

From:
To: [NRC](#)
Subject: Submission on NRC Brigalow Study
Date: Tuesday, 5 August 2014 1:19:19 PM
Attachments: [BrigalowReport_WashingtonAnalysis.pdf](#)

I attach my submission on '**Active and Adaptive Management of the Brigalow and Nandewar State Conservation Areas**' produced by the NRC. The NRC is clearly *not* the appropriate body to carry out an ecological study of 'ecological thinning'. This report provides little ecological justification for a major intrusive commercial logging activity. The suggested justification of 'positive environmental benefits' is not proven, in fact the opposite is likely. The report twists ecological science, ESD principles and adaptive management theory. This is clearly *inappropriate* and the NRC has a conflict of interest in this proposal. The activity certainly should ***not proceed*** on the basis of this unscientific report.

Yours faithfully,

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An analysis of the ‘Active and Adaptive Management of the Brigalow and Nandewar State Conservation Areas’ by the Natural Resources Council, NSW Government

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Summary

This report is ideology masquerading as ecology. It shows clear bias throughout, given that the National Resources Commission *wants* to extract resources (a conflict of interest) and is thus not the appropriate organisation to carry out such a study. The reality is this is a report focused on resource extraction of timber (in line with current neoliberal ideology) in national park estate set aside for nature conservation (a State *Conservation Area*). It portrays itself as a report based on ecological science, where the logging will supposedly *improve environmental outcomes*. **It fails to show this**. It twists ecological science and theory (adaptive management) and ESD principles to justify commercial exploitation of these SCAs. Worse, it shows that the NSW government will actually be *paying* (using taxpayer funds) the logging companies to carry out this degradation of the public estate. The report seeks to portray the fact that white cypress forms dense single-species stands as a reason to justify a commercial logging project. This is part of the ecosystem dynamics of this plant community. It does not justify a logging operation, with all the known impacts such as roading, soil erosion and compaction, impact on water catchments, disturbance of wildlife, weed introduction and possible introduction of dieback fungus and other pathogens. Using this logic, then all mountain ash and she-oak forests should be logged. The report notes that the proposal is based on legal advice that ecological thinning is legal provided it is done for the '*primary purpose of providing net positive ecological outcomes*'. **The report does not show this**, it merely twists adaptive management theory to seek to justify resourcism and the logging of national parks estate. The purported science is weak (and contradictory), and net environmental outcomes are far more likely be *negative* than positive. On that basis, the proposal of logging State Conservation Areas should not proceed. This report certainly does not justify logging and grazing of a SCA.

1) History and ideology shaping policy

1.1 Report situated as part of a long-term battle over the meaning of 'conservation'

This proposal to log and graze a State Conservation Area can be seen in the context of an ongoing battle within society over the meaning of 'conservation'. This has been going on for over 100 years, a historical battle of worldviews and ideologies. The idea of 'national parks' came from the US, and built on the writings of Thoreau (1854) and Muir (e.g. 1916). The idea was that parks would firstly *protect natural heritage*, and secondly also be available for human visitation (Washington, 2012). This ecocentric vision of national parks won out over the utilitarian and resourcist view of Gifford Pinchot from the US Forest Service (Oelschaleger, 1991). The idea that the national park estate was there ***first and foremost to protect nature*** has received wide-spread support around the world and in Australia over many decades. It has been described as the 'best idea America ever had' (PBS, 2009). The report is about State *Conservation Areas*, which are meant to protect nature. However, there have always been commercial forces seeking to exploit the resources supposedly 'locked up' in national parks and SCAs (simply to make money). In the US the 'Wise Use' movement

was created by exploiters seeking to get resources in parks (Helvang, 1994; Washington, 2006). In Australia in the 1980s there was a push for ‘multiple use’ to exploit national parks for the same reason (Washington, 2012). This was stopped at the time by public pressure – for Australians quite rightly love their national parks and SCAs. Now, with a neoliberal government (see ‘ideology’ next), we find ourselves with an organisation that *defines itself* as resourcist in its name – the ‘Natural Resources Commission’ (NRC). The NRC is proposing yet another attempt to exploit the national parks estate. This time it is using the mantle of ‘adaptive management’ (see section later) to justify commercial exploitation in the form of logging and grazing. Nothing has changed, this is yet another attempt to exploit nature reserves for commercial activity - just the words are new. This time it is not ‘multiple use’ seeking to justify the exploitation, it is the term ‘active and adaptive management’. These are just camouflage words for logging and grazing of a State Conservation Area, an area set aside to conserve the wonderful natural heritage of NSW.

