**APPENDIX 3**

**TASMANIAN WILDERNESS 181bis**
**STATEMENT OF OUTSTANDING UNIVERSAL VALUE**

## Values

The Tasmanian Wilderness is one of the largest temperate wilderness areas remaining in the Southern Hemisphere and has the longest undisturbed stretch of temperate, high energy, embayed, rocky and sandy coastline in the world.

The area contains rocks from almost every geological period and geomorphological features from past glacial events, as well as an exceptionally broad range of ongoing geomorphological processes including fluvial, lacustrine, karst, periglacial and coastal processes.

The wide variety of undisturbed environments in the property provides for the continuance of long-ongoing ecological processes, which have resulted in an unusually high proportion of endemic flora and fauna species and a unique diversity of ancient taxa, including some of the world's longest-lived individual and clonal trees.

This extensive property also provides refuge for significant numbers of threatened species, including the world's largest carnivorous marsupials. Spectacular landscapes of the Tasmanian Wilderness include rugged mountain ranges, cloaked in delicate alpine and subalpine flora and scattered with picturesque tarns; expanses of buttongrass moorland; some of the world's tallest flowering forests; and extensive karst systems containing glow-worm displays. From the mountains, wild, tannin-stained rivers flow through cool temperate rainforest, cascading over waterfalls to meet wide, dark harbours, stormy coastlines and offshore islands.

The region also features the world's most dense concentration of Ice Age human occupation sites dating back some 35,000 years in what is thought to be evidence of the most southerly human occupation at that time. Aboriginal people developed unique and specialised technologies to adapt to the extreme cold conditions leaving behind one of the world's longest, richest and best preserved human occupation records from the Ice Age.

**Criterion (iii) – bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation which is living or which has disappeared**

The Tasmanian Wilderness World Heritage Area bears exceptional testimony to a unique Aboriginal society that developed during the last Ice Age and lasted from 35,000 to about 12,000 years ago. During this time Tasmanian Aboriginal people experienced profound changes in the climate and landscape.

In southwest Tasmania Aboriginal people developed a unique cultural tradition based on a specialised stone and bone toolkit that enabled the hunting and processing of a single prey species (Bennett's wallaby) that provided nearly all of their dietary protein and fat. As Bennett's wallabies did not migrate they were 'ecologically tied' to the grassland patches on valley floors, and Tasmanian Aboriginal people moved seasonally between these patches to hunt. Despite changes in the intensity with which Aboriginal people used the property, this highly specialised cultural adaptation is unique because, unlike other hunter-gatherer cultures in cold climates, it was largely unchanged through the climatic fluctuations of the last Ice Age.

As the Ice Age ended and temperatures increased, forests and moorlands replaced the grasslands preventing Aboriginal people from hunting in these upland regions. The Tasmanian Aboriginal people also developed a remarkable new coastal adaptation to the southwest using a mix of marine and terrestrial resources. This is evidenced by an exceptionally rich suite of shell middens and the remains of Aboriginal villages.

**Criterion (v) – be an outstanding example of a traditional human settlement, land-use or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change**

The outstanding preservation of bone and stone tools in the limestone caves of the area, coupled with the abandonment of the upland areas at the end of the Ice Age allows a detailed understanding of the unique adaptation by southwest Tasmanian Aboriginal people to their environment during the last glacial stage.

The climate of southwest Tasmania during the last Ice Age was much colder and drier than today. The environment comprised limited fertile grassland patches in valley floors surrounded by less fertile ground. Tasmanian Aboriginal people developed a remarkably stable adaptation that allowed them to use this environment consistently despite climate fluctuations during the Ice Age. They hunted Bennett's wallaby in the low altitude (<200m asl) grassland patches in the winter switching to hunting the same animal in the higher altitude (400m asl) patches in summer. Tasmanian Aboriginal people probably maintained the grasslands by systematic burning, making hunting predictable and enabling long-term occupation of this apparently inhospitable, inconstant environment.

As the Ice Age ended, beginning about 13,500 years ago, forests and moorlands replaced grasslands. By 12,000 years ago, Aboriginal people could not maintain their Ice Age traditions in this changing environment, providing an outstanding example of the vulnerability of a cultural tradition to irreversible climate change.

