

# ***Outstanding Universal Value under Significant Threat***

Submission to the AFAC (Cronstedt) Review of the  
Management of Bushfires in the 2018-19 Fire Season  
(Tasmania)

May 2019



## 1. Recommendations

Justifications for the following recommendations appear in the main body of the text (sections 2-4). The Wilderness Society recommends that:

- The Australian and Tasmanian governments significantly bolster fire-fighting capacity in Tasmania, particularly when it comes to first-strike capacity in remote areas. To help achieve this, it should organise multi-stakeholder forums in which a range of fire-fighting strategies and tactics can be explored;
- The Tasmanian Government publish figures and maps that document the entire area burnt in Tasmania from lightning strikes since the year 2000, with a breakdown according to the land category affected (including a line item for the Tasmanian Wilderness World Heritage Area);
- The Tasmanian Government publish figures documenting the types of vegetation impacted in Tasmania from lightning strikes since the year 2000;
- The Tasmanian and Australian governments produce easily accessed updates regarding their responses to recommendations of reviews into the fires of 2016 and 2019;
- The Tasmanian and Australian governments make formal statements that clearly acknowledge the catastrophic threat to the Outstanding Universal Value of the Tasmanian Wilderness posed by wildfires. We also recommend that both governments recognise that the seriousness of this threat has dramatically escalated in recent times due to the impacts of climate change;
- The Tasmanian Government make monitoring of the impact of fire on rainforest, King Billy and pencil pine, deciduous beech, oldgrowth eucalypt forests and alpine heaths a major priority;
- The Tasmanian Government review the operational capacity of the Parks and Wildlife Service with explicit commitments of funds and other resources;
- The Tasmanian Government expeditiously establish a cadre of volunteer remote-area fire-fighters with the requisite characteristics, skills, resources and training. The Australian Government should provide funding to facilitate the establishment of such a body;
- The Tasmanian Government expeditiously implement a program for early detection and rapid attack of bushfires;
- The Tasmanian Government and fire-fighting agencies carry out a wide-ranging review of the 2019 fires, including consideration of whether the recommendations of the 2016 reviews had been adequately implemented. Particular attention should be given to consideration of first-strike capabilities in the wake of a spate of dry-lightning strikes of the sort that occurred on 15 January 2016 and on 15 January 2019;
- The TFS and PWS scrutinise the decision to leave the Gell River fire area on 31 December 2018; their inability to tackle the spate of fires ignited on 15 January 2019; and the reported inability of the PWS to deploy large aerial fire-fighting resources on or around 30 January 2019;
- The PWS investigate, report on and publish assessments of whether and how planned burns and fuel-reduction strategies affected the 2016 and 2019 bushfires;
- The PWS study the Arthur Plains area to determine the cumulative impact of all recent fires (2008, 2013 and 2019) on soils, riparian vegetation and other fire-sensitive attributes, and the ways in which the first fire affected the impacts and behaviour of subsequent fires;
- The public-liaison officers of TFS and PWS alert relevant conservation groups when it becomes clear that fires are threatening attributes of concern (national parks, World Heritage values, stands of ancient vegetation, giant trees etc);
- The particulars of interstate and international assistance be published both in the AFAC review and by the TFS;

- An analysis of the use of large water-bombing aircraft in 2016 and 2019 be published in order to give the public a clearer understanding of the costs, benefits, strengths and weaknesses of using large water-bombing aircraft in fighting wilderness fires.

## 2. General Context

This submission is concerned largely with the impact of fires within the Tasmanian Wilderness World Heritage Area, other reserves and other wilderness areas.

The Wilderness Society would like to express its appreciation for the efforts of all the staff and volunteers of the Tasmanian Fire Service (TFS), Parks and Wildlife Service (PWS) and Sustainable Timber Tasmania (STT) as well as all the interstate staff and volunteers who devoted so much time, energy, commitment and skill to fighting the 2019 spate of wildfires in Tasmania. We appreciate that fire-fighting is stressful, dangerous and complex, particularly over the course of a long campaign, and are very thankful for the work done by firefighters in Tasmania in 2019.

While the Wilderness Society does, in this submission, pose some questions regarding some of the tactics of fire agencies, our main concern is with the general inaction on the part of both the Tasmanian and Australian governments between the major bushfire events.

In 2019, wildfires ignited by dry-lightning strikes burnt nearly 100,000 ha (about 6%) of the Tasmanian Wilderness World Heritage Area. This follows similar outbreaks of uncontrolled fires from lightning in 2008, 2010, 2013 and 2016. Since the year 2000, virtually 100% of the area burnt by uncontrolled fires within the World Heritage property has been ignited by lightning. This compares with a negligible amount in the 30 years prior to 2000 (Pyrke 2013). There appears to be broad agreement on the part of many ecologists that this dramatic transformation of Tasmania's fire regime is the result of climate change.



Figure 1. A stand of Gondwanic vegetation consisting of the palaeoendemic species pencil pine (from the genus *Athrotaxis*, little changed since the Cretaceous) and deciduous beech (Australia's only winter-deciduous tree). If burnt in a severe fire, this vegetation will not regenerate. Photo by Rob Blakers

Much of the vegetation burnt is described by management authorities as fire-adapted and capable of recovery. However, the fires have also affected and threatened types of vegetation that are not adapted to fire. Of critical concern are stands of Gondwanic vegetation, often described as



palaeoendemics, such as Huon pine, deciduous beech, King Billy pine and pencil pine (see Figure 1). This type of vegetation forms a critical component of the Outstanding Universal Value of the Tasmanian Wilderness World Heritage property. If burnt in a severe fire, this type of vegetation will not regenerate.

The 2019 fires have had the following impacts:

- Further incremental loss of ancient stands of Gondwanic vegetation has occurred;
- Some critical stands of Gondwanic palaeoendemic vegetation (such as the King Billy pine on Mt Bobs and Mt Anne) faced the threat of catastrophic damage;
- Important stands of oldgrowth eucalypt forest and giant trees have been seriously impacted;
- Organic soils in some of the property's moorlands have been damaged – in places, the fire appears to have burnt down to bedrock.