1.2 ‘Ideology’ dressed up as science

This report is about a proposal for the logging and grazing of a State Conservation Area (SCA). It is not put out by the OEHL, or by the CSIRO or the Ecological Society of Australia, but by the Natural Resources Commission. The NRC seems to see the wonder and diversity of NSW’s natural heritage as merely being ‘resources’. The environmental crisis is commonly accepted by environmental scientists and scholars to be the result of a ‘human supremacy’ (e.g. Crist, 2012; Washington, 2013) an ideology that is intensely anthropocentric and denies that nature has intrinsic value or the right to exist (Rolston, 2012; Cullinan, 2014) other than being a *resource* for human use (resourcism). Professor Eileen Crist (2012) of Virginia Tech summarises the problems of resourcism:

What is deeply repugnant about such a civilization is not its potential for self-annihilation, but its totalitarian conversion of the natural world into a domain of resources to serve a human supremacist way of life, and the consequent destruction of all the intrinsic wealth of its natural places, beings, and elements. “Project Human Takeover” has proceeded acre by acre, island by island, region by region, and continent by continent, reaching its current global apogee with the final loss of wild places and the corollary sixth mass extinction underway.

This ideology runs hand in hand with *neoliberal* ideology, where neoliberalism is a modern politico-economic theory favouring free trade, no control of the free market, privatization, minimal government intervention in business, and reduced public expenditure on social services (Kopnina and Blewitt, 2015). The current State government has a strong neoliberal stance, where all natural resources must be exploited for the good of developers (but not society or future generations). This is in contrast to the *ecocentric* worldview which had led to the creation of our national parks, where the majority of the community believes nature has a *right to exist for itself*, irrespective of whether it is of use to humans (Rolston, 2012; Cullinan, 2014). This Brigalow report clearly comes from a resourcist stance, where the timber in the white cypress forests is seen as ‘just going to waste’ and hence must be harvested. Because these areas are SCAs, the NRC is forced to justify logging, which is

clearly seen by most in society as being *out of place in national parks estate* (SCAs are not national parks but are part of the national parks estate meant to conserve nature). To do this it twists ecological theory such as adaptive management to justify extracting a resource. Adaptive management will be discussed in another section.

Historian Donald Worster (1994) has shown that the history of ecology has been swayed at times by prevailing paradigms (or ideologies). He made a detailed study of equilibria and disequilibria theories within ecology, and pointed out that such theories often *tie in with the worldviews of their promoters*. Using a principle of ‘historicism’, he argues we can ‘approach recent ecological models that dramatize disturbance with a sense of scepticism and independence’ (Worster, 1994). He wonders if they are the ‘mere reflection of *global capitalism and its ideology*’ (my emphasis). Hence the NRC is using adaptive management as a smokescreen to justify logging and grazing in a SCA, something that society decided decades ago was not acceptable. This is highly unprofessional and unethical. The NRC is clearly **not** the correct body to be undertaking such a study – it has *clear prejudice* and a conflict of interest. If this study is seriously expecting the public to accept its claims of ‘positive environmental benefits’ to come out of the logging and grazing of a State Conservation Area, then the study should have been done by CSIRO, or under the auspices of the Ecological Society of Australia, or some similar independent and unprejudiced scientific organisation. An unbiased scientific body could then assess the very weak evidence put forward here that logging and grazing a SCA will have environmental benefits. As a plant ecologist of four decades experience, I conclude the meagre evidence put forward in this report does *not justify this proposal*.

1.3 False argument that proposal is similar to past Aboriginal influence

Humans have influenced ecological communities throughout history. That is an ecological fact (as all species do). They have not in fact ‘shaped’ them. That is anthropocentric ideology based on the ‘Human Mastery’ worldview (Washington, 2006; Rolston, 2012). *Influence* is very different from ‘shaping’, as the latter suggest you are in control and know what you are doing (Washington, 2013). Clearly the global environmental crisis (MEA, 2005) shows humanity does *not* know what it is doing. It is thus not correct to say that past Aboriginal presence ‘shaped’ the landscape. No indigenous peoples created the topography, nor did they evolve the native species present. Influence is thus very different from creation or shaping (as most Aboriginal elders I have raised this with acknowledge). Whatever the past Aboriginal fire history of the Brigalow area, this *does not justify a logging project* renamed as ‘ecological thinning’, a name that has been applied to give the impression that the proposal is ‘helping nature out’. Aboriginal society lived in balance with ‘country’, they did not log or graze it. They did use fire as a tool, however this proposal is **not** a proposal to change fire regime and use adaptive management to study this in terms of dense cypress stands. That may well be acceptable to research. It is a proposal originating from a resourcist ideology to commercially extract resources from a SCA. It then tags on the (supposedly magic) words of ‘adaptive management’ in the hope that this will allay all concerns (as was similarly tried with horse-riding trials in wilderness areas).

