Submission No 359

INQUIRY INTO MANAGEMENT OF PUBLIC LAND IN NEW SOUTH WALES

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Date received: 31/08/2012

Conversions to the Reserve System have been most belated and inadequate, with values being degraded from over-exploitation in many areas before conversion. This is especially the case with Northern NSW Hardwoods and Riverina River Red Gum forests. It is ludicrous to suggest these conversions are inappropriate and should be revisited. The Reserve System should be enhanced and managed for conservation, not further exploitation. Already aspects of NPWS management reflect vested interest pressure to the detriment of conservation objectives. Adjoining lands should be managed sympathetically as buffer areas.

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Eucalyptus camaldulensis
NSW RED GUM
FOREST ACTION

August 29th 2012

General Purpose Standing Committee, NSW Parliament

Inquiry into the Management of Public Lands.

I forward these comments as a founding member of NEFA and also of NSW Red Gum Forest Action Inc.

I believe there is overwhelming community support for a system of national parks and reserves. It cannot seriously be questioned that over-cutting upper catchments degrades vital soil and water resources we rely upon, that morality requires, and the community expects, management practice to preserve species by protecting essential habitat. It is now clear, and generally accepted, that over-exploitation of our soils, rivers, catchments and forests is destroying the ecological bases of sustainable life.

These terms of reference question the public benefit of gazetting areas to protect natural values. However, this enquiry appears to seek to represent narrow private material interests affected by these conversions, as against the long-term interest of the community and future generations. This is objectionable, the more especially because in most cases lands are transferred for protection most belatedly, only after over-exploitation has significantly damaged their recognised values. Such lands therefore need at the least, to be left to recover, or where possible, given remediation – not further exploitation disguised as "sustainable use". River Red Gum and Northern NSW Hardwood Forests illustrate this situation most forcefully, so much so that it is quite ludicrous to suggest that these conversions were inappropriate, excessive in area, not based on scientific assessment, not in the public interest.
It is surely a most futile exercise to base enquiry on assumptions which thus challenge truths and values accepted by scientists and the community; to seek to assert that perceived benefit for a selfish few should prevail over the long-term interests of the entire community and future generations.

Statute law tends to reflect very basic community expectations - the law usually only catches up after a considerable lag. Yet the long drawn-out processes towards protection of some Northern NSW Hardwood forests, and River Red Gum forests, in both cases involved, early in the process, the Land and Environment Court finding logging and associated operations illegal. Subsequent scientific assessments formed the basis for conversions to national park estate. Any claim that these assessments were biassed towards conservation would be demonstrably false. Indeed, both assessment processes compromised conservation outcomes by strongly weighting short-term social

and economic considerations, and ultimately arriving at political, not scientific, decisions. That is to say, applying objective data to accepted criteria would have set aside in the reserve system a greater area of north eastern hardwoods, and Riverina River Red Gums.

NORTHERN NSW COMPREHENSIVE REGIONAL ASSESSMENT (CRA)

The CRA Assessment process for northern NSW cost over 35 million dollars over about 3 years. It was intended to be driven objectively by applying science to accepted (and legally obligatory) criteria. However, the process was undermined with logging and mining interests predominating. The 1998 Reserve Decision was severely constrained by supply commitments to industry, and the decision also concluded 20-year wood supply contracts, and exempted forestry operations from the EP & A Act, so that EIS and FIS were no longer required; and introduced revised, and most inadequate, Threatened Species (TSL) and Environmental Protection Licence (EPL) conditions. Mining interests exercised a veto over a large areas on the basis of 'possibly exploitable in future'. Despite significant weakening of criteria and compromises by conservation interests, the outcome of the scientific assessment was that a minimum of 1.3 million ha was required to be reserved to meet criteria. A compromise agreement was reached between the parties of, from memory, approximately 780,000 ha. A few days later, in December 1998, the three responsible government ministers reduced this by about half, making nonsense of the $35 million scientific assessment. This was the CRA for Upper and Lower North East NSW Forests. The result was a lamentably inadequate reserve system, as summarised below, as at year 2000 – subsequent additions improved progress towards target achievement, although over-all only slightly (from Dailan Pugh, 2000):

Inadequate CRA Reserve Outcome.