Figure 2. Blackened, burnt and dead vegetation on the slopes of Mt Bobs impinges on one of Tasmania's greatest stands of King Billy pine forest. Palaeoendemics such as King Billy pine have persisted since the Cretaceous but if killed by a severe fire will not grow back. Photo by Rob Blakers, March 2019

It is essential to place the 2019 fires into a longer-term context. Approximately 200,000 ha of the property (around 13%) have been burnt in summer wildfires since 2007. This spate of fires raises the following concerns:

- The frequency and significance of fires associated with dry-lightning strikes have escalated dramatically since the year 2000. Virtually all of the area burnt by wildfire within the World Heritage property since 2000 has been caused by dry lightning compared with a tiny proportion in the 30 years before the year 2000 (Pyrke 2013). Scientific commentators have linked this escalation to climate change;
- Significant parts of western Tasmania were burnt as a result of lightning strikes in 2008, 2010, 2013, 2016 and 2019. Over 10% of the World Heritage property has burnt during this period;

- Increasing dryness of vegetation within the property during the bushfire season appears linked to climate change (Press 2016);
- While the majority of the vegetation burnt is fire-adapted, the fires have also posed catastrophic threats to critical stands of ancient trees (including palaeoendemics such as *Athrotaxis* species and Huon pine). Small stands of pencil pine, King Billy pine and Huon pine have been permanently lost. The trend towards large fires burning out of control at the height of summer and in close proximity to irreplaceable ancient vegetation is alarming. A major part of the Outstanding Universal Value of the Tasmanian Wilderness faces catastrophic damage. In 2016, for example, celebrated stands of ancient vegetation, including the stand of pencil pine at Dixons Kingdom in the Walls of Jerusalem, faced catastrophic threat. Destruction of these stands was averted due to a downpour that was not forecast in these areas;
- Government sources frequently claim that damage is minimal because most of the vegetation burnt is 'fire adapted'. They seem to be in denial about the catastrophic threat posed to alpine and Gondwanic vegetation. In addition, it is not desirable even for 'fire-adapted' vegetation to burn at the height of summer, as intense fires threaten the very soils on which much of the vegetation grows. In places, organic soils appear to have burnt down to bedrock. See figure 11;
- This threat to a major component of the property's Outstanding Universal Value appears to be escalating;
- Fire-fighting agencies, including their staff and volunteers, have dedicated major resources, skill and commitment to fighting these fires as they occur. However, the response of governments between fire seasons has been lacking. This has contributed to situations in which fire-fighting agencies have been overwhelmed by the number of fires burning uncontrolled in remote areas;
- Important recommendations arising from inquiries into the fires have not been implemented by government (eg the proposal to develop a remote-area volunteer fire-fighting capacity);
- Government agencies appear to be in denial about the catastrophic threat posed by the fires to critical parts of the property's Outstanding Universal Value. Repeated claims that the fires largely burnt 'fire-adapted vegetation' are beside the point and also ignore the impact that such fires have on organic soils;
- There are big question marks over whether lessons were learnt from the 2016 fires and, in particular, whether recommendations arising from reviews of the 2016 fires had been adequately implemented in the three intervening years.

The Wilderness Society has done its best in this submission to piece together information about the fires and government responses to them from disparate sources from different years. It is not possible to know the total area burnt within the Tasmanian Wilderness since the year 2000 because some of the fires overlapped in extent. To ensure that future discussions about this issue are based on a factual footing, the Wilderness Society recommends that:

- The Tasmanian Government publish figures and maps that document the entire area burnt in Tasmania from lightning strikes since the year 2000, with a breakdown according to the land category affected (including a line item for the Tasmanian Wilderness World Heritage Area);
- The Tasmanian Government publish figures documenting the types of vegetation impacted in Tasmania from lightning strikes since the year 2000;
- The Tasmanian and Australian governments produce easily accessed updates regarding their responses to recommendations of reviews into the fires.



### 3. Reviews and recommendations arising from the wildfires of 2016



Figure 3. Damage from the 2019 Riveaux Road fire on the upper slopes of the Crest Range, within the Tasmanian Wilderness. Alpine vegetation and rainforest have been destroyed, with Gondwanic species permanently lost. Photo Rob Blakers, March 2019.

There were at least three formal reviews of the fires that occurred over the summer and autumn of 2016 – the AFAC review (AFAC 2016), the review by Tony Press (Press 2016) and the Senate inquiry (Australia, Po 2016). These reviews led to a lengthy set of recommendations. The Tasmanian Government has responded specifically to the recommendations of the Press report and, in part, to those of the 2016 AFAC report. These responses were outlined in a Tasmanian Government publication of December 2017 - *Tasmanian Government's response – TWWHA Bushfire and Climate Change Research Project* (Tasmania 2017). The Australian Government published its response to the recommendations of the Senate inquiry (Australia 2017a). The governments' responses to the recommendations from the various inquiries are discussed below. Generally, these responses have emphasised what the governments were already doing; they lacked urgency and gave the impression that a business-as-usual approach would suffice. This is totally inadequate and reflects a failure to recognise the seriousness of the escalating threat to unique and ancient life-forms.

#### Recognition of the significance of the threat

Recommendation 1 of the Senate called on the Australian Government to acknowledge that fire conditions have worsened in south-East Australia, increasing the threat to the Tasmanian Wilderness. The Australian Government responded with the following statement: *The Australian Government recognises the potential impacts of climate change, including the risk of fire, to the natural and cultural values in the Tasmanian Wilderness World Heritage Area (Tasmanian Wilderness).* (Australia 2017a) This statement, while welcome, is rather bland and generic. The catastrophic threat posed by wildfires to Gondwanic vegetation is not mentioned.

Australia was also called upon to report annually about bushfires to the World Heritage Committee. Although the government did report on the 2016 fires in its most recent report to the Committee (Australia 2017b), the impacts and threats posed by fires were significantly downplayed. The Government emphasised the fact that only small areas of Gondwanic vegetation within the Tasmanian Wilderness actually burnt. The catastrophic threat to such vegetation in key parts of the Tasmanian Wilderness, such as the pencil pines in the Walls of Jerusalem National Park, was not mentioned. Similarly, the Tasmanian Government appears not to have honestly acknowledged the seriousness of the threat to these ancient life forms, as indicated in its responses to the recommendations (below).

The Wilderness Society therefore recommends that both the Tasmanian and Australian governments make formal statements that clearly acknowledge the catastrophic threat to the Outstanding Universal Value of the Tasmanian Wilderness posed by wildfires. We also recommend that both governments recognise that the seriousness of this threat has escalated in recent times due to the impacts of climate change.

#### Monitoring the consequences of fire

A recommendation of the Press report that the Tasmanian Government has supported only in part is Recommendation 4 – *Monitoring the consequences of fire*. The Government's response focusses on buttongrass moorlands. While this is important, it misses the major point. The critical consequence of wildfires that has been raised repeatedly by the Tasmanian community concerns the ancient Gondwanic vegetation. It concerns rainforest, King Billy and pencil pine, deciduous beech, oldgrowth eucalypt forests and alpine heaths. Not to monitor the consequences of fire on these vegetation types is an unforgivable failing. The Wilderness Society therefore recommends that the Tasmanian Government make monitoring of the impact of fire on concerns rainforest, King Billy and pencil pine, deciduous beech, oldgrowth eucalypt forests and alpine heaths a major priority.

