



# NATURE RESERVES PRESERVATION GROUP

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**Subject: Submission in support of listing 'Fire regimes that cause biodiversity decline' as a Key Threatening Process (KTP).**

The following submission is made on behalf of the Nature Reserves Preservation Group (NRPG) Inc. based in the City of Kalamunda in Western Australia. As an environmental group concerned with protecting and enhancing biodiversity values, we appreciate being able to add our support to the extremely comprehensive, wide-ranging advice to the Minister for the Environment, from the Threatened Species Scientific Committee.

This submission strongly supports and endorses the advice to the Minister that '*Fire regimes that cause biodiversity decline*' be listed as a Key Threatening Process (KTP) and that the listing provide the basis for a Threat Abatement Plan (TAP), to improve conservation outcomes under the EPBC Act. Points of particular concern will be commented on, as some comments may warrant inclusion in the final draft.

**3.1.2 Fire season (OSF).** Acknowledging the fact that "*summer fire may advantage some animals/plants*", it should be accepted that, summer mitigation burning is, in general, highly impracticable. With changing climatic conditions, the window of opportunity within which such burning may be conducted is becoming narrower.

*"Endangered Banksia Woodland of the Swan Coastal Plain."* In addition to the threats posed by bushfire, this community is facing increased losses from clearing and introduced pathogens, making this listing even more essential.

**3.1.3 Fire severity and intensity (HSF, LSF).** See comments on peat fire smoke below.

**3.1.4 Peat Fire (PF)** The importance of such fires should be emphasised and further examples quoted. Their global importance should also be acknowledged, particularly in relation to their inordinate influence on air quality. In the Indonesia/Malaysia fires (1997/1998), though only 15% of the 10 million hectares of land burned was peat, approx. 60% of smoke and haze was attributed to the burning peat areas. (Jones, W. (2005). Peat Fires: the danger from a fire manager's point of view. Journal of the Royal Society of Western Australia, 88: pp139 – 142).

In addition to the advice listing threats in eastern Australia, similar threats exist in Western Australia. Peat fires threatening biodiversity, took place at Lake Carabooda (2000) and Neerabup (2001). (Ibid.)

In 2019, during a DBCA prescribed burn, the Denbarker peat fire destroyed a significant area within the WA South West biodiversity hot spot, where 80% of the more than 6,000 species are endemic.

In October 2020, peat, ignited during a prescribed burn at Karara, in Mt Roe National Park (a significant peat system in the Walpole Wilderness areas), was still burning in February 2021. Despite the best intentions of DBCA, the loss of biodiversity attributed to broad scale prescribed burning, is increasing. With the changing climate, unless significant changes are made, such biodiversity losses will increase.

The above details should be added to section **3.1.4** and to **Table 2** '*biota threatened*' column of the draft.

**3.2.2.5** Fire suppression disturbance (FSD). More consideration should be given to reducing this impact of the fire regime. There is room for improvement in the current practice. More proactive (rather than reactive) measures should be employed at the planning stage of an incident. Wherever possible, tighter control is required over heavy machinery on the fireground. Many large habitat trees are simply toppled by heavy machinery. In many instances, post-fire examination suggests that the position of such trees in the fireground did not justify the action.

**3.2.2.6** Fire retardants (FSR).

Despite the overall effectiveness of such chemicals in fighting fires, the reported lack of research on the environmental damage caused by their use is extremely concerning and must be addressed.

**3.3** Climate change. Given the number of KTP criteria satisfied, this section and its accompanying Table 2 alone, should ensure the listing is accepted.

**4** How judged by the committee in relation to EPBC Act criteria.

*"The threatening process meets s188 (4) (a) (b) and (c) of the EPBC Act and is therefore eligible to be listed as a key threatening process."*

The conclusion to this section should ensure the listing takes place.

**5** Threat Abatement Plan (TAP). As noted earlier, since listing as a KTP appears to be simply a guideline, NRPB also endorses the creation of a Threat Abatement Plan which should carry more weight. Support for such threat abatement planning came from the Invasive Species Council and Bush Heritage Australia in their March 2020 joint submission to the independent review of the EPBC Act, commenting:

*"...the KTP system is not achieving the relevant object of the EPBC Act – to provide for the protection of threatened species and ecological communities."* (Introduction, p.1).

and, stressing the need for Threat Abatement Plans:

*"For KTPs without a threat abatement plan, the listing is essentially moribund, for there is no requirement to monitor or report on the threat or abatement efforts. The threat level for most KTPs without TAPS is likely to have increased since their listings."* (Ibid. p.9).

