authenticity and integrity

# 4.1 Quarterly reporting to the UNESCO World Heritage Centre

In accordance with paragraph 172 of the Operational Guidelines, the Australian Government routinely informs the World Heritage Centre of potential development activities that may affect the Outstanding Universal Value of Australia's World Heritage properties.

Notification reports and a full list of proposed, approved and withdrawn proposals relating to the Gondwana Rainforests (and other World Heritage properties) that require consideration under the EPBC Act are available at <u>World Heritage Committee notification of development proposals</u>.

The most recent proposed development included in the notification reports for the Gondwana Rainforests was the Doughboy Wind Farm proposal, reported in June 2021. The project proponent is preparing an Environmental Impact Statement (EIS) investigating the impacts of the proposal on heritage values and threatened species in the area. The EIS is expected to be released for public comment in 2024.

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# Appendix A: Decision 44 COM 7B.89 on the Gondwana Rainforests of Australia adopted by the 44th session of the World Heritage Committee (Fuzhou, 2021)

### Gondwana Rainforests of Australia (Australia) (N 368bis) Decision: 44 COM 7B.89

The World Heritage Committee,

- 1) Having examined Document WHC/21/44.COM/7B,
- Expresses its utmost concern about the unprecedented fires that affected more than half of the property, which is not normally subject to recurring fire events, and severely affected some of its components and some attributes of its Outstanding Universal Value (OUV);
- 3) <u>Welcomes</u> the information provided by the State Party regarding the immediate management responses across different components of the property, the assessment of impacts and the plans for longer-term actions, including funding commitments to ensure long-term recovery, and <u>requests</u> the State Party to submit to the World Heritage Centre, for review by IUCN, an update on the process made assessing the impacts of fires on the OUV of the property and its recovery prospects as soon as any new significant information becomes available;
- 4) <u>Recalling</u> Decision **41 COM 7**, which reiterated the importance of States Parties undertaking the most ambitious implementation of the Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC), <u>notes with concern</u> that climate change is recognized as an increasing threat to the property and <u>also welcomes</u> the efforts of the State Party to build understanding of projected changes as a result of climate change in relation to the property's OUV and to strengthen climate and disaster resilience;
- 5) <u>Appreciates</u> the efforts made through the Royal Commission into National Natural Disaster Arrangements to look at lessons learned and to develop recommendations on how to strengthen emergency management and climate and natural disaster risk reduction and implement reforms based on the experience made, and <u>encourages</u> the State Party to share the lessons learned with other States Parties to the Convention facing similar threats, promoting knowledge exchange on fire management strategies at natural World Heritage properties;
- 6) <u>Also requests</u> the State Party to submit to the World Heritage Centre, by **1 December 2022**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 46th session.

# Appendix B: Statement of Outstanding Universal Value for the Gondwana Rainforests of Australia, adopted by the World Heritage Committee in 2012

### **Brief synthesis**

The Gondwana Rainforests of Australia is a serial property comprising the major remaining areas of rainforest in southeast Queensland and northeast New South Wales. It represents outstanding examples of major stages of the Earth's evolutionary history, ongoing geological and biological processes, and exceptional biological diversity. A wide range of plant and animal lineages and communities with ancient origins in Gondwana, many of which are restricted largely or entirely to the Gondwana Rainforests, survive in this collection of reserves. The Gondwana Rainforests also provides the principal habitat for many threatened species of plants and animals.

**Criterion (viii):** The Gondwana Rainforests provides outstanding examples of significant ongoing geological processes. When Australia separated from Antarctica following the breakup of Gondwana, new continental margins developed. The margin which formed along Australia's eastern edge is characterised by an asymmetrical marginal swell that runs parallel to the coastline, the erosion of which has resulted in the Great Divide and the Great Escarpment. This eastern continental margin experienced volcanicity during the Cenozoic Era as the Australian continental plate moved over one of the planet's hot spots. 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 volcances (the planeze, residual and skeletal stages) are readily distinguishable. Further south, the remnants of the Ebor Volcano also provides an outstanding example of the ongoing erosion of a shield volcano.