**Criterion (vi) – be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance (in conjunction with other criteria)**

The suite of Pleistocene occupation and art sites in the Tasmanian Wilderness provide a remarkable insight into the relationship between the secular and artistic activities of a specialised hunter-gatherer tradition in an Ice Age cultural landscape. Minimal human alteration to this landscape since the end of the Ice Age has ensured exceptional preservation of the outstanding record of this unique cultural tradition.

During the Ice Age, Tasmanian Aboriginal people developed an exceptionally close adaptation to a probably inhospitable landscape comprised of limited fertile grassland patches in valley floors surrounded by less fertile country. Despite climatic fluctuations during the last Ice Age, Tasmanian Aboriginal people used this landscape consistently, hunting Bennett's wallaby in the low altitude grassland patches in winter and in the higher altitude patches in summer. They probably maintained the open grassland patches by systematic burning, enabling long-term occupation of this apparently inhospitable landscape.

Southwest Tasmanian Aboriginal artistic expression during the last Ice Age is only known from the dark recesses of limestone caves. There is very limited evidence of occupation deposits in these caves, indicating a separation between art sites and places where people lived. This is very unusual in an international context where most Pleistocene caves with art contain occupation deposits at the mouth of the cave. Art is found in low altitude areas where Aboriginal people hunted in the winter, as well as at higher altitudes where hunting took place in the summer months.

The occupation and art sites provide a remarkable insight into an unusual relationship between secular and artistic activities in the landscape during the last Ice Age.

**Criterion (vii) – contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance**

The Tasmanian Wilderness is a place of untamed natural phenomena, a place where humans, mostly on foot, can experience the wonder and beauty of nature at its most magnificent. Spectacular and contrasting landscapes of the Tasmanian Wilderness range from rugged mountain ranges scattered with picturesque tarns to wide, dark harbours and stormy coasts; from delicate alpine and subalpine flora and sweeping buttongrass moorlands to towering forests; from long-sheltered karst systems to exposed, windswept plateaux and peaks.

The glaciated mountains of the property are aesthetically distinct and outstanding, with red and gold to dark green tones in their blanket of vegetation, the dark tones of their glacial lakes, their silence in calm weather and their clamour during storms.

The high mountain landscape of the country in the east of the property has universally outstanding natural aesthetic value, related to its diversity of colours and forms, rather than relative relief.

The property contains examples of the world's tallest flowering forests. These eucalypt forests tower above rainforest trees of substantial stature, form awe-inspiring forests of truly exceptional beauty at both a landscape and individual scale.

Lowland areas with their sweeping green-gold buttongrass coat, stark white metamorphic rocks, dark waters, patches of emerald rainforest, terraces and flats and typically dark skies also present a landscape of outstanding contrasts and aesthetic distinction.

Underground, the extensive karst systems of the property have a rich representation of karst features in spectacular caves containing some of the most extensive glow-worm displays in the world.

Wild rivers carve through rainforest or moorland uplands and gorges, plunging over waterfalls into foaming eddies before snaking darkly under the lime green drapes of ancient Huon pines and moss-covered giant tree ferns to the lonely waters of the area's south western shores and towards the lowlands to the north and east. These dystrophic waters combined with southern temperate rainforest make western Tasmania scenically different from most other close analogues in the world and aesthetically outstanding on a global basis.

The south and far south-west coasts of the property are high energy and are globally exceptional in the diverse beauty of landforms that continue to be formed from the remnants of an ancient landmass in the fierceness of the 'Roaring Forties'. All of these processes continue largely in the absence of modern development and associated influences.

**Criterion (viii) – be outstanding examples representing major stages of the earth's history, including the record of life, significant ongoing geological processes in the development of landforms, or significant geomorphic or physiographic features**

The Tasmanian Wilderness is one of the largest temperate wilderness regions in the southern hemisphere, and is a place where natural geomorphic and soil processes continue to operate in a largely unmodified fashion.

The area contains rocks from almost every geological period and geomorphological features from past glacial events. There is also an exceptionally broad range of ongoing geomorphological processes.