Recommendation 5 of the Press report emphasised the importance of relict Gondwanan species: *This research should focus, in the first instance, on those values that are expected to be most vulnerable in the short-term (for example, relict Gondwanan flora)*. The Government said that its research program was identified in Attachment 1 to its response – however, Attachment 1 contained no explicit reference to Gondwanan flora. Recommendation 5 did not appear to be mentioned in the table of research responses in Attachment 1. Although fire-sensitive vegetation was mentioned in other contexts, the Wilderness Society believes this is not sufficient and re-emphasises the importance of the recommendation in the above paragraph.

#### Review of the operational capacity of PWS

Another recommendation not fully adopted by the Tasmanian Government is Press's Recommendation 10, for the PWS to review its operational capacity. The Government has rolled this recommendation into a review of capability across the entire state (Tasmania 2017, p.29), thereby losing the recommendation's specific purpose. The Government says that its budget allocation to bushfire management will 'contribute to PWS undertaking this work'. This is not an explicit or clearly measurable commitment. The Wilderness Society therefore recommends that the Tasmanian Government review the operational capacity of the Parks and Wildlife Service with explicit commitments of funds and other resources.

#### Remote-area volunteer firefighters

The development or consideration of a team of volunteer remote-area firefighters was put forward in recommendation 12 (AFAC 2016), recommendation 3 (Australia 2016) and recommendation 11 (Press 2016). If remote-area fire-fighting capacity had been enhanced in this way, it is possible that some of the damage to Gondwanic vegetation in 2019 could have been avoided.



However, the Australian Government explicitly stated that it 'does not support this recommendation, noting that bushfire response is a matter for each state and territory' (Australia 2017a).

In December 2017, the Tasmanian Government said that it would 'support' a 'review' of operational capacity that would 'consider' the use of volunteers. Coming a year after the Press report and nearly two years after the 2016 wildfires, this was an insipid response. The Wilderness Society therefore recommends that the Tasmanian Government expeditiously establish a cadre of volunteer remote-area fire-fighters with the requisite characteristics, skills, resources and training. It also recommends that the Australian Government provide funding to facilitate the establishment of such a body.

#### Early detection and rapid attack

The Press report's Recommendation 12 on fire-suppression techniques and methods specifically emphasised the value of early detection and rapid attack. While notionally supporting this recommendation, the Tasmanian Government's response did not specifically refer to early detection and rapid attack and was couched in such bureaucratic terms that the urgency was lost. The Wilderness Society notes that the Government was criticised by the United Firefighters Union (UFU) in January 2019 for not having properly implementing the 'rapid attack' program (Baker 2019a). The Wilderness Society therefore recommends that the Tasmanian Government expeditiously implement a program for early detection and rapid attack of bushfires.

#### **4. CRONSTEDT REVIEW OF THE MANAGEMENT OF BUSHFIRES DURING THE 2018-19 FIRE SEASON**

##### **TERMS OF REFERENCE**

1. The causes, chronology and response of the 2018-19 bushfires in Tasmania on and following 28 December 2018.
2. The effectiveness of community messaging and warnings.
3. The timeliness and effectiveness of the fire response and management strategy, including accommodating the priorities of life, property, forest asset values, environmental and cultural values and timber production by Tasmanian fire agencies.
4. The impact and effectiveness of fuel management programs in the fire affected areas on the management and containment of the fires.
5. The effectiveness of state, regional and local command, control and co-ordination arrangements, to include agency interoperability and the co-ordination of emergency management activities with government and NGOs.
6. The effectiveness of the arrangements in place for requesting and managing interstate and international assistance and the significance of interstate and international assistance in managing the fires.
7. The use and effectiveness of aviation firefighting resources, in particular, the suitability of aircraft types for the protection of environmental values, forest assets and the rural/urban interface in Tasmania. (Note: this should also focus on the potential effectiveness of Winch capable aircraft as a first response).
8. Any other matter that the Review team identifies in the course of its activities as warranting consideration.
9. The Review team will provide a means for members of the public and other interested parties to make submissions to the Review and will have regard to any submissions received in compiling its report.

#### 4.1. The causes, chronology and response of the 2018-19 bushfires in Tasmania on and following 28 December 2018

In late 2018 and early 2019, numerous lightning strikes ignited fires across large tracts of western Tasmania.

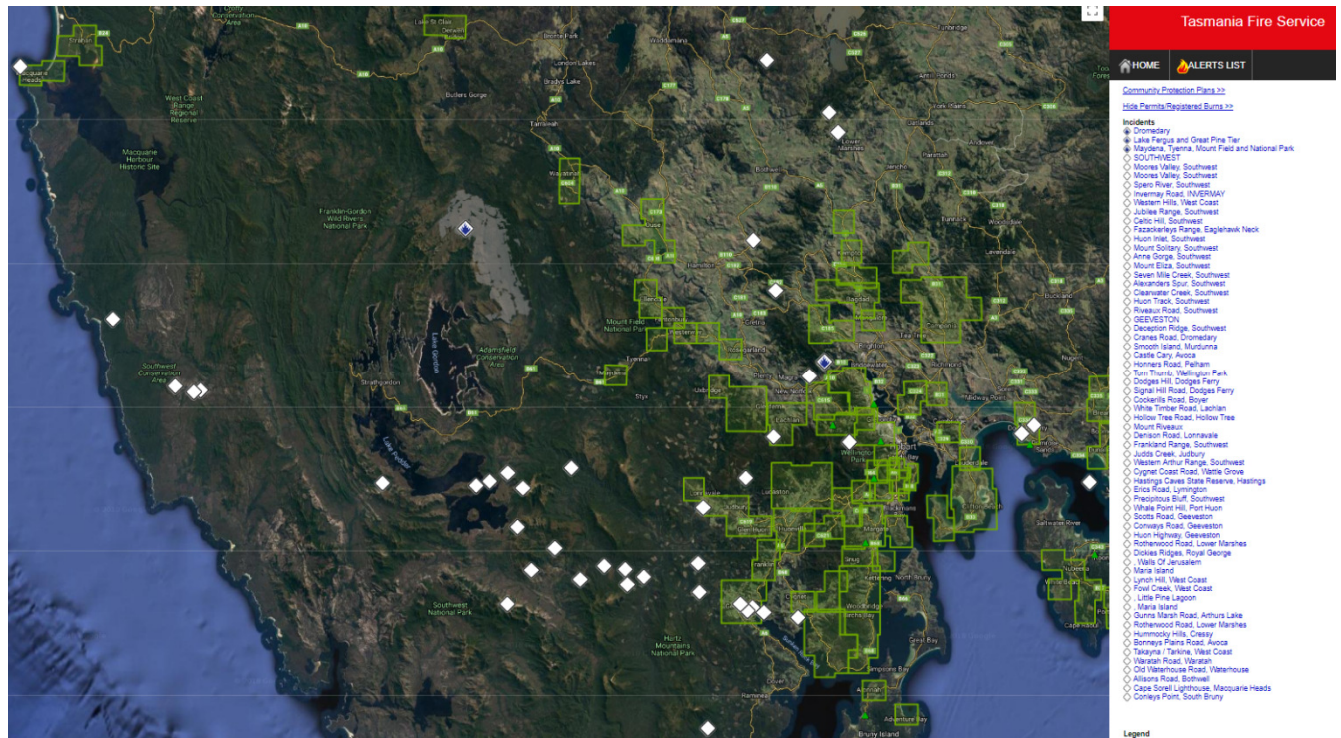


Figure 4. The white diamonds show ignition points. The vast majority are from dry-lightning strikes on 15 January 2019. The fires in the prominent east-west band shown in the lower part of the image subsequently merged to form the giant Riveaux Road fire, which burnt more than 64,000 ha (see Map 2), including large tracts within the World Heritage property.

