

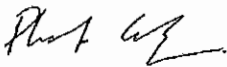
24 August 2012

Native Vegetation Regulation Review
Conservation Policy and Strategy Section
Office of Environment and Heritage

Submission on the Draft Native Vegetation Regulation 2012

Please find below my submission on the review of the Native Vegetation Regulation. Please feel free to contact me on should you require clarification on any of the issues I have raised here.

Yours sincerely,



DR PHILIP GIBBONS

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Summary

1. The Native Vegetation Act and Regulation were introduced in late 2005 after an assessment by The Wentworth Group of Concerned Scientists that: (a) broadscale clearing in NSW was at a rate that threatened agricultural and ecological sustainability; and (b) too much clearing occurred under exemptions in the previous legislation.
2. NSW Government satellite data indicate that the Native Vegetation Regulation 2005 has failed to reduce the rate of land clearing from historic levels.
3. Only 20% of broadscale clearing that has occurred for agricultural activities since the introduction of the Native Vegetation Regulation is identified as approved clearing. Thus, 80% of clearing is due to exemptions, vegetation 'management' and/or illegal activity. In their annual clearing report card, the NSW Office of Environment and Heritage (OEH) should itemise all native woody vegetation loss.
4. It is not possible to claim that the objective to "end broadscale clearing unless it improves or maintains environmental outcomes" has been met while the majority of broadscale clearing occurs outside an improve or maintain test. A greater proportion of clearing needs to be brought under the formal approvals process in line with the original recommendations of The Wentworth Group of Concerned Scientists. The tenor of material provided by OEH suggests that more clearing is likely to be permitted outside a formal improve or maintain test.
5. Over 3 million ha of Invasive Native Scrub management has been approved under the Native Vegetation Regulation 2005, but the amount of woody vegetation loss from this activity has not been reported. Relaxation of Invasive Native Scrub approvals should not proceed until there is a review of the extent to which Invasive Native Scrub management improves or maintains environmental outcomes.
6. Thinning benchmarks must be reviewed using the most recent available data. The source of all thinning benchmarks should be cited and unsourced material should be interim only.
7. There are approximately 60 parameters that must be measured by assessors in the revised EOAM. There is scope to considerably simplify the decision support system that underpins clearing approvals using a formal sensitivity analysis. Further savings of time and resources could be made if a simplified EOAM was made available publicly to provide indicative assessments.
8. 46,000 paddock trees have been cleared under the Native Vegetation Regulation despite growing scientific evidence that paddock trees provide many ecosystem services. I assessed that half of the largest clearing approvals for paddock trees were based on an offset that would not improve or maintain environmental outcomes. There needs to be greater effort to avoid and mitigate the loss of paddock trees within the context of cropping systems, better guidelines for offsetting paddock trees and the NSW Government should establish mitigation banks now in anticipation of ongoing depletion of this resource.
9. The revised EOAM should be subject to formal peer review.
10. Land clearing regulation in NSW will remain relatively ineffective and a source of division in the community while demand for new agricultural lands exist. One of the best ways that the NSW Government can de-couple growth in agriculture from land clearing is via support services that allow farmers to invest in technologies (e.g. precision farming) that increase agricultural productivity on their existing land base.

Land clearing not changed under the Native Vegetation Regulation (2005)

Change to native vegetation laws in NSW were modelled on the report by the Wentworth Group of Concerned Scientists to the NSW Government in 2003. In this report The Wentworth Group identified high rates of land clearing in NSW since the introduction of the previous Native Vegetation Conservation Act in 1998 and the negative effects of this clearing on water quality, salinity, biodiversity and soils. As a consequence, The Wentworth Group of Concerned Scientists recommended new guidelines to:

...prohibit the broadscale clearing of remnant vegetation and protected regrowth, with some sensible flexibility built in to provide for minor variations under a strict, but workable, net environmental gain mechanism.

This advice culminated in a new Native Vegetation Act 2003, which has the objective to:

End broadscale clearing except where the clearing will improve or maintain environmental outcomes.

A major improvement in native vegetation management since the introduction of the Native Vegetation Regulation (2005) has been in the preparation of annual land clearing statistics. These statistics indicate that the clearing of woody native vegetation for cropping, pasture and thinning (i.e., clearing regulated under the Native Vegetation Act 2003) has changed from an annual average of 19,371ha under the previous Act (1998-2006) to 18,374ha since the introduction of the new Native Vegetation Regulation in late 2005 (2006-2010) (Figure 1) (accessed from <http://www.environment.nsw.gov.au/vegetation/reports.htm> on 23 August 2012). That is, **the new Native Vegetation Regulation (2005) has resulted in no change to historic rates of land clearing.** The introduction of the Native Vegetation Act (2003) was based on the premise that broadscale clearing in NSW was occurring at a rate considered too high (Wentworth Group of Concerned Scientists 2003). That the rate of clearing has not changed, suggests that something very wrong has occurred with the implementation of the Native Vegetation Regulation (2005). It concerns me that the tenor of the review material provided by OEH is that regulations will be relaxed to make land clearing easier. The reality is that clearing native vegetation only where it "improves or maintains environmental outcomes" is a difficult standard to meet (Gibbons & Lindenmayer 2007) and less clearing will have to be permitted than currently the case if this standard is to be met. There is no discussion of this point in any of the material provided by OEH on the review.