2) Twisting ecological science

2.1 Dense stands of cypress and bullock seen as ‘bad’ when they are *natural* features of this plant community

Some species of trees form dense stands of virtually just one dominant tree species. Cypress can, as can bullock, as the report notes on p. 9. So can mountain ash and Blue Mountains ash. So can other species of casuarina. So can species of grass tree (*Xanthorrhoea* spp). However, we do not see (at least yet) argument that the beautiful mountain ash forests in our national parks in southern Australia should be logged because they are in dense stands. ***Dense stands are the natural characteristics of these species that have evolved to this habitat.*** It is what these species naturally do. Single species stands of some species are a natural part of the natural heritage of NSW. And that may mean that some other species naturally miss out *in that location*. If the NRC truly has a concern about the ecological integrity of this area, based on different fire regimes compared to 200 years ago, then it should carry out an adaptive management study of *changed fire regime* in the SCA – not a commercial extractive industry clearly aimed to provide resources. P. 9 states that altering vegetation is one of the few biophysical elements that land managers can manage. However, *fire* is a far easier element to manage than a major and intrusive logging operation in a SCA. P. 12 refers to the ‘removal of trees and biomass for *improved forest health*’. Undertaking the huge invasive activity of roading, bulldozing, logging and taking out timber trucks is NOT an improvement to forest health, it is environmental degradation. This has been understood by ecologists for hundreds of years (though gets no discussion in this report). This is twisting ecological science in a major way to portray a damaging logging proposal as ‘improving health’. Such ‘spin’ would make any PR company proud.

p. 70 discusses ‘restoring vegetation’ which is listed as a policy in the Management Plan, and seeks to twist this to justify a logging operation on the basis that this is *restoring* a mosaic community that existed previously. This is a major twisting of what ‘restoration’ is normally taken to mean. A restoration activity does not log and graze a SCA, for this is a degrading activity. Restoration is what may take place once the area has been degraded, for example by logging.

2.2 Failure to show that white cypress stands are *bad* for biodiversity or ecological integrity, or that ecological thinning has ecological benefits

The ecological evidence produced to justify logging a SCA is both ***meagre and inadequate***. It certainly is not enough to over-ride the precautionary principle (which the NSW government is supposedly committed to). P. 55 (6.4.2) ***fails to establish a strong case*** to show that dense stands of white cypress are in fact deleterious to biodiversity or ecological integrity. It says large stands of white cypress are ‘*thought* to reduce spatial variability and habitat values in some forests’ (quoting Lunt 2006). Being ‘*thought*’ is not the same as being *shown* to be the case. Similarly, it states later on the same page that ‘a commonly held view’ was that dense stands of cypress reduce groundcover and floristic diversity. Being

‘commonly held’ (we don’t know by whom) is not the same as being *scientifically proven*. In any case, reduced ground cover occurs under she-oak forests and other plant communities (for example rainforests!), where groundcover is reduced *naturally* in that community, and community species number may be low compared to some other communities. Does that mean we should wipe out plant communities with low species number or reduced groundcover? Clearly conservation ecology tells us we ***definitely should not***. In fact the report itself notes that other studies have *challenged the assumptions that dense cypress stands cause reduced species richness*. In fact the report quotes as many studies arguing this as it lists suggesting the assumption. It also notes on p. 56 that dense cypress is important for some native species to protect them from predation, a positive benefit that is then glossed over.

p. 55-56 discuss the fact that vegetation mosaics are good for biodiversity, and clearly this is generally the case. However, that overlooks the fact that within such mosaics there can be, and often are, plant communities with lower species number. These have evolved naturally that way, and that is part of the ecosystem diversity of the landscape. P. 56 encapsulates the **fundamental fallacy of this report** clearly, stating categorically that large dense cypress stands are ‘less likely to support ecological values’ than a landscape mosaic. This is a fundamental fallacy in terms of ecology, as it simply ignores that some plant communities *do* form dense stands of only a few species, and that is *natural* and they have evolved that way, and this is part of the natural heritage of NSW that ***SCAs are meant to protect***. They have perfectly good ‘ecological values’ and just as much right to exist as other plant communities in the vegetation mosaic. Such communities are part of the ecosystem diversity of NSW. Clearly the argument by a biased organisation is being mounted because the NRC is a resourcist body that wants to log and graze a SCA set aside to protect nature, simply because they want to exploit it (due to their ideology). ‘Adaptive management’ is just the eco-jargon they use to justify their commercial exploitation (see later).