The fires were not extinguished immediately as fire-fighting agencies were overwhelmed. As a result, many small fires merged to form large, uncontrolled blazes. They eventually burnt approximately 94,000 ha (around 6%) of the Tasmanian Wilderness WHA (PWS 2019), as illustrated in Figure 5. By mid-February, the fires had killed beautiful alpine vegetation on the Denison Range, important tracts of oldgrowth forest, (including oldgrowth *Eucalyptus regnans*, the tallest flowering plant on Earth), Huon pine and other fire-intolerant species. Table 1 below provides detail on these key vegetation types.

Table 1. Fire-sensitive vegetation within mapped fire boundaries, 15/2/2019

Fire-sensitive vegetation	Fire sensitivity	World Heritage Area (ha)	All reserves (ha)	Private land (ha)	Forestry land (ha)	Total (ha)	% of total
Brookers gum wet forest	H	48.7	229.3	0.3	25.9	255.5	3.43
Cushion-plant moorland	VH	4	4	0	0	4	0.13
Huon pine	E	59.5	223.5	3.7	21.5	248.7	1.7
King Billy Pine rainforest	E	4.8	4.8	0	0	4.8	0.03
King Billy Pine subalpine scrub	E	7.1	7.1	0	0	7.1	0.11
Pencil Pine open woodland	E	0.5	0.5	0	0	0.5	<0.01
Pencil Pine rainforest	E	0.8	1.0	0	0	1.0	<0.01
Rainforest fernland	H	4.4	8.4	0.1	0	8.5	0.5
Oldgrowth forest		14,546.4	16,837	2290.6	2998.6	22,126.2	1.83

Source: Tasmanian Government, briefing with PWS and TFS on 19 February 2019



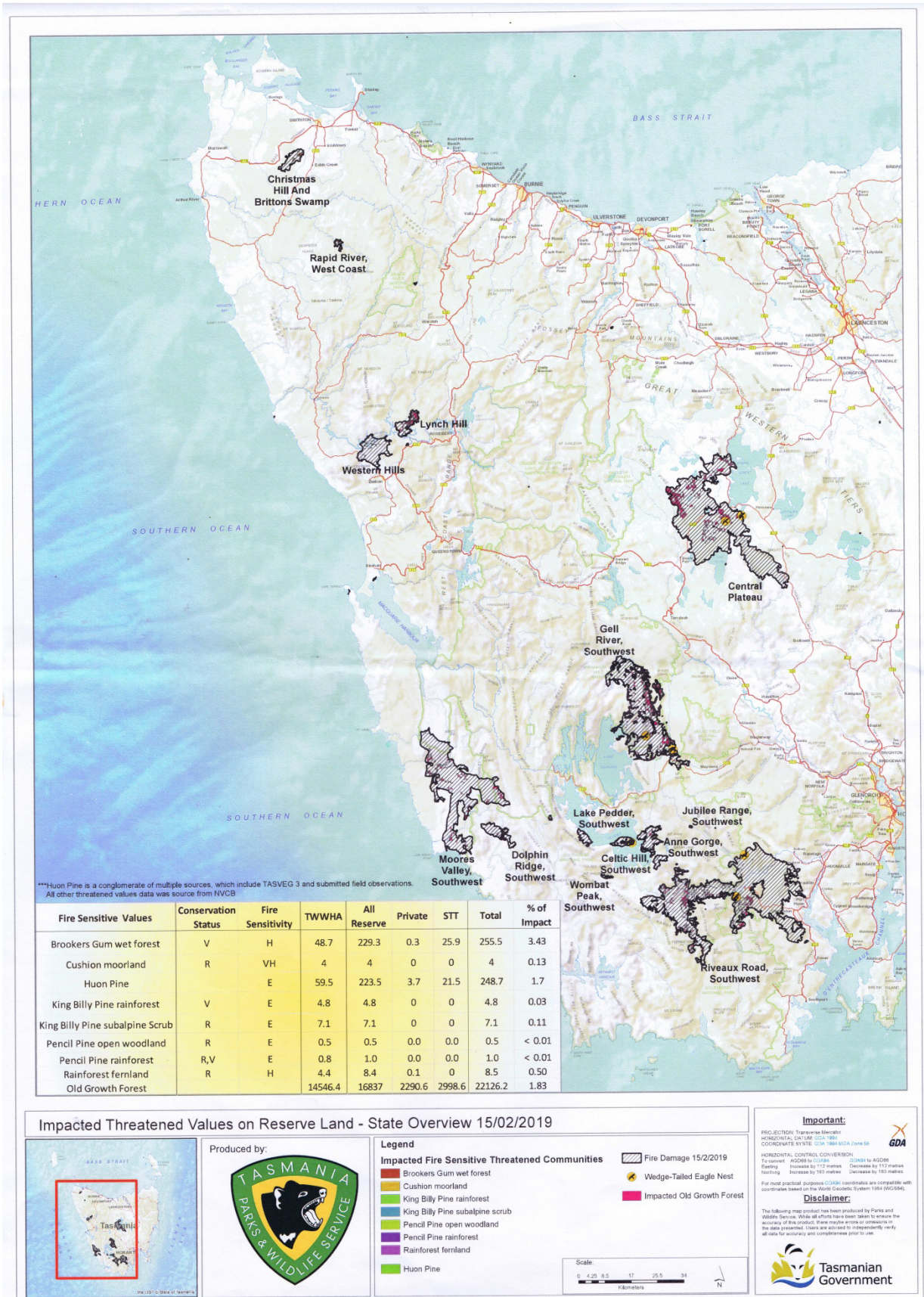


Figure 5. Fires in western Tasmania, February 2019. The fires eventually burnt almost 100,000 ha (6%) of the World Heritage property.



The statistics in Table 1 are preliminary. The fires were not yet contained; further outbreaks occurred. Further analysis of land within the mapped fire boundaries was necessary to determine the severity of the damage – within these boundaries there will be patches that did not burn at all and other patches that incinerated totally.

The above statistics show that there was incremental loss of attributes that constitute part of the Outstanding Universal Value of the Tasmanian Wilderness. This follows similar incremental loss from wildfires in 2008, 2010, 2013 and 2016. In 2016, for example, 19,800 ha of the World Heritage property were burnt (Australia 2017b).