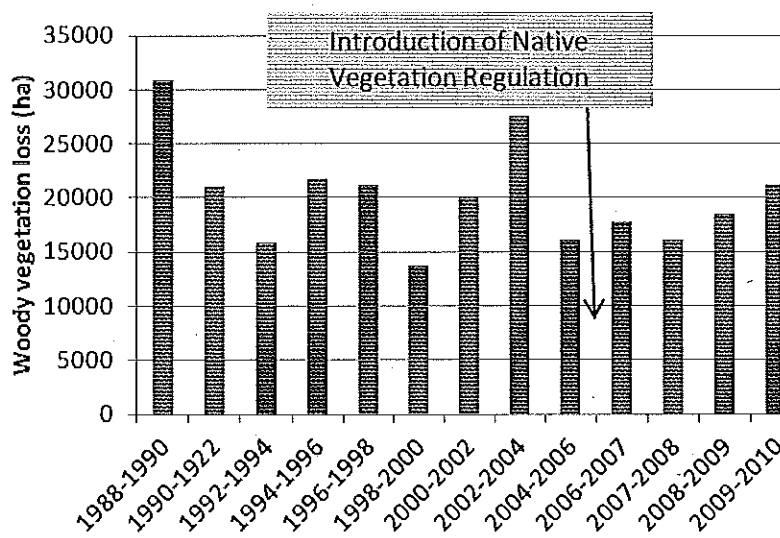


Figure 1. Annualised areas (ha) cleared for crop, pasture and thinning in NSW (data downloaded from <http://www.environment.nsw.gov.au/vegetation/reports.htm> on 23 August 2012).

Exemptions

According to data published by OEH (2012) and confirmed by data in the public clearing register (<http://www.environment.nsw.gov.au/vegetation/approvedclearing.htm> accessed 24 August 2012), clearing approvals (14,520ha) represent only 20% of the total reported clearing for cropping, pasture and thinning (73,497ha) that has occurred since the introduction of the Native Vegetation Regulation (2005). These are land uses regulated under the Native Vegetation Act (2003). This implies that unregulated clearing (i.e., management of vegetation, exemptions and/or illegal clearing) represents 80% of the total clearing for cropping, pasture and thinning.

The Wentworth Group of Concerned Scientists made the following observations of the Native Vegetation Conservation Act (1998) (this is the Act that the Native Vegetation Act 2003 replaced):

The Native Vegetation [Conservation] Act is being undermined by too many exemptions that have created legal loopholes and have made compliance complicated.

The only exemptions should be for:

- *the construction of a dwelling;*
- *carrying out routine farm activities, such as collecting firewood for personal use, fencing materials and reducing bushfire hazard; and*
- *vegetation managed in accordance with a certified property management plan.*

Other exemptions, such as the two hectare rule, should be abolished.

It is important that this review identify and correct why 80% of clearing for cropping, pasture and thinning appears to occur outside the approval process. In their annual clearing report card, OEH should reconcile all native woody vegetation loss according to the mechanism under which that clearing has occurred (e.g., paddock trees, intact vegetation, thinning, INS, RAMAS, other exemptions, illegal or unexplained activities). A greater proportion of clearing should be brought into the formal approval process. For example, in the wake of Black Saturday, the Bushfires Royal Commission recommended that clearing for bushfire mitigation should be offset.

Invasive native scrub

A total of 3,327,606ha of Invasive Native Scrub (INS) management has been approved under the Native Vegetation Regulation (2005) according to data in the approved clearing register (downloaded 23 August 2012 from <http://www.environment.nsw.gov.au/vegetation/publicregister.htm>). This is by far the greatest component of approvals under the Native Vegetation Regulation 2005. Statistics provided by OEH do not indicate the net loss of native woody vegetation that is due to management of INS. A review of the types of management that occur under INS, and greater transparency around the loss of native vegetation because of INS, is required. It is not appropriate to relax approvals for certain forms of INS management until the impacts of these treatments on woody vegetation change are ascertained.

Thinning

I support moves for relaxed regulatory control over thinning based on data suggesting there has been only a relatively small area of woody vegetation loss from thinning and provided there is an ongoing independent audit process. However, benchmark stem densities should be reviewed and the sources provided. Figures given for benchmark stem densities for some vegetation communities in the Draft Codes of Practice will not maintain a diameter distribution necessary to maintain stand structure over time. For example, Coolibah/Black Box supports an average of approximately 24

stems per ha in the 21-30cm DBH class (Gibbons et al. 2010). Thus, the benchmark for stem density <20cm DBH must exceed 24 stems per ha for the stand to be maintained. However, the benchmark figure cited in the Draft Code of Practice for Thinning in the Namoi CMA is 20 stems per ha <20cm DBH. The aim must be to maintain a negative exponential diameter distribution consistent with typical stem densities in these vegetation communities (see Gibbons et al. 2010). Stem density benchmarks should be reviewed and the source material cited in the benchmark documentation. Any stem density estimates not supported by sufficient empirical data should be interim only.