Glacial features in the Tasmanian Wilderness are one of the best available global records of temperate glacial processes during the Late Cainozoic Ice Ages. Extra-glacial landforms and deposits are important in complementing and adding to this record. These include fluvial landforms such as glacio-fluvial terraces, periglacial features including slope mantles, coastal terraces and other features reflecting changing sea levels corresponding to changing Late Cainozoic climates and the long Pleistocene lake sedimentary and palynological records in the Darwin Crater.

Periglacial processes continue in alpine areas of the property with a globally unusual lack of influence of permafrost in creating landforms.

Undisturbed fluvial processes are ongoing, including alpine, forested, karst-influenced, tectonic influenced and peatland systems on a variety of bedrock substrates from almost every geological era.

Ongoing lacustrine processes are exemplified by undisturbed lake geomorphic systems and catchments, displaying a wide diversity of origins, processes and types, including meromictic processes, various glacial lake types, flood-plain lakes, karst/sinkhole lakes, dune lakes, oligotrophic and dystrophic types.

The property contains an exceptional expression, extensive scale and very high diversity of ongoing and undisturbed karst processes, including palaeokarst development going back up to 400 million years, hydrothermal karstification and glacio-karstic interactions.

Marine and aeolian processes are ongoing due to exposure to the 'Roaring Forties', along the longest undisturbed stretch of temperate, high energy, embayed rocky and sandy coastline in the world.

Much of the landscape is covered by organic soils, which form under a variety of vegetation types, including rainforest, and are highly distinct in characteristics and genesis from the organic soil assemblages in the northern hemisphere. Some features, such as migrating striped bogs and peat mounds appear to have characteristics that make them globally unique, including that ongoing natural processes remain in largely undisturbed condition.

**Criterion (ix) – be outstanding examples representing significant ongoing ecological and biological processes in the evolution and development of terrestrial, freshwater, coastal and marine ecosystems and communities of plants and animals**

The Tasmanian Wilderness is a showcase of natural ongoing ecological and biological processes, perhaps best displayed by the presence of all stages of vegetation succession.

The property contains significant areas of natural habitat renowned for their plant diversity, species of ancient origins, a high degree of endemism and the presence of many species of natural rarity.

A primary value of the area resides within, and is protected by, its extensive area and essentially wild and largely undisturbed nature.

The wide variety of undisturbed environments in the property provides for the continuance of long-ongoing ecological processes, which have resulted in an unusually high proportion of endemic flora and fauna species and a unique diversity of ancient taxa, particularly those with ancestry dating back to the super continent of Gondwana.

The fauna of the Tasmanian Wilderness is of global significance because it includes an unusually high proportion of endemic species and relict groups of ancient lineage. These include many groups of marsupials and burrowing freshwater crayfish. The property provides refuge for an almost complete set of Tasmania's marsupials, monotremes and placentals, including the world's largest carnivorous marsupials.

There is fossil and pollen evidence to support the presence and evolution of particularly ancient flora genera within Tasmania for more than 60 million years. The property is also renowned internationally for the extreme longevity of some of its flora, the oldest of which has been dated as at least 43,000 years old.

The property's lowland and montane ecosystems best exemplify an ongoing ecological process of reciprocal interaction between vegetation type, environment and fire frequency. This process is universally outstanding in its complexity, involving five floristically and structurally distinct vegetation types: buttongrass moorland, melaleuca / eucalypt scrub, wet eucalypt forest, angiosperm dominated rainforest, and gymnosperm dominated rainforest.

The buttongrass moorlands provide examples of long ongoing ecological processes that have resulted in the development and/or survival of highly distinct communities of plants and animals. These examples are on the margin of freshwater and terrestrial systems, and appear to be either largely confined to, or best expressed on a global basis in the Tasmanian Wilderness. These keystone processes include the development of alkaline or siliceous pans, which provide habitat for many distinct species, the creation of distinct subterranean ecosystems by burrowing crayfish and the hummock-formation that results from the growth of buttongrass.

The bolster heaths of the high country of the Tasmanian Wilderness have a wide diversity of bolster plant species. These heaths are globally outstanding in that there is continual change in the mixture and patterns of species yet the bolster heaths remain remarkably constant and diverse in their overall composition. The bolster heath blocks drainage, ultimately forming ponds which provide habitat for unique aquatic communities.

The Tasmanian Wilderness has freshwater systems that are globally unusual in their degree of darkness and their lack of nutrients.