**Of greater concern, however, is the fact that, in both 2016 and 2019, Tasmania's most important stands on Gondwanic vegetation faced catastrophic loss. Fires raged uncontrolled throughout the landscape, frequently upwind of critical stands of rainforest, oldgrowth eucalypt forest, Huon pine, deciduous beech, King Billy pine and pencil pine. If there had been a spate of days with high winds and temperatures above 35 degrees then ancient life forms on Mt Anne, the Du Cane Range, Mt Bobs and in the Walls of Jerusalem would have been permanently obliterated.**

Examples of the fire mapping carried out by the Tasmanian Parks and Wildlife Service (PWS) within the World Heritage property are shown in Maps 1 and 2. The Gell River fire shown in Figure 7 occurred almost 100% within the World Heritage property and clearly burnt significant tracts of oldgrowth forest. Some of this consists of *Eucalyptus regnans*, a heavily exploited forest-type. While there are large tracts of post-logging silvicultural regrowth of this species, few stands of **oldgrowth** *E. regnans* remain and the stands shown as impacted by the fire in the north-east of Figure 7 constitute some of the finest stands of oldgrowth *E. regnans* left on Earth. The fire shown in Figure 7 also killed alpine vegetation on the Denison Range, impacting on the environs of Lake Rhona, which featured on the cover of the 1989 nomination form for the proposed extension of the Tasmanian Wilderness.



Figure 6. Plume of smoke from the Gell River fire within the World Heritage property, 4 January 2019. The smoke appears to have formed pyrocumulus clouds a short distance downwind of the fires.



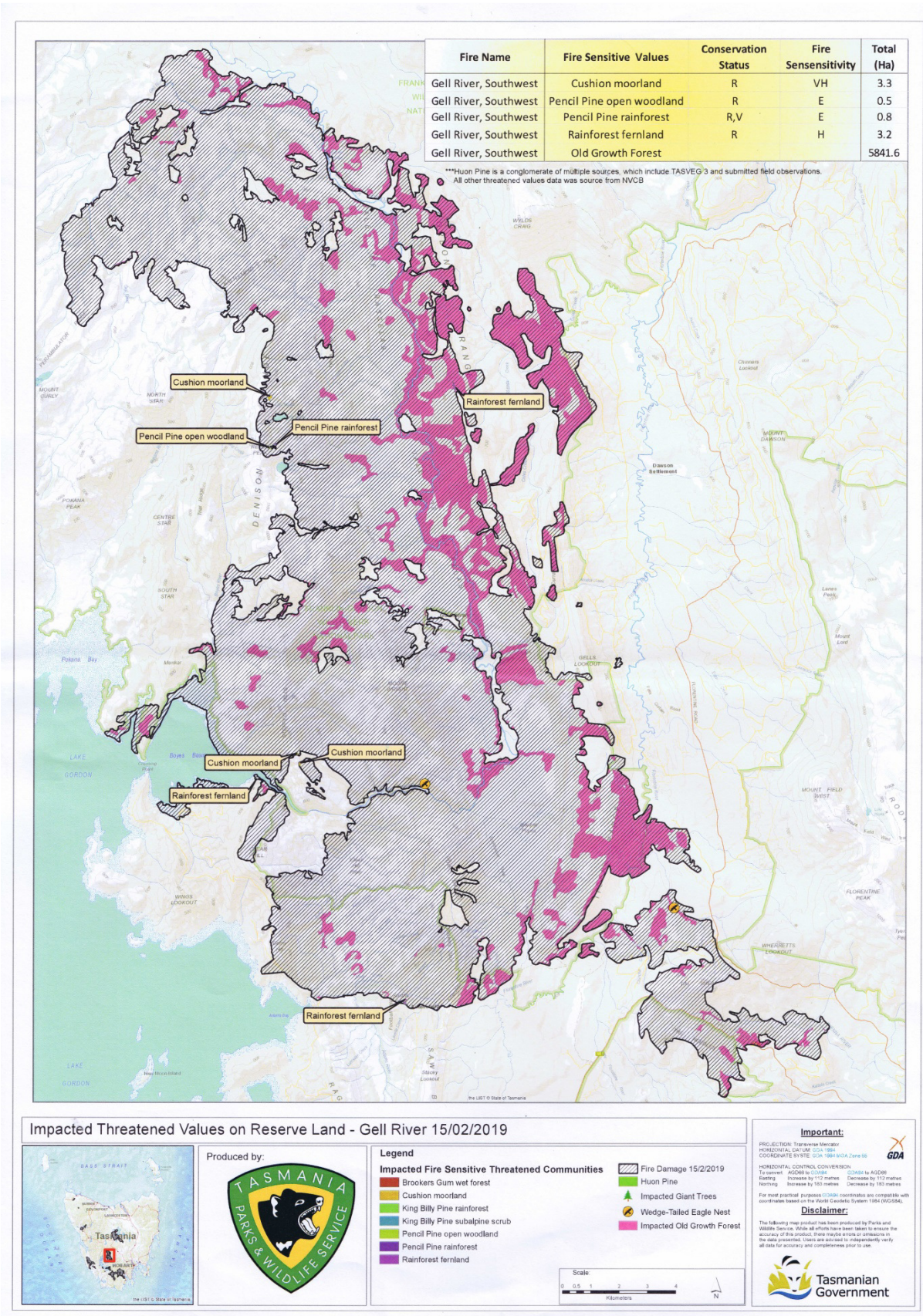


Figure 7. The Gell River fire, which destroyed sensitive alpine and Gondwanic vegetation on the Denison Range, within the World Heritage property.