Finally, p. 85 notes that some studies indicate that ecological thinning of cypress stands will **not necessarily lead to increased growth of eucalypts**, which is the basis of the environmental benefits the proposal is meant to bring. The report is honest enough to admit here that the supposed environmental benefits of the logging may not actually occur. Hardly *conclusive scientific proof*. It is important also to understand the **scale** of the ‘ecological thinning’, p. 106 notes that heavy thinning may remove **35% of the standing volume of timber**. This is not ‘thinning’ it is logging at a major scale and will have corresponding major impact on those areas of the SCA.

2.3 Supposed benefits of ‘ecological thinning’ fails to fully consider the impacts

P. 90 lists supposed ‘benefits’ of ecological thinning. These are self-serving justifications for the proposal the NRC is determined to undertake. None of these supposed benefits explain why ecological thinning would be preferable to changing the fire regime to reduce cypress density (which it argues was the case under past Aboriginal management). The supposed positive effects on threatened species relies totally on the *unproven assertion* that ecological thinning **may** increase tree hollows. This is based on the premise that thinning will increase

eucalypt regeneration (or lead to larger cypresses with hollows) which will take 100 years to form the hollows. However, the report has already stated that some studies have suggested that thinning of cypress will *not* necessarily lead to increased eucalypt growth. The table on p. 91 can only state that thinning ‘**is likely**’ to support the viability of threatened species. In other words, this is *conjecture not fact*, and hence not a definite benefit. The assertion on p. 91 that thinning will ‘increase soil health’ is strange and unsupported. Logging requires the use of large vehicles, the creation of snig tracks, increases erosion and compaction of soils, and mobilises nutrients that can lead to weed growth, and can bring in soil pathogens. I note that the report does not say just *how* it improves soil health, given the wealth of evidence that logging damages soil health from around Australia and the world.

P. 93 has a brief perfunctory discussion of ‘risks’ involved in ecological thinning. Soil erosion or compaction are dismissed through claims of ‘appropriate prescriptions and machinery design’. There is no evidence presented about such impacts where logging of cypress has occurred. The discussion of weeds notes in point two that the ***thinning is likely to increase weeds***. It fails to discuss the fact that logging machinery often can bring in *new weed species* to an area, and that soil disturbance can increase nutrient levels. What are the ‘appropriate weed management’ strategies mentioned? Does this include the spraying of biocides in the SCA, which would not have been necessary if the thinning did not take place? Biocide spraying has its own costs and environmental impacts.

2.4 ‘Targeted grazing’ unnecessary, degrading and impractical

Few activities other than outright clearing have had greater impact on native biodiversity than grazing by introduced ungulates. Their hooves (unlike soft-footed native species) erode and compact the delicate duplex soils most common in Australia, and destroy the biocrusts that protect erodible soils. Damage due to heavy grazing is acknowledged on p. 97 of the report. Compaction prevents aeration and water infiltration (Pickering *et al.*, 2010). Cattle and horses tend to naturally follow pads made by previous horses (Philips & Newsome, 2002 as cited in Newsome *et al.*, 2008), resulting in trails that then erode. The pressure exerted by a cow or horse hoof relative to its mass is proportionally more than that exerted by a human foot, because the weight bearing surface area of the hoof is much smaller in relation to the size of the rest of the animal (Walker, 2005). As a result, horses contribute about 20 times more pressure on an area of soil than a bushwalker (Pickering *et al.*, 2010) and cows (being heavier than horses) likely more than this. Trampling by cows (like horses) can reduce the overall biomass in the area (Cole & Spildie, 1998). The development of woody plant stems makes plants in the shrublands susceptible to breakage as a result of trampling (Newsome *et al.*, 2002).

Grazing by ungulates introduces weeds, and cattle graze in different ways to native species and at greater intensity. Cattle are thus *weed vectors*, they can bring new weed species into the area (and new exotics are still arriving in Australia). Certain plant species also disappear in commonly grazed areas. The suggestion that ‘targeted grazing’ here (e.g. p. 10) is somehow part of providing ‘environmental benefits’ is quite irrational. It seems to be just PR,

without ecological evidence. Clearly this is also coming from the idea that grass is ‘going to waste’ inside a SCA and that people should benefit from by their animals being able to graze there. Again this is pure resourcism that does not arise from concern for nature or ‘environmental benefits’ or a desire for conservation. The suggestion that it will ‘promote diversity’, reduce weeds and reduce fuel loads would appear to be wishful thinking. P. 84 suggests that targeted grazing will ‘maintain and enhance groundcover and improve diversity of native species’. This is contrary to many decades of research on the impact by grazing by ungulates, which lead to decline of certain native species, along with an increase in soil erosion and compaction, introduction of feral weed species, and possibly introduction of *pathogens* such as dieback fungus (*Phytophthora cinnamoni*). Spores of *Phytophthora* can survive 24-72 hours in transport (Pickering et al., 2010). Once the fungus has been established, horses can enable its movement from infected to non-infected areas through soil disturbance (Newsome et al., 2002).

