



Blue Mountains Conservation Society Inc

ABN 38 686 119 087

PO Box 29 Wentworth Falls NSW 2782

Phone: (02) 4757 1872

E-Mail: bmcs@bluemountains.org.au Web Site: www.bluemountains.org.au

Nature Conservation Saves for Tomorrow

16th October 2014

Submission to NSW Scientific Committee

Agnes Banks Woodland

Preliminary Determination of Critically Endangered Ecological Community

Threatened Species Conservation Act NSW 1995

Summary

Blue Mountains Conservation Society Plant Study Group, a sub-group of Blue Mountains Conservation Society, commends and supports the Preliminary Determination of the Committee to list Agnes Banks Woodland as a Critically Endangered Ecological Community in Part 2, Schedule 1A of the Threatened Species Conservation Act NSW, 1995.

Blue Mountains Conservation Society

Blue Mountains Conservation Society is a long established environmental advocacy organisation with a membership of approximately 800 people.

The Plant Study Group of the Society has been established for approximately 8 years and has 15 members. The Group has visited Agnes Banks Woodland Reserve on three occasions, most recently on October 12, 2014.

Criteria and Eligibility for listing considerations.

1. Clause 18 Threatened Species Conservation Regulation 2010.

Restricted geographical distribution of the ecological community and the action of a threatening process.

Very highly restricted distribution and the nature of the distribution in conjunction with the action of a threatening process are relevant listing criteria.

Discussion:

Very highly restricted distribution

Agnes Bank Woodland has always had a restricted geographical distribution due to its formative relationship with the nearby Hawkesbury-Nepean River complex, and may have originally consisted of approximately 500-600 hectares

(Benson; Tozer; NSW Scientific Committee Preliminary Determination; 28/09/14).

In recent decades extensive sand mining and urbanisation have considerably reduced the original extent of the Woodland to approximately 75-150 hectares, but an exact figure appears to be unknown, and this is a matter of great concern.

Only 45 hectares of this remainder is formally protected in Agnes Banks Nature Reserve. The Reserve therefore represents approximately 10% of the original area of the Woodland (Tozer; NSW Scientific Committee Preliminary Determination; 29/08/14). The distribution has therefore become very highly restricted.

Nature of the distribution

This very highly restricted distribution leaves the Woodland highly susceptible to further declines in extent via the agency of various threatening processes, due to the nature of its distribution.

The surviving sections of Woodland are either highly fragmented and located outside the Agnes Banks Nature Reserve or concentrated in the relatively small Reserve. The exact distribution and extent of the former appears to be unknown and this is a matter of great concern.

Threatening processes to Agnes Banks Woodland

As a result of its recent field trip (12/10/14) the Plant Study Group has noted the following specific threatening processes occurring or likely to occur within Agnes Banks Nature Reserve:

- a. exotic weed invasion: Radiata Pine, Whisky Grass, Couch Grass, African Lovegrass;
- b. transport corridor vegetation clearing;
- c. boundary clearing of vegetation;
- d. the potential for plant disease to be introduced;
- e. the potential for overly frequent fire events;
- f. further fragmentation of the Reserve by track construction;
- g. inappropriate recreational use.

The fragments of Woodland located outside the Reserve are subject to all of the above processes as well as additional mining and urban encroachment pressures.

The increasing population rates of Western Sydney and climate change are likely to intensify the impacts of these threatening processes.

2. Clause 19, Threatened Species Conservation Regulation 2010. Reduction in ecological function of the ecological community.

A very large reduction in ecological function must be demonstrated in order to attract a listing of Critically Endangered.

Discussion:

There is a reasonable likelihood that a significant proportion of the non-Reserve fragments of Agnes Banks Woodland exhibit a very large reduction in ecological function and the Reserve is also susceptible to function disturbance.

Change in community structure and species composition

Based on the estimates of the original distribution of Agnes Banks Woodland as compared to its current distribution, it is reasonable to infer that the overall community structure of the current remaining non-Reserve Woodland may differ from the original Woodland, as the area of the former is much reduced and is fragmented.

Species composition within each of these non-Reserve fragments may also be highly reduced for the same reason. It is therefore imperative that the remaining non-Reserve fragments are highly protected in order to maintain an overall representation of original Agnes Bank Woodland (NSW Scientific Committee's Listing Criteria Guidelines TSCA version 1.3 2012: Uncertainty, p.56).

It is possible that each or some of the remnant fragments of Agnes Bank Woodland located outside the Reserve only represent a limited floristic range of the original Agnes Bank Woodland, as it is noticeable that within the Reserve there are distinct flora sub-groups, such as a *Petrophile pulchella* community with average height of five metres. Therefore, as these non-Reserve fragments comprise approximately 50%-70% of the remaining Woodland, their continued preservation is vital in order to maintain an overall representation of Agnes Banks Woodland.

The only fully protected and reasonably intact area of Agnes Bank Woodland, the 45 hectares of the Agnes Bank Reserve, is quite likely a structurally and floristically accurate representation of the original Agnes Bank Woodland. As a fragment, it is highly susceptible to changes in community structure and species composition unless adequately listed and preserved.

Invasion and establishment of exotic species

The fragmentation of the Woodland has left it prone to significant invasion by exotic plant species, and this process may be enhanced by the network of roads and tracks that dissect the Agnes Banks Woodland fragments and the use of these corridors by various vehicles. It is almost inevitable that large sections of the non-Reserve fragmented sections of Woodland will be subjected to some form of exotic plant infestation in the future, if they are not already.

Agnes Banks Reserve itself is dissected by 4 vehicular tracks (with locked gates). As mentioned, weed species have been observed within the Reserve, and this process of weed

infestation will inevitably continue, with the likelihood that a dominant and well adapted exotic plant will emerge as a major coloniser unless controlled.

Exotic plant diseases and ailments, such as Phytophthora, may also pose a future threat to the remaining Woodland, as fragmented plant communities are particularly susceptible to these forms of infection.

Degradation of habitat

Fire, either naturally or deliberately ignited, constitutes an ongoing threat to the remaining stands of Agnes Banks Woodland, and particularly to the Woodland located within Agnes Banks Reserve. It would be hazardous and logistically difficult for a wind fanned fire to be contained or extinguished within the Reserve. Too frequent repetitions of fire events, a common occurrence in bushland areas fringed by urban settlement, could result in changes to soil structure and seed-bank capability within the Woodland community, resulting in a breakdown of plant habitat.

As mentioned previously, Agnes Banks Reserve and the remaining fragments of Woodland are dissected by roads, vehicular tracks, walking tracks, paths and driveways and this fragmentation process in itself constitutes a loss of Woodland habitat. It is considerably likely that this process of fragmentation will continue as the area becomes more heavily populated.

Conclusion

The distribution of Agnes Banks Woodland is very highly restricted and is characterised by a high degree of fragmentation, leaving it particularly vulnerable to specific threatening processes.

The fact that the current extent and exact characteristics of 50-70% of the non-Reserve fragments are not accurately known is a matter of great concern.

The fragmented non-Reserve sectors of the remaining Woodland are highly susceptible to high levels of ecological function disruption. Agnes Banks Nature Reserve, although currently in a reasonable condition, is small and susceptible to similar pressures.

Extinction of the Woodland is a distinct possibility. Listing of Agnes Banks Woodland as a Critically Endangered Ecological Community is justified.

Thank you for your consideration of our submission.

Peter Ardill

The Plant Study Group of Blue Mountains Conservation Society

16th October 2014



Alan Page

President, Blue Mountains Conservation Society