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Inquiry into the Australian forestry industry

Submission by the Gippsland Environment Group

In relation to the Terms of Reference, the Gippsland Environment Group wish to comment on the environmental impacts caused by forestry.

Within the 'terms of reference' the second condition includes 'the development of win-win outcomes in balancing environmental costs with economic opportunities'. As outlined below, assessing the 'environmental cost' is virtually impossible. Therefore, an appropriate 'balance' cannot be found in practice, let alone a 'win-win' outcome in which implies an environmental benefit.

We believe that the environmental impacts caused by forestry has been woefully neglected in the past and overridden in the pursuit of economic gain.

Although there are numerous environmental impacts caused by the forestry industry, below we outline our major concerns;

Impacts

The forestry industry is one of Australia's most environmentally destructive practices that currently occurs. Although it is arguable whether or not alone it threatens individual species with extinction, it causes dramatic alteration of habitats and species population declines (including Threatened species) on a large scale. It also disrupts ecosystem functionality and resilience.

Forestry practices (clear-fell logging and selective harvesting) profoundly modify and simplify forest structure and composition on a wide-scale. In other words, multi age forests containing high species diversity are reduced to virtually single age, often almost single species Eucalypt regrowth resembling plantation forestry. Forestry practices favour some plant species while being detrimental to others. Principally disturbance loving species thrive, to the detriment of many species that are adversely impacted by mechanical disturbance and post harvesting fires, potentially resulting in local extinctions. The alteration of forest composition and structure can also be considered habitat alteration and loss, as there are many animal species that are severely impacted. For example, logging dramatically reduces the density of hollows in the landscape (some studies have shown a 10x reduction). Hollow-dependant animals are adversely impacted by logging due to loss of denning/shelter/breeding sites in hollow-bearing trees. The abundance of numerous hollow-dependant animals is positively associated with the abundance of hollows, or in other words, the more hollows there are the more hollow dependant animals there are (both in species richness and diversity). With approximately 15% of forest dependant vertebrates (over 300 species) being hollow-dependant, hollow-bearing trees are essential for species conservation and the reason 'loss of hollow-bearing trees' is listed under conservation legislation as a threatening process. Hollows can take several hundred years to form, and typically the older the trees are, the more hollows they produce (positive correlation between tree age and density of hollows). Some trees have recently been radiocarbon dated indicating that some trees, especially in wet forests, exceed 600 years in age. Current forestry rotations are expected to be less than 80 years, which is well below the time when hollows typically start to form (usually >100 years).

Simplifying the diversity of tree species present can also adversely affect numerous animal species. For example, arboreal herbivores, especially Greater Gliders, feed on a wide-range of Eucalypt species. Unfortunately, not only are Greater Gliders adversely affected by logging due to reductions in hollow densities, but the dominant regrowth in foothill forests in south-eastern Australia, a species that loves disturbance, Silvertop Ash *Eucalyptus sieberi*, contains amongst the most nutritionally poor foliage of any Eucalypt, and avoided by most herbivores. Silvertop Ash also rarely forms hollows for hollow-dependant animals. Simplification of forests also impacts nectar availability for nectarvores animals, insects and insectivores (as well as apiarists). Most Eucalypt species flower at different times of the year providing important food sources for species throughout the year.

Another example of species adversely impacted by logging are the Large Forest Owls. These owls often avoid regrowth forests, primarily because these forests support reduced densities of small mammals (especially where the Common Ringtail Possum is uncommon). Unlogged forests contain higher population densities of hollow-dependant mammals, resulting in owls requiring large areas of unlogged habitat within their huge home-ranges (typically 1000-4000ha in the short-term).

There has also been concern about the increased flammability of regrowth forests. Wet forests and damp forests are 'dried out' by logging practices, so logging significantly contributes to wildfire intensity and spread.

It is widely acknowledged that disturbance regimes in forested ecosystems should as closely as possible mirror natural disturbances, as this will minimize environmental impacts. Forestry practices, especially clear-fell logging, is in an unnatural disturbance that has the potential to cause a wide-range of direct and indirect ecological impacts with dire consequences.

Logging assists in the spread of weeds, while providing habitat and access for feral animals. Many feral species have difficulty establishing in undisturbed forested ecosystems, yet following logging provides perfect conditions for several plant species to establish (e.g. black-berry), while providing great habitat for Sambar and rabbits. Rabbits assist the spread of the fox, which is one of the greatest threats to native animal populations. Forest die-back caused by the spread of Cinnamon fungus (*Phytophthora cinnamomi*) throughout forested regions has been aided by forestry practices.