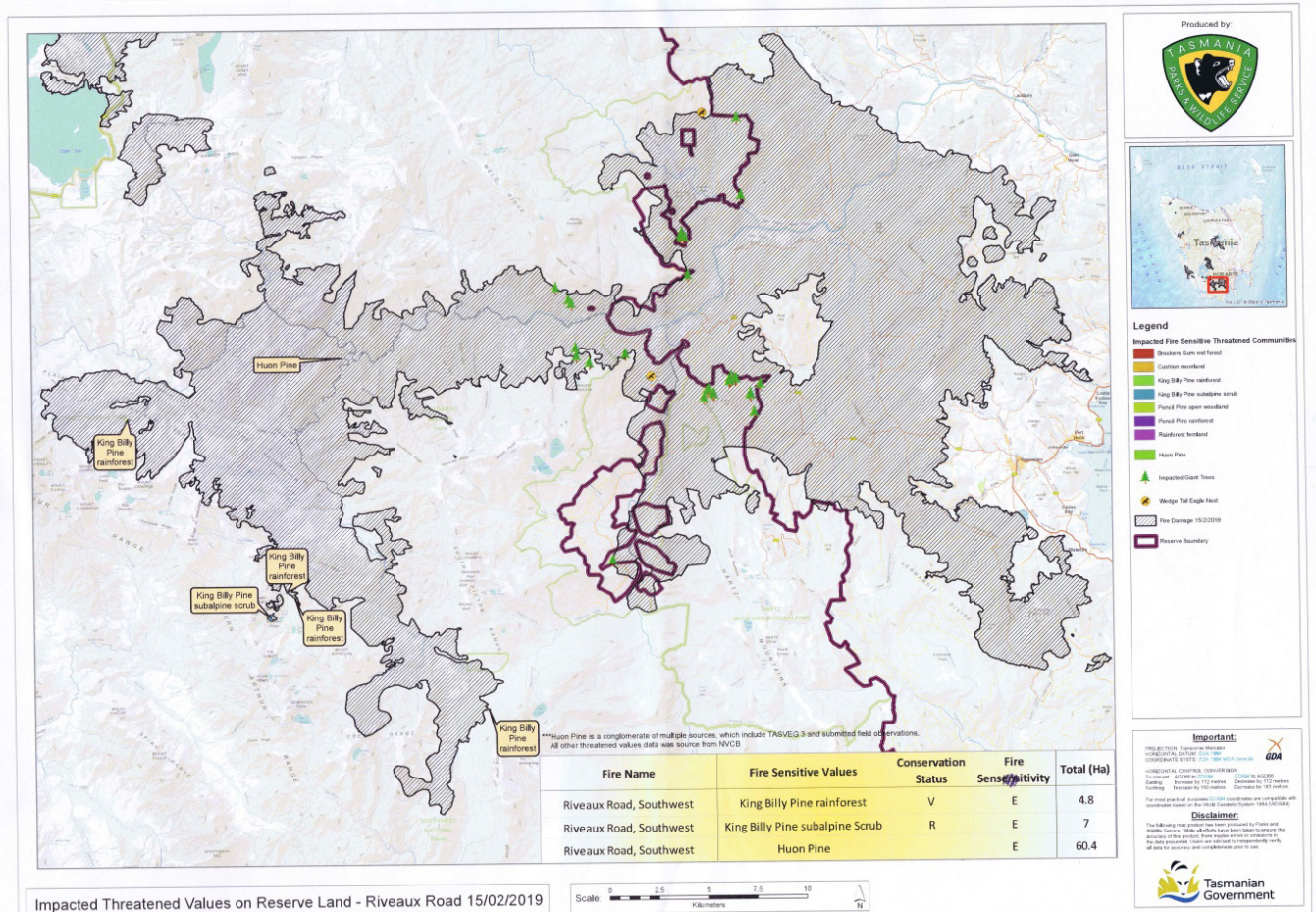


Figure 8. The 64,000-ha Riveaux Road fire. The World Heritage property is to the west of the main purple line (the eastern boundary of the Tasmanian Wilderness). Other purple lines indicate enclaves of non-WH land within the property. Note the important stands of vegetation, such as Huon pine, King Billy pine and giant trees impacted by the fire.

Figure 8 shows the huge Riveaux Road fire complex as well some adjacent smaller fires within the World Heritage property. For some reason, this map does not show the area of impacted oldgrowth forest, though this is understood to be very significant. It does indicate the threat and probable damage caused by the fire to listed 'giant trees' (trees more than 85 metres in height or more than 280 cubic metres in volume) and to fire-sensitive palaeoendemics such as King Billy pine and Huon pine. The World Heritage boundary and enclaves are shown in a dark purple colour (the property is to the west of the main line).

Some of the impacts of this huge fire are shown in figures 2, 3, 9, 10, 11 and 13. Given the consequences of the 2016 and 2019 fires, the Wilderness Society recommends that the Tasmanian Government and fire-fighting agencies should carry out a wide-ranging review of the 2019 fires, including consideration of whether the recommendations of the 2016 reviews had been adequately implemented. Particular attention should be given to consideration of first-strike capabilities in the wake of a spate of dry-lightning strikes of the sort that occurred on 15 January 2016 and on 15 January 2019.





Figure 9. Smoke from one of the fires that merged to form the massive Riveaux Road fire. Here it burns out of control near Federation Peak, one of the property's prime destinations for adventurers. The fire threatened irreplaceable alpine vegetation, including ancient life forms such as *Athrotaxis*. Photo by Mark Holdsworth



Figure 10. Fires burnt highland rainforest country, including here, in the Eastern Arthur Range near Federation Peak, one of the property's most famous venues for remote-area trekking. Burnt areas can also be seen on the Crest Range to the left in the background. Photo Grant Dixon, March 2019.





Figure 11. Terrain in the upper Huon catchment that burnt severely in January and February 2019. The fire has clearly burnt the organic soils, exposing the mineral substrates. Forest along creeklines has largely been killed. The Eastern (left) and Western (centre and right) Arthur Ranges are in the background. Photo Rob Blakers, March 2019.

#### **4.2. The effectiveness of community messaging and warnings**

The Wilderness Society believes that many of the public statements coming from government sources downplayed the seriousness of the threat posed by the fires to attributes of World Heritage quality, particularly the ancient vegetation.

Government sources frequently claimed that damage to natural values was minimal because most of the vegetation burnt is ‘fire adapted’. They seem to be in denial about the catastrophic threat posed to alpine and Gondwanic vegetation. In addition, it is not desirable even for ‘fire-adapted’ vegetation to burn at the height of summer, as intense fires threaten the very soils on which much of the vegetation grows. In places, organic soils appear to have burnt down to bedrock. See Figure 11, for example.

#### **4.3. The timeliness and effectiveness of the fire response and management strategy, including accommodating the priorities of life, property, forest asset values, environmental and cultural values and timber production by Tasmanian fire agencies**

##### Gell River fire

The decision by PWS firefighters to leave the Gell River fire on 30 December 2018 requires questioning and analysis. Briefings to TWS and other NGOs by government (15 January and 19 February) indicated that:

- The Gell River fire was ignited by lightning on the evening of 27 December 2018;
- In response, PWS deployed spotters on 28 December;
- Fire-fighters were deployed by late on 28 December (a timely response);

- On 30 December, firefighters dealt with numerous hot spots;
- On 31 December, the fire area was vacated (though the IMT was still in place in Strathgordon), apparently in the belief that further efforts would have no major effect. Later that day, the fire picked up again, propelled by increased winds, and fire-fighting teams were back;
- By 1 January 2019, the fire was totally out of control and by 2 January, it was large enough to prompt evacuation of bushwalkers from nearby destinations such as Lake Rhona;
- On 4 January, the smoke from the Gell River fire darkened the skies over Hobart. This was a day of severe fire danger with high temperatures and hot northerly winds that propelled the fire through the World Heritage Area into forests along its eastern fringe;
- The fire subsequently burnt significant areas of forest, including silvicultural regeneration and plantations to the east of the World Heritage boundary. At times, the media reported the fire as a danger to townships such as Maydena in the Tyenna valley.