Together with the distinctive geomorphology, topography and climate, the unusual character of the freshwater systems of the property has resulted in the evolution of highly distinct fauna species, ecological communities and ecosystems. It is notable that even the usually cosmopolitan algae have species endemic to these waterways. Coastal lagoons, perched on hardpans in sand dune systems, have been recognised as particularly distinct. The biotic communities in the one remaining meromictic lake are regarded as a particularly important example of the way that meromixis creates distinct microbial communities.

In the estuarine system of the Bathurst Harbour-Port Davey ria, darkened fresh water sits upon the clear, salt water of the sea. This phenomenon brings close to the surface a diverse community of marine species usually found at depth. It has also led to the evolution of a small suite of species that appear to be confined to this system. Elsewhere in the world, waters are less dystrophic, do not lie above salt water in large sheltered estuaries, and/or have been disrupted by human activity.

**Criterion (x) – contains the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation**

The high degree of endemism to the Tasmanian Wilderness, and Tasmanian endemism, of the rich native biota found within this extensive and largely undisturbed property means that the site is one of the most important in the world for the conservation of biodiversity.

Ecosystems that are almost free of introduced plant and animal species cover most of the property, which contains some of the last remaining pathogen-free habitat for its many endemic and threatened species.

The buttongrass moorlands appear to be the only extensive hummock sedgeland in the world.

The temperate alpine ecosystems of Tasmania, largely within the property, appear to be among the most species-rich in the world, and have a globally outstanding number of biotic communities.

The wet eucalypt forest ecosystem in the property has an outstanding richness of cryptogams compared to wet eucalypt forests elsewhere.

The estuarine system of the Bathurst Harbour-Port Davey ria receives dystrophic waters from the wettest part of Tasmania and in the undisturbed, shallow waters of many parts of this area, the darkened fresh water sits upon the clear, salt water of the sea, which brings to the surface a diverse community of marine species usually found at depth.

The meromictic lake system on the Gordon River is also globally rare and provides habitat for specialised microbial communities.

A large number of threatened species of outstanding universal value from the point of view of science or conservation are found, some exclusively, within the above ecosystems.

Detailed descriptions of values which the State Party considers to contribute to the outstanding universal value of the property, and are managed as such under national legislation, are published and regularly updated on the following website:

http://www.environment.gov.au/heritage/places/world/tasmanian-wilderness/index.html

**Integrity and Authenticity**

In 1982 the property was inscribed with an area of over 7,000 $km^2$ (700,000 hectares) and the area was significantly extended in 1989 to cover 13,800$km^2$ (1.38 million hectares).

A further boundary modification is proposed in response to the World Heritage Committee's Decision WHC 32 COM 7B.41. This proposal incorporates 20,063 hectares in adjacent reserves on the northern and eastern boundary into the property. Pending resolution of the mining lease in the Melaleuca – Cox Bight enclave on the southern coast of the property, the proposal also includes adding this enclave of 3,810 hectares, representing a total extension of (23,873 hectares) and thereby significantly improving the southern boundary. Given the existing large extent of the property, this extension represents a small proportional increase (0.0172%) of the current size. However, the extension to the property is important for increasing the representation of existing values and substantially adding to the integrity of the property.

As acknowledged at the time of nomination, areas of production forest remain in areas adjacent to the property. These production forest areas are managed for multiple uses under the Tasmanian Regional Forest Agreement. A joint UNESCO, IUCN and ICOMOS monitoring mission to the property in 2008 found that the area managed under the TWWHA management plan provides a good representation of well-managed tall *Eucalyptus* forest and there is similar forest outside the property which is also well-managed, but for both conservation and development objectives. The mission concluded that the threats to these forests from production forestry activities are well managed and there is no need for the boundary of the property to be changed to deal with such threats.

Due to its rugged terrain, wild coastlines, and vegetation that is often difficult to penetrate, there is limited vehicular access and infrastructure inside the area and few other industrial, agricultural or modern western influences. There are various visitor access points and facilities, largely on the periphery of the property and linked to walking tracks through the property, and there are some unsealed roads that pre-date inscription and are used and managed in accordance with the zoning scheme under the *Tasmanian Wilderness World Heritage Area Management Plan*. There are only two main through roads in the Tasmanian Wilderness, namely the Lyell Highway (running east - west through the property) and the Lake Highway (running north – south across the far north-eastern part of the property). The main disturbance from modern industrial society to the property's natural processes is from hydroelectric power infrastructure and operation, in particular the Middle Gordon Power Scheme. Both the highway and the power scheme pre-date the property's inscription on the World Heritage List.