**Criterion (ix):** The Gondwana Rainforests contains outstanding examples of major stages in the Earth's evolutionary history as well as ongoing evolutionary processes. Major stages represented include the 'Age of the Pteridophytes' from the Carboniferous Period with some of the oldest elements of the world's ferns represented, 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). Likewise the property 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. The property also 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 property.

The flora and fauna of the Gondwana Rainforests provides outstanding examples of ongoing evolution including plant and animal taxa which show evidence of relatively recent evolution. The rainforests 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.

**Criterion (x):** The ecosystems of the Gondwana Rainforests contain significant and important natural habitats for species of conservation significance, particularly those associated with the rainforests which once covered much of the continent of Australia and are now restricted to archipelagos of small areas of rainforest isolated by sclerophyll vegetation and cleared land. The Gondwana Rainforests provides the principal habitat for many species of plants and animals of outstanding universal value, including more than 270 threatened species as well as relict and primitive taxa.

Rainforests covered most of Australia for much of the 40 million years after its separation from Gondwana. However, these rainforests contracted as climatic conditions changed and the continent drifted northwards. By the time of European settlement rainforests covered only 1% of the landmass and were restricted to refugia with suitable climatic conditions and protection from fire. Following European settlement, clearing for agriculture saw further loss of rainforests and only a quarter of the rainforest present in Australia at the time of European settlement remains.

The Gondwana Rainforests protects the largest and best stands of rainforest habitat remaining in this region. Many of the rare and threatened flora and fauna species are rainforest specialists, and their vulnerability to extinction is due to a variety of factors including the rarity of their rainforest habitat. The Gondwana Rainforests also protects large areas of other vegetation including a diverse range of heaths, rocky outcrop communities, forests and woodlands. These communities have a high diversity of plants and animals that add greatly to the value of the Gondwana Rainforests as habitat for rare, threatened and endemic species. The complex dynamics between rainforests and tall open forest particularly demonstrates the close evolutionary and ecological links between these communities.

Species continue to be discovered in the property including the re-discovery of two mammal species previously thought to have been extinct: the Hastings River Mouse (*Pseudomys oralis*) and Parma Wallaby (*Macropus parma*).

### Integrity

The Gondwana Rainforests contains the largest and most significant remaining stands of subtropical rainforest and Antarctic Beech (*Nothofagus moorei*) cool temperate rainforests in the world, the

largest and most significant areas of warm temperate rainforest and one of only two remaining large areas of Araucarian rainforest in Australia.

Questions related to the small size of some of the component parts of the property, and the distance between the sites for the long-term conservation and continuation of natural biological processes of the values for which the property was inscribed have been raised. However, noting that the serial sites are in reasonable proximity and are joined by corridors of semi-natural habitats and buffers, compensation for small size and scattered fragments is being made through intensive management consistent with approved management plans and policy.

Since inscription, there have been significant additions to the protected area estate in both New South Wales and Queensland in the region encompassing the Gondwana Rainforests. These areas have undergone a rigorous assessment to determine their suitability for inclusion in the property and a significant extension of the property is planned as indicated by the addition of the property extension to Australia's Tentative List in May 2010. In relation to ongoing evolution, the level of legislative protection provided for World Heritage properties will minimise direct human influence and enable the continuation of natural biological processes.

### Protection and management requirements

Institutional arrangements for the protection and management of Gondwana Rainforests are strong. The property is made up of 41 reserves, almost all of which are within the protected area estate, and primarily managed by the Queensland Parks and Wildlife Service and the New South Wales National Parks and Wildlife Service. Both States have legislation relating to protected areas and native flora and fauna that provide protection for the values of the Gondwana Rainforests.

In 1993, Governments agreed to establish a Coordinating Committee, comprised of on-ground managers from these agencies and the Australian Government, to facilitate the cooperative management of the property at an operational level. A Technical and Scientific Advisory Committee and a Community Advisory Committee have also assisted with management advice since their establishment in 2002.

In 1994 when the property was extended, the World Heritage Committee requested the Australian authorities to complete the management plans of individual sites, particularly those within Queensland. Management plans have been produced for the majority of individual reserves within the property, and are in draft form or planned for the remainder.