The fire eventually burnt over 35,000 ha, including irreplaceable high-altitude vegetation on the Denison Range. On 15 January 2019, PWS confirmed in a briefing that King Billy pine at Crooked Lake in the Denison Range had burnt but that further analysis was required to determine the full extent of the damage.

The decision to leave this fire on 31 December 2018 was defended in the briefing on 15 January 2019. Government representatives said that the fire area was already over 1000 ha and the perimeter over 27 km when the decision was made, and that continued dumping of water may not have been an effective use of resources. However, given the subsequent impacts of the fire, TWS recommends this decision should be scrutinised.

#### Riveaux Road Fire and other south-west complexes of fire

On 15 January 2019, lightning strikes ignited a spate of fires throughout Tasmania, from the takayna / Tarkine in the far north-west (eg Fowls Creek), to the Central Plateau (Great Pine Tier), to the Douglas Apsley National Park and Maria Island on the east coast, to the Southwest National Park. It appears that many of these fires were not subject to any fire-suppression attempts (including the Moores Valley, Wanderer River, Spero River, Alexanders Spur, Clearwater Creek, Seven Mile Creek and the Huon Track fires). Many of these fires later amalgamated to form massive blazes, including the huge Riveaux Road fire that not only burnt large tracts of wilderness but also burnt plantations and settled areas in the Huon valley.

Given the number, the spread and the remoteness of the ignitions of 15 January, it is understandable that fire agencies were overwhelmed and that certain fires were left to burn. However, some of the public statements made by fire agencies identify situations that raise concern:

*Parks and Wildlife Service general manager Jason Jacobi said on Tuesday that the agency's request for large aerial craft to drop retardant in threatened areas had "[proven] to be a challenge" because resources were so stretched.*

(Baker 2019b)

The apparent inability of the PWS to deploy large aircraft to tackle fires that were directly threatening stands of ancient vegetation on Mt Anne and Mt Bobs is a serious problem that requires analysis and explanation. Rectifying it could save critical areas of Tasmania's wilderness in future fires.

TFS Fire Chief, Chris Arnol: *We did leave some fires that weren't going to do any harm ... we just left them because they were burning on the West Coast in button grass.* (Paynter 2019)



Yet the West Coast complex of fires at Moores Valley appears to have burnt stands of Huon pine and rainforest (see Figure 12). In other words, there was significant harm done to the natural environment by the fire in this area. The fire also burnt in the vicinity of large tracts of rainforest. TWS believes that analysis of the impacts of fires such as this on organic soils should be carried out.

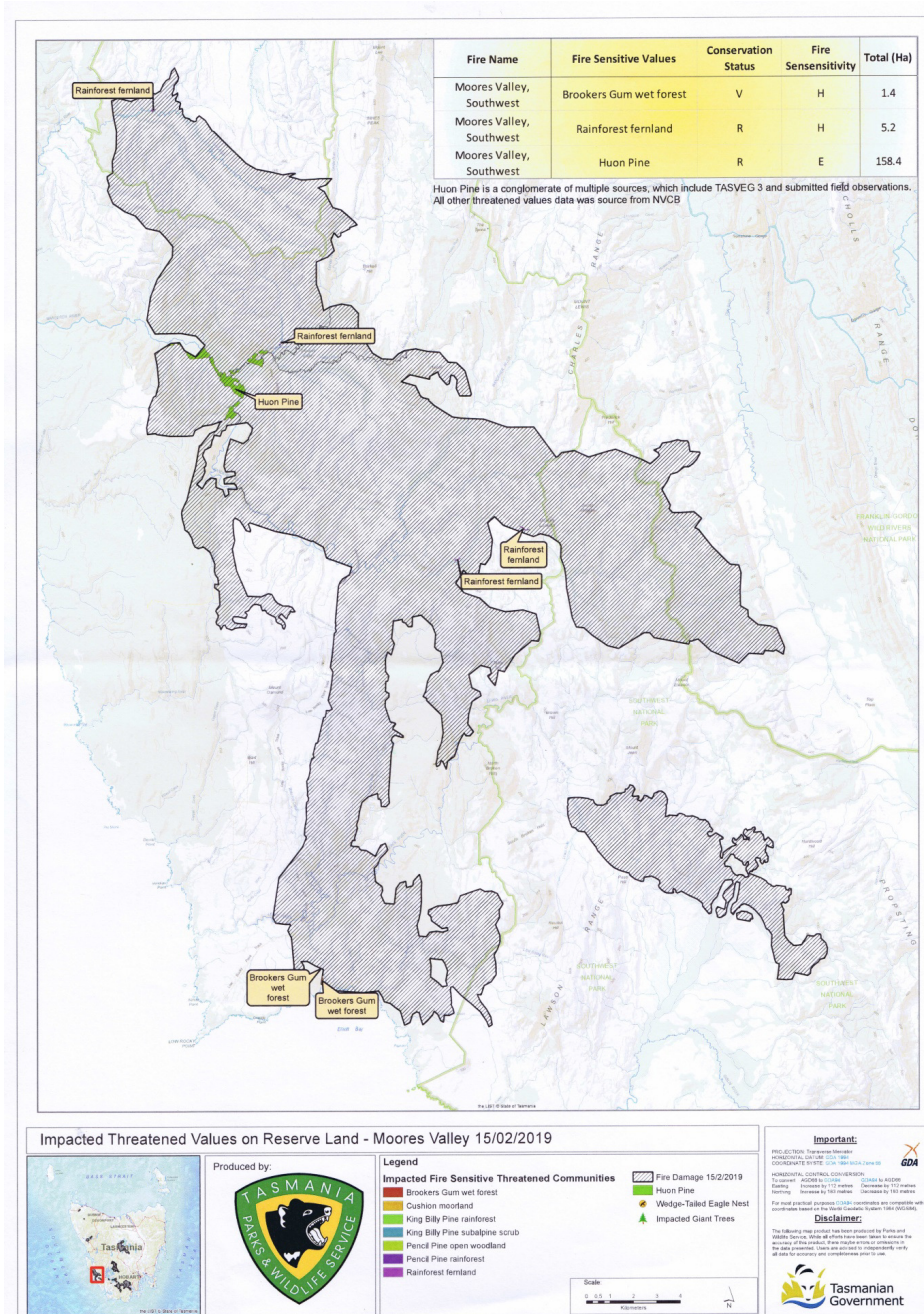


Figure 12. PWS map indicating loss of Huon pine and other important wet-forest vegetation as a result of the Moores Valley complex of fires that were allowed to burn because they 'weren't going to do any harm'.

The above statements constitute a set of mixed messages from the fire-fighting agencies. On the one hand, there is an assertion that the situation was in hand and that fires that were left to burn were having no serious impact. On the other hand, it is clear that Tasmania's fire-fighting agencies were overwhelmed by the scale and speed of the fires generated by the 15 January ignitions.