The landforms of the original Lake Pedder remain intact, though no longer visible, following flooding resulting from the power scheme. Downstream, along the Gordon River, intensive monitoring and management occurs of the impacts of bank erosion and altered hydrological processes upon geomorphic, lacustrine and ecological processes. Three meromictic lakes on the Gordon River fall within the original inscribed area, however only one, Lake Fidler, retained its meromixis at the time of listing. Lake Fidler has periodically lost its meromixis, and has had to be artificially recharged with saline waters in previous years. However in 2008 the lake experienced a natural saline recharge due to an exceptional coincidence of events brought about by drought and flooding storms.

The property is vulnerable to the consequences of anthropogenic climate change. Other potential threats to the integrity of the property, which are monitored and managed, are inappropriate access and/or use, increase in visitation above the limits of acceptable change, uncontrolled fire, tourism development and the spread of introduced species and pathogens.

The property contains over 40 late Pleistocene cave sites and hundreds of open Aboriginal cultural heritage sites that demonstrate a level of richness, distribution, and variability rarely seen in other comparable contexts. These archaeological deposits are unquestionably the remains of Tasmanian Aboriginal occupation over a 23,000 year period between approximately 35,000 and 12,000 years ago. Authenticity has been established through a rigorous research program over the past 25 years by archaeologists, anthropologists, and the Tasmanian Aboriginal community.

The exceptionally preserved Pleistocene deposits have outstanding integrity due to the deposition of calcium carbonate flowstone (leached from the surrounding limestone) over the top of a number of the cultural deposits since their abandonment 12,000 years ago, leaving them largely undisturbed by development, visitation and/or vandalism. The limestone cave deposits remain largely intact, undisturbed and safe from natural erosion. The bone preservation is excellent due to the high alkalinity of the sedimentary deposits.

These places are extremely important to the Tasmanian Aboriginal community, having exceptional cultural, emotional and spiritual value.

## Protection and Management System

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, such as the World Heritage Convention, the Convention on Biological Diversity and the Ramsar 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. The Act has been tested in court[1] in relation to protection of the values of World Heritage properties.

The property (as well as most of the adjacent reserved area proposed for inclusion in the boundary modification) is also specifically protected and managed under the *Tasmanian Wilderness World Heritage Area Management Plan.*

The first management plan for the property was approved in 1992. This was reviewed and replaced with a more comprehensive management plan in 1999. In 2010 an interim review brought the plan up to date with legislative changes and emerging issues.

The *State of the Tasmanian Wilderness World Heritage Area* report, a comprehensive evaluation of management effectiveness with respect to the property, was completed in 2004. Updated evaluation reports will be completed as part of future management plan reviews, providing a sound basis for adaptive management of the property.

[1] The *Minister for the Environment and Heritage v Queensland Conservation Council Inc [2004]* (Nathan Dam case) and *Booth v Bosworth [2001]* (Flying Fox case).

The Aboriginal cultural heritage values of the property are currently protected/administered by three pieces of legislation:

- *National Parks and Reserves Management Act 2002* ( Tasmanian legislation)
- *Aboriginal Relics Act 1975* (Tasmanian legislation) – under review
- *Environment Protection and Biodiversity Conservation Act 1999* (Australian Government legislation)

The Tasmanian Parks and Wildlife Service is directly responsible for management of a large portion of the land that contains Aboriginal cultural heritage values within the property, along with the Tasmanian Aboriginal Land and Sea Council (TALSC), which has managed a number of small culturally significant land parcels since December 1995.

The *Tasmanian Wilderness World Heritage Area Management Plan* includes a comprehensive chapter on Aboriginal cultural heritage values. A trainee Aboriginal ranger program being undertaken by the Tasmanian Parks and Wildlife Service provides for monitoring of cultural sites and capacity building in the management and conservation of Aboriginal heritage.

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