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Pacific Conservation Biology

Supplementary Material

The case for listing Mountain Ash forests in the Central Highlands of Victoria as a Threatened Ecological Community

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Supplementary Material

Supplementary Material S1.

Requirements for an ecological community to be listed under EPBC Act 1999: EPBC Regulations 2000, 7.02 Criteria for listing threatened ecological communities: For section 182 of the EPBC Act, an ecological community is in the critically endangered, endangered or vulnerable category if it meets any of the criteria for the category mentioned in the following table.

Item	Criterion	Category		
		Critically endangered	Endangered	Vulnerable
1	Its decline in geographic distribution is:	very severe	severe	substantial
2	Its geographic distribution is: and the nature of its distribution makes it likely that the action of a threatening process could cause it to be lost in:	very restricted the immediate future	restricted the near future	limited the medium-term future
3	For a population of a native species that is likely to play a major role in the community, there is a: to the extent that restoration of the community is not likely to be possible in:	very severe decline the immediate future	severe decline the near future	substantial decline the medium-term future
4	The reduction in its integrity across most of its geographic distribution is:	very severe	severe	substantial

Item	Criterion	Category		
		Critically endangered	Endangered	Vulnerable
	as indicated by degradation of the community or its habitat, or disruption of important community processes, that is:	very severe	severe	substantial
5	Its rate of continuing detrimental change is: as indicated by: (a) a rate of continuing decline in its geographic distribution, or a population of a native species that is believed to play a major role in the community, that is: or (b) intensification, across most of its geographic distribution, in degradation, or disruption of important community processes, that is:	very severe	severe	substantial
	(a) a rate of continuing decline in its geographic distribution, or a population of a native species that is believed to play a major role in the community, that is: or (b) intensification, across most of its geographic distribution, in degradation, or disruption of important community processes, that is:	very severe	severe	serious
6	A quantitative analysis shows that its probability of extinction, or extreme degradation over all of its geographic distribution, is:	at least 50% in the immediate future	at least 20% in the near future	at least 10% in the medium-term future

Supplementary Material S2: Definitions of thresholds for listing

The EPBC Act specifies thresholds for the geographic distribution of an ecological community: very restricted (< 10 000ha), restricted (< 100 000 ha), limited (< 1 000 000 ha). The extent of decline in the longer term (> 50 years ago) and shorter term (< 50 years ago) is also specified: very severe ($\geq 90\%$ for the longer term, $\geq 80\%$ for shorter term), severe ($\geq 70\%$ and $> 50\%$ for longer and shorter term respectively), and substantial ($\geq 50\%$ and $\geq 30\%$ for longer and shorter term respectively).

The EPBC Act provides indicative time frames for rates of decline in an ecological community as a result of one or more threatening processes and the basis for listing:

- Immediate future (or past): the next (or previous) 10 years, or 3 generations of any long-lived or key species believed to play a major role in sustaining the ecological community, (whichever is the longer), up to a maximum of 60 years.
- Near future (or recent past): the next (or previous) 20 years, or 5 generations of any long-lived or key species believed to play a major role in sustaining the ecological community, (whichever is the longer), up to a maximum of 100 years.
- Medium-term future (or past): the next (or previous) 50 years, or within 10 generations of any long-lived or key species believed to play a major role in sustaining the ecological community, (whichever is the longer), up to a maximum of 100 years.