On p. 97 the purported benefits cited for grazing were in fact in regard to ‘light grazing’ and the benefits related only to a few species of birds (notably *not plants*). This is hardly a proper ecological study of the overall pluses or minuses of grazing a SCA. Light grazing is provided by native herbivores, so why is it necessary to admit cattle? It then admits that any benefits are likely also to be only on ‘highly productive soils’, only a small part of the area. It states that therefore grazing will have a ‘more limited application’ in the SCA. How will this be the case? Cows go where they will unless fenced or at least with temporary electric fencing, even the latter is a big undertaking. P. 110 of the report admits that fences would be needed and states that the fencing needed for grazing would **cost \$12000 per km**. Grazing the SCA would thus cost a lot of money, have many negative impacts and quite likely no positive ones.

P. 87 also notes that a lack of comprehensive monitoring and data re grazing in white cypress forests means that it is not possible to determine *how grazing would affect conservation values* or fire risk. Given that this report makes much of how it ‘supports the principles of ESD’ (see later), perhaps it is time to remind the NRC that a key principle is the ‘precautionary principle’. If there is no data on the impact of cattle grazing in the same community, then – in a State Conservation Area – it should **not be permitted**. Instead, the document ignores previous evidence of the damage grazing causes, and blithely states that allowing grazing to ‘enable greater knowledge generation’ (p. 99). The claim on p. 98 that livestock grazing can be used to ‘prevent invasion by exotic weeds’ is surprising, given that the cattle will be bringing in the seeds of many seeds with them (some of them possibly not present in the SCA). To suggest similarly that they will ‘control small scale diversity’ by controlling dominants ignores much plant ecology that shows that grazing by ungulates removes some species from the groundcover due to trampling, increased grazing pressure, different species targeted and increased erosion and increased nutrients in cattle droppings.

This portrayal of grazing as an ‘ecological positive’ is thus wishful thinking and a blatant twisting of ecological science. It is a direct falsification of the damage grazing causes, as shown by many studies. Similarly, claims that grazing ‘reduces fuel loads’ (p. 85) have been

shown to be incorrect in other areas. The claim that grazing by introduced ungulates (that come from weed- infested farms) will ‘reduce impact of weeds’ is similarly without any evidence to show how this can be valid. Finally, p. 122 admits that any grazing in the SCAs would be ‘limited and opportunistic’ and ‘**provide minimal benefits** to the grazing industry’. Given the known deleterious impacts of ungulates on native ecosystems, why then is it even being considered, when it would require an expensive series of fences to be built throughout the SCA? Major fencing would itself both damage the environment and impact on recreational use (walkers trying to climb over barb wire fences!).

2.5 Dumbing down of science in favour of ‘socio-economic benefits’

As was found for horse-riding trials in wilderness areas, the same argument is being used here, being that the adaptive management will bring ‘socio-economic benefits’ that have to be considered. These are given equal weight, or even *stronger weight*, than the ecological impacts. P. 32 of the document has a long section on ‘Current economic values’ in support of this ideological argument. The OEH (and presumably the NRC?) are meant to be *science-based*, and the OEH is meant to protect the natural heritage of the national parks estate on *scientific grounds*. Like much co-option of the term ‘sustainable development’ and the ‘triple bottom line’, this report too ignores the original premise of ‘Our Common Future’ (WCED, 1987) which stated that we need all three but that they *cannot be traded off against each other* (see Washington, 2015 forthcoming). Discussions of socio-economic benefits of an activity should be irrelevant to any organisation (such as OEH) that is committed to protecting the state’s natural heritage, biodiversity and ecological integrity. The reason we have a global environmental crisis is precisely *because* we have traded ecosystem services for money (for developers) in projects such as this (known as ‘weak sustainability’). As a result, a recent review by biodiversity experts Raven et al (2011) found that *two thirds* of the world’s species might be extinct by 2100 (if we continue this way), an appalling prospect. That is why biodiversity and ecosystem services cannot any longer be degraded just because it provides ‘socio-economic benefits’. Our society is totally dependent on ecosystem services to survive (Washington, 2013), hence we have to keep them irrespective of any possible lack of social or economic benefits.

p. 55 states that large dense stands of cypress are ‘likely to have less social and recreational value’ than other communities. These are SCAs established with the *primary purpose* of protecting natural values of native biodiversity, and only secondarily for recreation. Such an argument is thus irrelevant to justify an activity that is predicated on providing net *environmental* benefits (as this report claims).