In 2000 a Strategic Overview for Management for the Central Eastern Rainforest Reserves of Australia (now Gondwana Rainforests) World Heritage Area was published. This overarching document is a major element in guiding cooperative management by the three Governments in relation to the identification, protection, conservation, rehabilitation and presentation of the Gondwana Rainforests.

All World Heritage properties in Australia are 'matters of national environmental significance' protected and managed under national legislation, the Environment Protection and Biodiversity Conservation Act 1999. This Act is the statutory instrument for implementing Australia's obligations under a number of multilateral environmental agreements including the World Heritage Convention. By law, any action that has, will have or is likely to have a significant impact on the World Heritage values of a World Heritage property must be referred to the responsible Minister for consideration. Substantial penalties apply for taking such an action without approval. Once a heritage place is listed, the Act provides for the preparation of management plans which set out the significant heritage aspects of the place and how the values of the site will be managed.

Importantly, this Act also aims to protect matters of national environmental significance, such as World Heritage properties, from impacts even if they originate outside the property or if the values of the property are mobile (as in fauna). It thus forms an additional layer of protection designed to protect values of World Heritage properties from external impacts.

On 15 May 2007, the Gondwana Rainforests of Australia was added to the National Heritage List; National Heritage is also a matter of national environmental significance under the EPBC Act.

The impacts of climate change and high levels of visitation, undertaking effective fire management, and mitigating the effects of invasion by pest species and pathogens present the greatest challenges for the protection and management of Gondwana Rainforests. Climate change will impact particularly on those relict species in restricted habitats at higher altitudes, where particular microclimatic conditions have enabled these species to survive. Management responses include improving the resilience of the property by addressing other threats such as inappropriate fire regimes and invasion by pest species, and trying to increase habitat connectivity across the landscape.

# Appendix C: NSW Government Saving our Species projects

Note: (PS) denotes species also included in the Australian Government's <u>list of 100 Priority Species</u> <u>under the Threatened Species Strategy</u>.

The NSW Government has funded Saving our Species projects for the following species across the Gondwana Rainforests since 2019:

Botaurus poiciloptilus (Australasian bittern) (PS) Callitris oblonga subsp. parva (Pygmy Cypress Pine) Coeranoscincus reticulatus (Three-toed snake-tooth skink) Corchorus cunninghamii (Native jute) Dasyornis brachypterus (Eastern bristlebird) Dasyurus maculatus (Spotted-tailed quoll) Diuris eborensis (orchid) Eidothea hardeniana (Nightcap oak) Eucalyptus dissita (Gibraltar mallee) Eucalyptus magnificata (Northern blue box) Eucalyptus microcodon (Border mallee) Euphrasia bella (Pretty eyebright) Gaultheria viridicarpa subsp. Merinoensis (Mt Merino waxberry) Grevillea guthrieana (Guthrie's grevillea) Grevillea rhizomatosa (Gibraltar grevillea) Isoglossa eranthemoides (Isoglossa) Leionema westonii (shrub) Litoria daviesae (Davies tree frog) Litoria subglandulosa (Glandular frog) Macropus dorsalis (Black-striped wallaby) Mastacomys fuscus (Broad-toothed rat)

*Menura alberti* (Albert's lyrebird) Mixophyes fleayi (Fleay's barred frog) Neoastelia spectabilis (Silver sword lily) *Ninox connivens* (Barking owl) Nurus brevis (Shorter rainforest ground-beetle) Olearia flocktoniae (Dorrigo daisy Bush) Owenia cepiodora (Onion cedar) Petrogale penicillata (Brush-tailed rock-wallaby) (PS) Philoria richmondensis (Richmond range sphagnum frog) Philotheca obovatifolia (Mountain wax-flower) Pimelea cremnophila (Gorge rice-flower) (PS) Potorous tridactylus (Long-nosed potoroo) Rhizanthella slateri (Eastern underground orchid) Symplocos baeuerlenii (Small-leaved hazelwood) Sophora fraseri (Brush sophora) Tasmannia glaucifolia (Fragrant pepperbush) Uromyrtus australis (Peach myrtle) Zieria lasiocaulis (Willi Willi zieria)