## **NRPG Feedback.**

While some comments in this submission may not appear directly relevant to the listing process, nor to the creation of a Threat Abatement Plan, they should inform the bigger question of how we may combat the environmental threat of bushfire damage, such as that in the wake of the 2019/2020 fire season. The listing is the first step and the creation of a Threat Abatement Plan essential, if conservation outcomes are to be improved.

**The Royal Commission into National Natural Disaster Arrangements Report, 28 October 2020**, contains citations and recommendations relevant to combating the threats to the environment. All are relevant to this draft listing advice. It is noted that past efforts to have fire regimes listed have failed.

*“...in 2008 fire regimes was nominated as a key threatening process. No decision was made at that time to give effect to the nomination and renewed consideration was sought in 2018. In light of increasing impacts of natural hazards, we suggest this nomination be reconsidered.”*

(Australian Government Department of the Environment and Energy, 2018 assessment priorities for threatened species, ecological communities and key threatening processes), cited in the **Royal Commission into National Natural Disaster Arrangements Report 28 October 2020**, p.364.

Within the Royal Commission Report, the extent of the 2019-2020 bushfire’s environmental damage is highlighted and the new ‘norm’ forecast:

*“Over 24 million hectares were burnt ... Nearly 3 billion animals were killed or displaced and many threatened species harmed and other ecological communities were extensively harmed.”* (Ibid. p.5).

*“As the events of the 2019-2020 bushfire season show, what was unprecedented is now our future.”* (Ibid. p.6).

### **Recommendation 8.2** Research and evaluation into aerial firefighting.

Aerial firefighting is evolving at an unprecedented rate. More effort is urgently needed to fully utilise the inherent capabilities of recent developments in equipment and techniques. Rapid detection of ignitions and a rapid response to them are essential elements of successful firefighting. Aerial capabilities, fully utilised can provide these elements.

New technologies such as autonomous or remotely piloted aircraft systems (RPAS) permit not only more economic and safer early/rapid detection monitoring but also night-time operations and operations in extremely difficult fireground conditions. The technologies exist but are yet to be fully employed.

*“Australian fire agencies also use Remotely Piloted Aircraft Systems (RPAS). Although RPAS are not currently used for direct aerial firefighting, they can use camera technologies to live-stream the location and behaviour of bushfires. RPAS can also operate in conditions which may be unsafe for other aircraft, such as in low light or during the night. We heard that although RPASs were used during the 2019-2020 bushfire season, their integration into the wider firefighting effort is immature.”* (Royal Commission Report 8.18 p. 209).

Accepting the listing recommendation is a start. There must be continued research into fire behaviour. Past research, valuable though it is, has always highlighted a continuing need for further research. The fire regimes are changing at a rapid (and possibly exponential) rate. Past policies and strategies are failing. Broad scale prescribed burning is responsible for much of the biodiversity loss, particularly in forested areas. Furthermore, it is likely that more frequent prescribed burns to reduce leaf and dead matter on the ground, can cause loss of soil moisture and therefore increase fire risk and intensity. Additionally, the 'fire-weed cycle' resulting from burns in bushland causes an increase in grassy weeds which increases fire risk and degrades native diversity and habitat.

Fire seasons are changing temporally, in frequency, intensity, and severity. This, in turn is compromising the availability of previously available resources from the northern hemisphere. It appears the Northern and Southern hemisphere fire seasons now overlap.

Driven by a changing climate, new areas are becoming vulnerable to the depredations of fire. This listing should be the beginning of a series of actions related to this threatening process. The Minister should ensure that, in the interests of the future of the natural environment, ALL government departments formulate a joint strategy to combat the loss of biodiversity resulting from Bushfire impact/damage.

The environmental damage caused by the 2019-2020 bushfires should remain fresh in the Minister's mind when considering this listing advice, given that:

*"...no bushfires on record have burnt more forest and woodland habitats within a season. The areas include sites that are recognised and protected under the EPBC Act for their significant ecological and heritage value."* (Royal Commission Report, p.354).

NRPG gives its full support to this listing advice and to the development of a Threat Abatement Plan and, given the urgency for action, urges the Minister to approve and expedite both the listing and the Threat Abatement Plan.

Steve Gates, President