Further cutting red tape

I support the objective to make the assessment methodology simpler. As it currently stands, the decision support tool contains approximately 60 separate parameters that must be measured by assessors. I believe there is considerable scope to simplify this further than has been achieved in the draft EOAM. I encourage OEH to undertake a sensitivity analysis on the revised decision support tool. A sensitivity analysis is likely to identify autocorrelated variables and variables that have little or no bearing on the outcome and therefore are not required. For example, in a sensitivity analysis of BioMetric, which represents a component of the existing decision support tool, Gibbons et al. (2009) identified several variables that were either autocorrelated or did not significantly affect clearing assessment outcomes. This analysis also identified that the area of the offset had a disproportionate bearing on the outcome of clearing assessments (because area to the power of one is a multiplier in the metric). The revised EOAM has not drawn on these analyses. The work of McElhinny et al. (2006), which was research part-funded by the NSW Government to support the development of BioMetric, outlines a useful approach for developing a parsimonious decision support tool. It may be useful to develop a simplified version of the decision support tool that is available publicly on the internet that allows proponents to undertake indicative assessments, thereby getting instant preliminary feedback on the feasibility of their plans. This is likely to translate to fewer formal rejections, and thus save considerable time and resources for all stakeholders.

Paddock trees

Paddock trees have been cleared in vast numbers (46,385 trees) under the Native Vegetation Regulation 2005. Proposed changes to the EOAM suggest further de-valuing this resource despite the science indicating the opposite—that paddock trees have greater value for a range of ecosystem services than previously thought (Manning et al. 2006). I recommend that the management of paddock trees needs to be improved in several ways:

1. **Greater focus on avoid and mitigate.** I am not opposed to some streamlining of the assessment process for clearing paddock trees in cultivated areas although there is a danger that this process will effectively make paddock trees easier to clear and thus further remove the disincentive to apply the principles of the mitigation hierarchy (i.e. avoid and mitigate before offsetting). Greater investigation on how to retain and perpetuate paddock trees within productive cropping systems should be a recommendation of the review.
2. **More appropriate offsets for paddock trees.** The original intention of paddock tree offsetting was to capture comparable areas in offsets where paddock trees are unlikely to persist under the status quo, vary this management and thus secure a net gain in the long term via avoided loss (Gibbons et al. 2009; Gibbons & Lindenmayer 2007). To achieve “improve or maintain”, these areas must be in the agricultural matrix, so the functional role that paddock trees play in softening this matrix and providing connectivity (Fischer & Lindenmayer 2002) persist in our agricultural landscapes. However, of the large paddock tree clearing approvals (>1000 trees), only half occurred in areas I assessed (from Google Earth) are likely to lack natural regeneration, and therefore be under sufficient threat to secure sufficient avoided loss from changed management. That is, some of the larger offsets established for paddock trees are likely to be achieving gains that are not comparable with the nature of loss. The revised EOAM should limit paddock tree offsets to areas where there is no current natural regeneration and there should be a focused

audit to assess whether the changed management in these areas is resulting in the return of natural regeneration. Assessors must be actively involved in identifying appropriate offsets for paddock trees.

3. **Establish mitigation banks for future clearing.** Targets for increased agricultural production in the National Food Plan (77% increase by 2050) are likely to translate to ongoing demand for expanding the area of land under cultivation which, in turn, will see ongoing demand to clear paddock trees. Paddock trees are keystone structures for several ecosystem services (Manning et al. 2006) and take a prolonged time to recruit to maturity (Gibbons et al. 2008). In anticipation of future paddock tree clearing, the NSW Government should be establishing mitigation banks now in an attempt to better offset the attendant environmental impacts of this activity. A levy on existing clearing or government incentive programs to fund paddock tree mitigation banks would be appropriate since offsets established for paddock trees are unlikely to provide compensation until well into the future.

Peer review

The revised EOAM should be subject to independent peer review to ensure that best available information and science has been applied. The document and process is simply too large and complicated to expect a thorough examination through public submissions. I am disappointed in the lack of relevant scientific material that has been cited throughout the proposed EOAM and review material, particularly given the considerable research in the area of benchmarks, metrics, paddock trees, connectivity and offsets that has been published since the original EOAM.

De-coupling land clearing from agricultural growth

NSW has a growing issue with land clearing that the Native Vegetation Act has failed to curtail. Failing to address this issue properly carries with it a risk is that NSW will run down its natural assets to a point that threatens the productivity of agricultural land and irreversibly affects its unique natural heritage. Regulation of land clearing will not be effective without either removing the drivers of land clearing or working actively to de-couple these drivers from land clearing. One of these key drivers is the predicted future expansion of food production in Australia as outlined in the National Food Plan. This will see the further expansion of cultivated areas in particular within NSW. One of the best ways that the NSW Government can curtail land clearing is via education and support to farmers to invest in technologies that increase agricultural productivity on the existing land base rather than continuing to expand the land base for intensive agriculture.

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