#### **4.4. The impact and effectiveness of fuel management programs in the fire affected areas on the management and containment of the fires**

The Wilderness Society supports well conducted fuel-reduction burns in appropriate types of vegetation (such as buttongrass and woodlands). They are an important tool in protecting human life and property in settled areas as well as fire-sensitive stands of ancient vegetation in wilderness areas. It is not known whether, or to what extent, the fuel-management programs of the PWS mitigated the behaviour of the summer bushfires in 2019. It is therefore recommended that the PWS investigate, report on and publish assessments of whether and how planned burns and fuel-reduction strategies affected the 2019 bushfires.

The Wilderness Society notes that certain parts of the TWWHA appear to have burnt intensely up to three times in the last 12 years – for example, parts of the Arthur Plains. If one regards the first of these fires as a de facto hazard-reduction burn then it would be instructive to determine the extent to which it ameliorated the behaviour and impacts of subsequent fires. It is therefore recommended that PWS study this area to determine:

- The extent of damage from all the fires on soils, riparian vegetation and other fire-sensitive attributes;
- The ways in which the first fire affected the impacts and behaviour of subsequent fires.

The results of any such study should be published.

#### **4.5. The effectiveness of state, regional and local command, control and co-ordination arrangements, to include agency interoperability and the co-ordination of emergency management activities with government and NGOs**

The Wilderness Society appreciates the briefings given by the TFS and PWS from early 2016 through to 2019. In January 2019, specific questions about the impacts of the Gell River fire were addressed by a PWS employee who contacted Wilderness Society personnel directly. This was greatly appreciated, as were formal government briefings provided on 15 January and 19 February 2019.

However, we note that, both in 2016 and 2019, the group briefings we attended during the firefighting operations were initiated due to requests from the Tasmanian Greens, rather than as a result of government initiative. The Wilderness Society is not aware of attempts to engage us in 'emergency management activities' arising directly from the services concerned.

The Wilderness Society therefore recommends that in future, the public-liaison officers of TFS and PWS alert relevant conservation groups when it becomes clear that fires are threatening attributes of concern (national parks, World Heritage values, stands of ancient vegetation, giant trees etc).

At one of the post-fire briefings late in 2016, it was suggested that a representative of a conservation NGO such as the Wilderness Society might be invited as an observer to an IMT headquarters during an operation in order to enhance NGOs' understanding of the way in which fire-fighting operations are carried out and the challenges faced by the relevant agencies. TWS expressed its support for this suggestion and hopes that it can be progressed in the future.



#### **4.6. The effectiveness of the arrangements in place for requesting and managing interstate and international assistance and the significance of interstate and international assistance in managing the fires**

According to the Hobart Mercury (Paynter 2019), assistance from outside Tasmania was essential to fight the fires:

*TASMANIAN firefighters would not have been able to fight the summer's multiple bushfires at the same time without the help of foreign crews, the state's top firefighter has revealed. In an exclusive interview with the Mercury, Tasmania Fire Service chief officer Chris Arnol said interstate and international assistance allowed them to allocate resources to every priority asset that needed protecting, whether infrastructure or the natural environment. The first interstate resources, 12 remote area firefighters and two paramedics from the New South Wales Rural Fire Service, arrived in Tasmania on January 10, with final interstate crews returning home in the last week of March. Across the summer more than 1000 personnel from NSW, ACT, Queensland, WA, South Australia, Victoria and New Zealand were deployed to help local teams.*

*Mr Arnol said the TFS was well-resourced across the summer in terms of tanker-based urban firefighting, but was "maxed out" on remote area specialists and incident management teams. "The remote area firefighting is the one where we ran out of capacity," he said. "We predicted that, we knew that was coming. We were able to get everything, all [interstate and international] resource requests were filled until about two months later when Victoria and New South Wales got busy." When asked what would have happened without this help, the fire chief said: "we wouldn't have been able to tackle them all simultaneously like we have, we would have had to just prioritise them." (Mercury, 5 April 2019)*

Earlier in the season, members of a NSW remote area fire-fighting team (RAFT) posted photographs on Facebook documenting their efforts fighting the Gell River fire.

Given the essential nature of interstate and international assistance during fire emergencies of the type experienced in Tasmania in 2016 and 2019, it is important that the particulars of this assistance be documented. The Wilderness Society recommends that the particulars of interstate and international assistance be published both in the AFAC review and by the TFS.

#### **4.7. The use and effectiveness of aviation firefighting resources, in particular, the suitability of aircraft types for the protection of environmental values, forest assets and the rural/urban interface in Tasmania. (Note: this should also focus on the potential effectiveness of Winch capable aircraft as a first response).**

Because fires in national parks often occur in remote and rugged terrain, the use of aircraft is essential. Aircraft can be deployed for reconnaissance, direct fire-fighting (ie water bombing) or to transport remote-area personnel. The Wilderness Society understands that the use of aircraft is complex and expensive, requiring expert coordination. We also understand that there are significant additional constraints imposed on the use of aircraft by weather and terrain.

When ancient fire-sensitive vegetation is threatened by fire, the use of aircraft often appears necessary due to the urgency of the situation and the ruggedness of the terrain. The Wilderness Society believes that all reasonable efforts should be made to combat such fires. If such operations involve significant additional expense, then the Australian Government should make those funds available. It is the Australian Government's responsibility under the World Heritage Convention to

ensure that attributes that contribute to the Outstanding Universal Value of the Tasmanian Wilderness are protected.

We note that AFAC requested analysis of the effectiveness of the use of aerial resources in 2016:

*5.7.21 A good example [of the desirability of reporting on outcomes] in the context of the 2016 Tasmanian fires is the use of Large Air Tankers (LATs) and the Very Large Air Tanker (VLAT) for dropping retardant or water. The LATs and the VLAT can be effective so long as they are being used appropriately. Their optimal use is in laying lines of retardant to prevent or slow fire spread in a particular direction, or to act as a control line for firefighters on the ground to work off. But they are expensive resources to utilise, costing tens of thousands of dollars per drop and so we think that it is important to be able to access information, when they are used, about whether it worked or not. We are unclear how much information of that sort was actually gathered in the course of the 2016 fires – although we know that it was asked for as a condition of allowing these resources to be deployed in the wilderness area – and further investigation into this by the fire agencies might be sensible.*

The Wilderness Society recommends that an analysis of the use of large water-bombing aircraft in 2016 and 2019 be published in order to give the public a clearer understanding of the costs, benefits, strengths and weaknesses of using large water-bombing aircraft in fighting wilderness fires.



Figure 13. Parts of what became the giant Riveaux Road fire burnt tall-eucalypt forest and rainforest across a wide tract of the Huon valley. Photo Grant Dixon, March 2019

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