p. 35 states that traditional management assumes that ‘reserves are static’ and will not change over time. This is absurd, since ecologists have recognised since before Clements (1916) that plant communities are *not static*, they are subject to disturbance and undergo succession. This false statement is then used to justify an invasive logging activity on the assumption that it will somehow produce ‘positive environmental benefits’.

p. 36 uses discussions of ‘tipping points’ and irreversible change as a background to this proposal. This discussion is a *total non sequitur*, as the discussion about ecosystem collapse or ‘regime change’ in the literature (e.g. The Economics of Ecosystems, Kumar, 2010) is *in regard to the increasingly huge impacts humanity is placing on ecosystems* due to land clearing (and logging and grazing!), climate change, nutrient pollution, toxification, introduced species etc. It is not relevant to the *natural succession* of native species within native communities (which is happening in the Brigalow area). In other words, such a discussion is being trotted out due to a *twisting of ecological theory*, suggesting that the fact that cypress forms dense stands in areas is an ‘irreversible change’ that degrades ecosystems. Nothing could be further from the truth, it is a *natural process* that occurs in response to fire, grazing pressures (possibly also the major reduction of rabbits due to myxomatosis and callicivirus) and other natural factors. Putting in the pretty graph on p. 35 is thus basically ‘spin’ to try and demonise a natural succession of native species, and to suggest that managers can ‘just in time’ save this community - before it falls over the ‘tipping point’ into destruction. This is a complete misrepresentation of ecological reality, and represents PR manipulation to support their clear aim - logging a SCA.

p. 69 states that the overarching goal of ecosystem management in SCAs is for:

*‘Actively maintain and enhance landscape function, ecological processes and natural diversity of the land to **support the community’s values**’ (my emphasis)*

This is quite odd, as the overarching goal of ecosystem management of any reserve for nature conservation is to **protect biodiversity and ecological integrity**. This is not to ‘support community values’ but to protect the ecosystem services on which society is obligatory dependent. Australia has the worst mammal extinction in the last 200 years of any country in the world. Hence responsible managers and governments *protect biodiversity* to stop further extinctions and to stop Australia contributing more to the major extinction crisis underway (Kolbert, 2014) that could lead to two thirds of life dying out by the end of this century. If the NRC and OEHS are *truly science-based*, then that has to be their overarching goal, *irrespective of community values support this*. This goal shows clearly that the NRC wishes to make social and economic factors *at least as important as ecological protection*, which if allowed will just contribute to a cascade of further extinctions in NSW. This is despite the fact that the NRC report states that the logging is justified *primarily* as an environmental benefit. Clearly the authors realise that this is an unsupportable claim, so seek to bolster their argument with socio-economic benefits.

p. 118 argues that logging and grazing a SCA would be a source of ‘social change’ to the region. Given that this is only a 7 year project, that change is likely to be minimal. Again, it confuses what a State *Conservation Area* is meant to be about – conservation. The unproven assertion that logging and grazing land set aside for conservation purposes is somehow a ‘good thing for society’ ignores the fact that this land was set aside to conserve nature, upon which society depends. It is far more likely to be a source of environmental degradation in an area recognised as being of key conservation significance (the significance of which the report acknowledges). The figure on p. 119 is again a PR exercise to suggest that a

commercial extractive industry will somehow have wonderful flow-on effects to society. This is a totally unjustified deification of a buzz word that hides a damaging commercial activity on national parks estate.

3) Twisting of ESD principles

P. 12 argues that active management is carried out for the *primary purposes of achieving environmental benefits*, which is argued to be *consistent with the ESD principles* in the NP and W Act. I am very familiar with the literature on sustainability and sustainable development, having just completed a book ‘Demystifying Sustainability’ coming out next year from Routledge (Washington, 2015). The whole discussion of sustainability and ESD in this report is *twisting the meaning of the terms* to seek to justify the unjustifiable – logging a State Conservation Area. The POEA Act 1991 lists under ESD principles:

- c) Conservation of biological diversity and ecological integrity—namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration

The suggested primary purposes of environmental benefits have **not been proven in this report**, indeed there is no overall discussion of the environmental impact of a major logging operation in a SCA. We are being assured that a logging operation will in fact have positive environmental benefits, when history and environmental studies have catalogued the multiple and long-lasting negative impacts of major logging operations on ecosystem health. The whole basis of this report is thus a twisting of ecological science and an **attempt to subvert ESD principles to justify a commercial extractive industry** (for ideological not scientific reasons). There are very good grounds in terms of ecological science to believe that such an activity will degrade ecological integrity.