The forestry industry is exempt from animal ethics and welfare issues that is applicable to virtually all other industries that cause harm to animals. Logging is known to kill numerous animals, especially mammals, both during harvesting operations and post harvest burns. Even many animals that escape the initial logging and are temporarily displaced typically succumb to death soon after harvesting due to remaining within their home-range, starvation, and increased predation.

Overall, simplification of forest composition reduces habitat availability, habitat quality and critical resources required by a range of forest dependant species. This is concerning as forest structure and composition, and species optimal habitat, is irreversibly altered, and may never again support the same diversity of species prior to logging.

Knowledge

Our knowledge regarding how species respond to forestry practices is abysmal. This situation is appalling, especially when we know the potential threat posed by logging practices. This is of major conservation concern, not only because many threatened species exist in forested ecosystems in south-eastern Australia, most of which are continuing to suffer population declines, but because forestry practices continue despite inadequate knowledge of how species respond. To implement any land management practice without knowing its impacts is akin to environmental vandalism. Although it is commendable that some conservation measures for threatened species have recently been instigated, there is largely no understanding of the effectiveness of conservation measures, let alone any scientific studies investigating their effectiveness. So, for the moment, we virtually have limited or no understanding whether conservation measures are affective. Adding to this, for many species, especially rare and threatened species, we have a poor ecological understanding of many species making it impossible to implement conservation measures based on informed scientific information. Conservation strategies are instead often based on limited data, or assumptions, with insufficient knowledge about whether they are adequate. This is of major conservation concern.

An example, is the conservation measures for Large Forest Owls, which includes three species considered amongst the species most susceptible to logging. This is because they are naturally

uncommon, top-order predators and vulnerable to decline following changes in resource availability. These owl species provide an example (there are numerous other species) where conservation reserves (primarily National parks) do not contain sufficient habitat to support large populations required for long-term conservation, therefore requiring additional measures to ensure their conservation. Ten years ago, conservation measures were implemented that were based on limited ecological knowledge and assumptions of population size, impacts of logging and home-range size (this conservation measure continues today). Even today we still don't know whether the target population size of the owls exists (approximately 500), whether populations are declining or improving, or whether sufficient habitat and critical resources are being preserved. Recent home-range studies have indicated that each pair is likely to use 4-8 times the amount of forest that was originally assumed necessary for a single pair long-term, while owls also strongly avoiding logging regrowth (reduced prey densities, reduced roosting/nesting sites). Current conservation measures seem unlikely to be sufficient.

If we compare Australia's conservation measures and ecological knowledge to that in the USA, to consider that our ecological understanding is in its infancy is an overstatement. Not only do we have a poor understanding of how species respond to logging, but much basic ecological information on species is lacking and therefore difficult to design appropriate conservation measures. Until this is done, it is difficult to claim that forestry practices do not threaten native species or are 'sustainable'. Claims of 'ecological sustainability', which is widely used in regard to forestry cannot be justified when species baseline or historical population levels and current population levels are unknown.

Not knowing how species respond to logging is one thing, but not knowing what exists within the forest block about to be logged is also disgraceful. This was the situation until the court-case instigated by Environment East Gippsland in 2011 about the legalities of logging and conservation legislation (in Victoria). This highlighted the inadequacies of conservation legislation and the inability of the forestry industry to adhere to its own logging code of practices, primarily that conservation concern was being ignored. It is essential that ecological surveys are conducted prior to logging to ascertain its conservation value.

Overall, if the consequences of management actions remain poorly understood, claims of ecological sustainability and that forest stewardship obligations are being met cannot be made. Yet, despite our lack of knowledge of how species respond to logging, there is continued push to continue native forestry harvesting for a further 30-40 years if not longer. This is of grave conservation concern. Especially considering that in East Gippsland approximately 1/3 of public land is considered available for timber harvesting. Only 36% of Victoria remains forested, and much of this has been logged or due to be logged.

Conclusion

To conclude, we question the legitimacy of continuing native forestry (especially of high conservation value, and previously unlogged native forests), especially considering the impacts to biodiversity, the

increased fire severity and threat, the loss of carbon storage, alteration of stream flows, increased erosion, animal welfare issues (animal ethics), spread/promotion of weeds, promotion of habitat for feral species (rabbits, deer, foxes), spread of Cinnamon fungus, loss of aesthetically pleasing forests and loss of tourism value all for what appears to be relatively uneconomic venture. It seems difficult to comprehend how logging based on its current practices is justified when taking into considerations these issues. The forestry industry is long-overdue for a major review. We believe that for the long-term conservation of forested ecosystems and Australia's unique fauna, ceasing native forestry and allowing an assisted transition into plantation forestry is paramount.