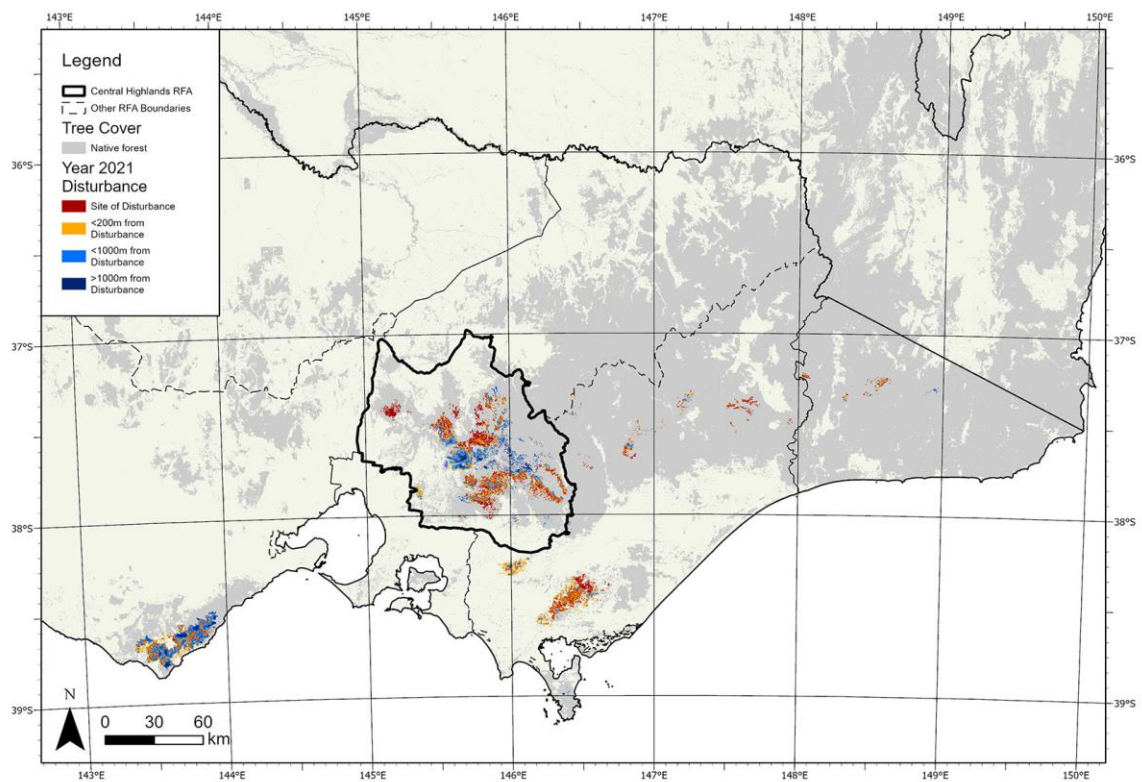
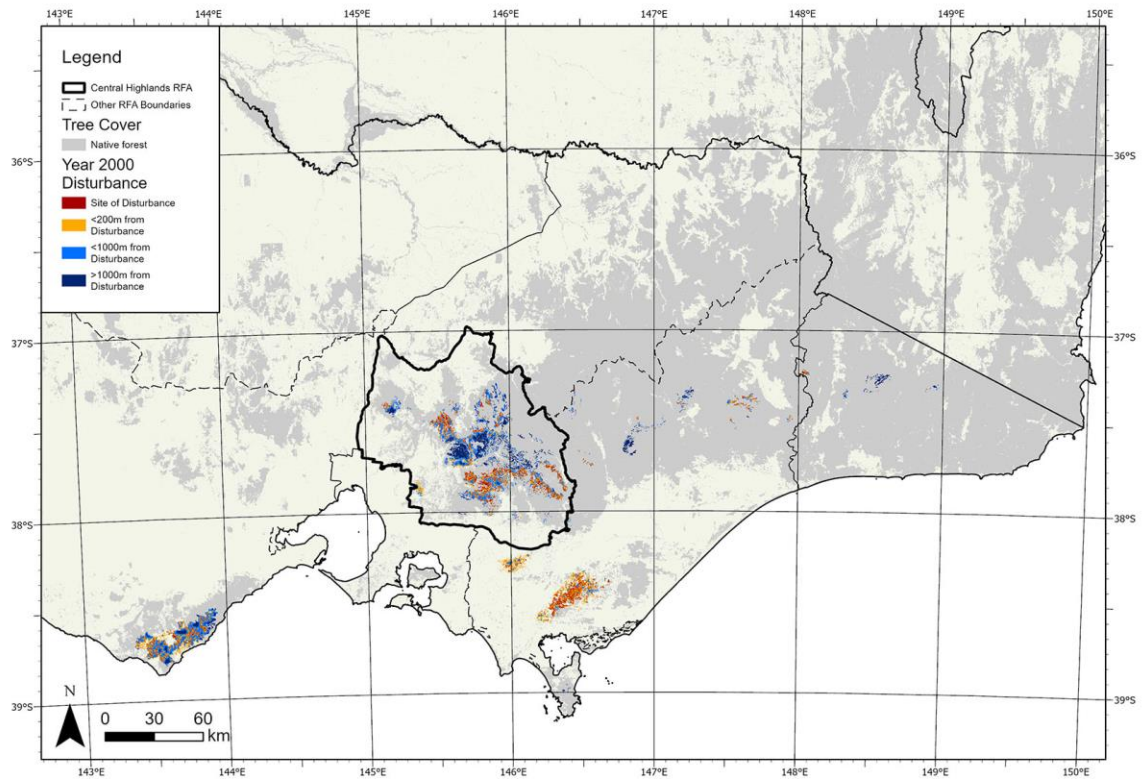
An important step in the listing process is to determine the potential for restoration of a threatened ecological community in relation to the extent and rate of decline. The classification of a threatened ecological community is as follows:

- Critically Endangered, the decline of the functionally important species is very severe and *restoration* of the ecological community as a whole is unlikely in the *immediate future*.
- Endangered, the decline of the functionally important species is severe and *restoration* of the ecological community as a whole is unlikely in the *near future*. And,
- Vulnerable, the decline of the functionally important species is substantial and *restoration* of the ecological community as a whole is unlikely in the *medium-term future*.

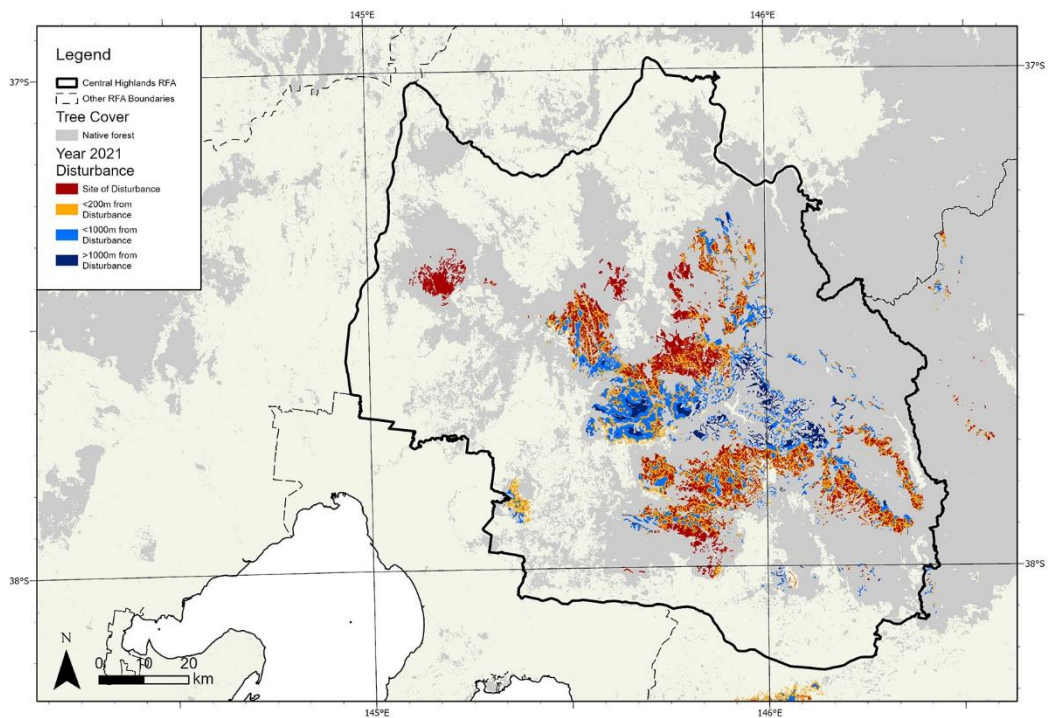
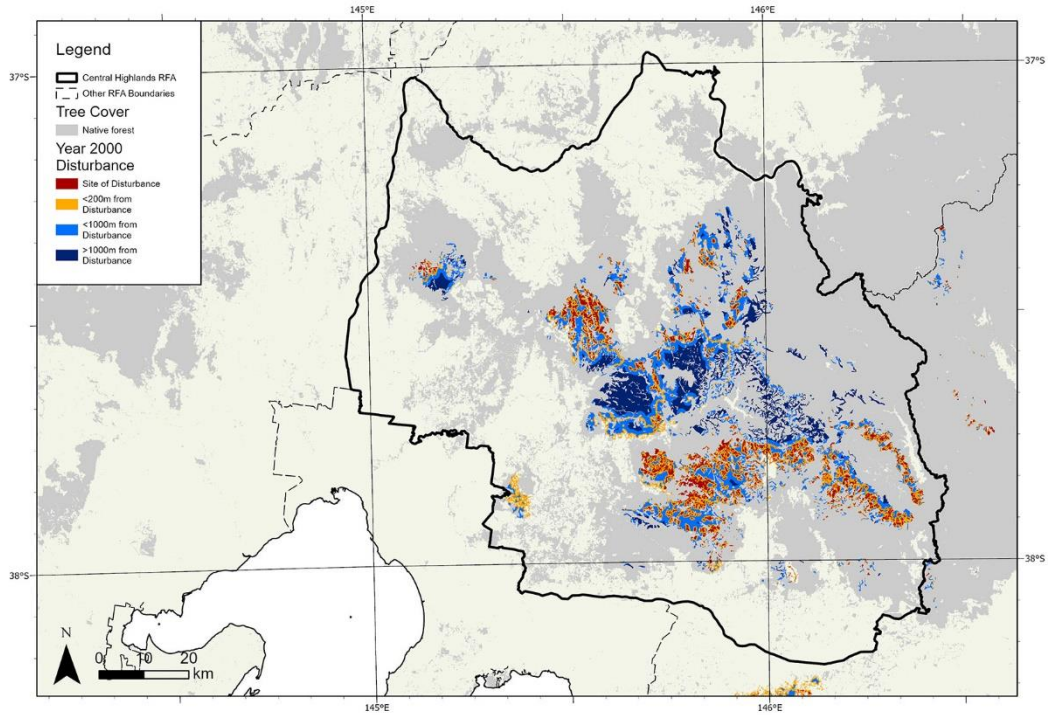
Supplementary Material S3: EPBC Act sub criteria for listing under changes in geographic distribution

Criterion	Critically Endangered	Endangered	Vulnerable
Its decline in geographic distribution is either:	Very Severe	Severe	Substantial
a) Decline relative to the longer-term (beyond 50 years ago e.g. since 1750); or,	$\geq 90\%$	$\geq 70\%$	$\geq 50\%$
b) Decline relative to the shorter-term (past 50 years).	$\geq 80\%$	$\geq 50\%$	$\geq 30\%$

Supplementary Material S4: Disturbance and proximity to disturbance in Mountain Ash Forest across Victoria for the years 2000 and 2021



Supplementary Material S5: Disturbance and proximity to disturbance in Mountain Ash Forest across the Central Highlands of Victoria RFA area for the years 2000 and 2021



Supplementary Material S6: Trends in severe disturbance (high severity fire, clearcut logging and plantation logging) and proximity to severe disturbance between 2000 and 2021 for Mountain Ash forest in the Central Highlands, Gippsland, East Gippsland and West RFA areas in Victoria