p. 136 lists a table that purports to compare the ‘active and adaptive management’ proposed against the ESD principles adapted from Preston (2006). The **conclusions in this table are untenable and not based on ecology or environmental science**. This proposal is neither sustainable, prudent, wise, nor critically has the report demonstrated it will provide environmental benefits. It seeks to dress up a commercial extractive industry – inappropriate in a State Conservation Area – under the magic words ‘adaptive management’. It fails to conclusively show ecological benefits from the damaging activity (known to be damaging from hundreds of other logging studies). This table thus represents the worst sort of PR exercise. The NRC proposal *fails the precautionary principle* under both the original definition from the Rio Declaration, or under the legal terms in the POEA Act and other NSW legislation. When there is good evidence of the damage of an activity from elsewhere – many hundreds of logging studies – the precautionary principle means you **don’t allow this in a SCA**. Attempting to get around this in the table by saying that ‘we will use adaptive management’ is actually just ignoring the precautionary principle. This activity **does not in any way conform with the principles of ESD**. The response under intergenerational equity is gobbledegook. Logging the protected lands of a SCA is very likely to degrade the environment. This report certainly has not shown otherwise. Hence we would be passing on

degraded natural heritage to future generations, and so it is *bad* for intergenerational equity, not good. Similarly, the claim that the proposal ‘is likely to accelerate future improvement in ecological outcomes’ is nonsense, and spin at its worst. This has not been shown to be the case. In fact they recognise this, which is why the report uses the caveat ‘is likely’. It is *more likely* realistically to degrade the area however.

The lack of evidence in this report for ‘positive environmental outcomes’ from ecological thinning is one reason why on p. 137 the report lists legislative changes to allow logging in a SCA. This reveals the process for what it is – a **brazen attempt to turn SCAs into glorified extractive reserves**, rather than reserves that conserve nature (as they are meant to be). Logging material from this activity is proposed to be burnt in power stations under the change. While this currently refers to the Nandewar region, clearly this is a Trojan horse to **seek to allow it in other SCAs**. It thus represents the thin end of the wedge of logging SCAs (and probably later they will try national parks) and also burning some biomaterial from these in power stations. Logging and grazing a State Conservation Area set aside to protect nature is clearly not compatible with the principles of ESD. This report twists these principles inappropriately to seek to justify the unjustifiable.

4) Adaptive management misrepresented to justify the unjustifiable

Adaptive management at its simplest has been said to be ‘learning by doing’, that research should inform management. Nobody could argue with the premise that scientific research should inform how these reserves are managed. So does the theory of adaptive management support the proposal put forward by the NRC? The problem here is that the term ‘adaptive management’ is being co-opted and misrepresented in support of a commercial extractive industry. Prof. Steve Dovers of ANU has written much about adaptive management. However, Dovers and Mobbs (1997, p. 49) warn how ‘adaptive management’ could be misused. The paper notes:

Also, AM may be used to defend regimes which avoid reform, justifying doubtful practices while waiting for further evidence (in conflict with the precautionary principle). It may simply provide a façade for investigation, hiding indecision. There is potential use of AM to support different positions based not on participatory and informed learning but on preconceived and rigid interests. AM is to an extent, and empty vessel that we can fill as we wish. A myopic mining-in conservation reserves version of ‘sequential land use’ could be supported by a misrepresentation of AM, ignoring the ecological and institutional requirements for policy learning.

His example is of a ‘myopic mining in conservation reserves’ proposal. While there is CSG in SCAs in the area, this situation it is a **myopic logging and grazing proposal in a SCA**. As he notes, adaptive management is an ‘empty vessel’ and can be misrepresented – as it is in this report.

Part of the problem of ‘adaptive management’ is that it leaves itself open to being *anthropocentric* in nature. All value can be seen to rest with the ‘manager’, as commonly nature is seen as having no intrinsic value, and as p. 36 states ‘managers are encouraged to treat management actions as experiments’. This plays up to the lure of managers being able to play God and *see what happens*. P. 78 makes it clear that the manager will determine what density of cypress is an ‘acceptable’ condition. KP 6.4 makes this statement, so essentially ‘let’s log it and see what happens!’. Hence the application of adaptive management here seeks to portray a logging and grazing operation as really just ‘testing a scientific hypothesis’ (which scientists love to do). There is no recognition here that we are in the midst of a biodiversity crisis, that our reserve system is under multiple stresses (climate change being one increasing threat) or that such ‘experiments’ may themselves be extra stresses and have long term damage on ecological integrity. Indeed we know that logging and grazing have impacted negatively historically on ecological integrity in many areas.

p. 11 seeks to use adaptive management as a *smokescreen* for resource extraction, under the guise of ‘opportunities for learning and improving current management are being lost’. This is like suggesting that we should allow exploratory surgery on people because ‘opportunities to learn about medicine’ are being lost. P. 32 builds on this with KP 5.1, stating that traditional management has ‘not been able to deal with the complexities and uncertainties inherent in most natural systems’. This statement is using the jargon that has built up around ‘adaptive management’ to justify ‘playing God’ through various experiments. I have read various books on adaptive management (e.g. ‘Panarchy’ by Gunderson and Holling, 2000), and there is nothing in the theory of adaptive management that suggests we ignore the precautionary principle, or that we ignore existing scientific research on environmental impacts just so we can carry out new experiments. Adaptive management is being used here to justify a commercial resource extraction, in the hope that using this word will *sanitise* the impacting activity that is proposed and somehow make it ‘scientific’. Hence we should rightly consider the relevance of ‘adaptive management’ in regard to impacting activities on the national parks estate. *Conservation ecology* is a more appropriate field to consider here (notably absent in this report). ‘Adaptive management’ has been used to justify horse-riding in wilderness, ecological thinning in the River Red Gums reserves and grazing in national parks. It is similarly being used to justify logging and grazing of an SCA here. This time it is ‘adaptive management’ rather than ‘multiple use’ that is being used to justify resourceism and a commercial extractive industry in an SCA. This is exactly the inappropriate use of ‘adaptive management’ that Dovers and Mobbs (1997) warned of.

p. 12 shows the use of ‘eco-babble’ in regard to social conditions where it notes ‘improvements in resilience may mean that Baradine and Gwabegar avoid further decline ...’. This statement is seeking to use the buzz-word ‘resilience’ to justify this activity. In reality what is being said is both unlikely and meaningless.

5) ‘Self-serving’ additional management objectives suggested on p. 70

p. 70 lists new management objectives proposed for the SCAs. These are totally self-serving

to justify an invasive logging and grazing regime. They use weasel words such as ‘enhance habitat for fauna, including promoting eucalypt numbers’ (read logging), and ‘reduce stress on trees from resource competition’ (read logging), and ‘maintain and enhance ground cover’ (read logging). This is a shameful use of PR wording to dress up invasive commercial logging as something good for nature and appropriate in a SCA. It is not appropriate, and certainly has *not been shown* conclusively to be a ‘good thing’ in this report.

6) Government funding being used to log a State Conservation Area

One of the strangest aspects of this report is not just its resourcism, but the fact that taxpayers money will be used to log the SCA. The logging operation will not net any money for the government, it will not even break even. Instead, government funds will be used to degrade a SCA. So while this report comes from a neoliberal ideology, in a free market situation, such a project could not proceed as it is clearly *not economic*. In this proposal, this uneconomic damaging activity to the SCA is **going to be funded by \$40 to \$330 per hectare** by government funds. Given that the ecological need for this project is most definitely not proven in this report, the fact that it is also uneconomic should lend further weight to it *not proceeding*. P. 107 states that the proposed thinning may cost the government \$3.5 million a year for 7 years, a major outlay without evidence of any proven ‘environmental improvements’.

Conclusion

This report is both inappropriate and unprofessional, and arises from a pre-determined ideological agenda to extract resources from the national parks estate. It is the *thin end of the wedge seeking to log, graze (and perhaps even open-cut mine in future?) the national park estate* that Australians have fought for, for many decades. It is inappropriate in that the NRC is most definitely **not** the body to carry out a study that decides on the ecological benefits of logging and grazing a SCA. This is basic part of conflict of interest. The NRC has its focus on extracting resources, so the CSIRO or the Ecological Society of Australia or similar unbiased scientific body should determine such a study, *not the NRC*. It is unprofessional in that the proposal is justified totally on ‘positive environmental benefits’ from the proposed logging and grazing. Yet the scientific evidence in support for this is both *meagre and contradictory*. Indeed the report is honest enough to note that as many studies contradict its claims of benefits from logging dense cypress stands as support it. The report also outrageously twists and misrepresents ESD principles in regard to a logging and grazing proposal. It also misrepresents adaptive management, seeking to twist this theory to justify the unjustifiable – the logging and grazing of a State Conservation Area. The report is *not factually accurate scientifically* and indeed its ideological underpinnings are ethically questionable. This proposal should not proceed, certainly not without an independent ecological study by a reputable scientific organisation (not paid consultants). If this proposal is allowed to proceed, then the conservation gains of the last 100 years in NSW (supported by *all* previous governments prior to this government) will be placed at major risk.

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