For the Upper North East (UNE) CRA region the existing formal reserve system, even including the Crown and Strict Informal Reserves, fails to adequately protect biodiversity. When assessed against the reserve targets adopted in the CRA, the current reserve system:

- meets conservation targets for only 24% of the 1,075 entities which were under consideration, has a mean target achievement for all entities of only 49%, and fails to achieve even 20% of target for 34% of all entities,
- achieves conservation targets for only 33% of the highest priority (Vulnerability 1&2) entities and has a mean target achievement for highest priority entities of 41%,
- meets conservation targets for only 36% of the 162 forest ecosystems with a mean target achievement of 61%,
- meets only 20% of the 145 targets for oldgrowth ecosystems with a mean target achievement of 60%,
- achieves conservation targets for 35% of the 404 rare or threatened fauna populations in the region with a mean target achievement of 50%,
- meets targets for 56% of the 339 rare or threatened plants with a mean target achievement of 36%, and
- achieves conservation targets for only 2 of the 24 Centres of Endemism in the region with a mean target achievement of only 50%

For the Lower North East (LNE) CRA region biodiversity target achievement in the existing reserve system is similarly very poor. When assessed against the reserve targets adopted in the CRA, the current reserve system::

- meets conservation targets for only 32% of the 977 entities under consideration, has a mean target achievement for all entities of only 56%, and fails to achieve even 20% of target for 25% of all entities
- achieves conservation targets for only 20% of the highest priority entities and has a

mean target achievement for highest priority entities of 48%

- meets conservation targets for only 42% of the 198 forest ecosystems with a mean target achievement of 67%,
- meets only 35% of the 170 targets for oldgrowth ecosystems with a mean target achievement of 66%,
- achieves conservation targets for 29% of the 384 rare or threatened fauna populations in the region with a mean target achievement of 49%,
- meets targets for only 27% of the 204 rare or threatened plants with a mean target achievement of 51%, and
- achieves conservation targets for only 1 of the 21 Centres of Endemism in the region with a mean target achievement of only 52%.
-

(Pugh continues:)

Even when all supposed "protection" categories (formal reserves, informal reserves, protection by prescription) adopted in the CRAs for UNE and LNE are considered, they fail to rectify the manifest deficiencies in the current reserve system. For example, in the UNE of the 156 forest ecosystems considered in the CRA, 83 forest ecosystems did not achieve the targets set for them under any of the forms of protection specified in the RFA (ie even by "prescription"). Of these 15 are considered Vulnerable and 25 rare, and 56 achieved less than 50% of their reserve target in any form of "protected" areas. Further to this, of the inadequately protected ecosystems, logging was considered a primary threat to 10 and a secondary threat to 18, and clearing was considered a primary threat to 40 and secondary threat to 24.

For populations of the 152 rare and threatened animal species assessed in the CRAs for UNE and LNE, 28% of the targets are achieved in formal reserves. There are 57% of these animal populations under 50% of their targets, and 23% under 10% of their targets. Those 42 species identified as most in need of reservation (Vulnerability 1) achieve targets in formal reserves most poorly, with only 12% of populations achieving targets, and 75% of these most vulnerable fauna under 50% of their targets and 29% under 10% of their targets.

In the CRAs for the UNE and LNE expert workshops identified and ranked the relative significance of disturbances to priority fauna species (reported in Appendix 4 of Environment Australia's 1999 report on the Response to Disturbance Project). A total of 102 priority species (58 listed under the TSC Act) had logging identified as a significant threatening process, with logging identified as the most significant threat to 40 of these species (clearing considered a higher threat in many other cases). For 34 species (16 listed under the TSC Act) the loss of logs on the ground was considered a significant threat, for 7 of these species the loss of logs was identified as the most significant threat to their continued existence.

The consequences of this extremely poor target achievement become apparent when individual species are considered. For example, the expert panels identified that to maximise the chances of these species surviving, the UNE reserve system should encompass at least:

- 670 breeding pairs of Barking Owls, yet only sufficient habitat for about one tenth of these is to be included in Carr's reserves,
- 380 breeding pairs of Powerful Owls, yet only enough habitat for less than half this number is to be included in Carr's reserves,
- 610 breeding pairs of Masked Owls, yet only enough habitat for less than a quarter of these is to be included in Carr's reserves,
- 280 breeding pairs of Sooty Owls, yet only enough habitat for less than two thirds of these

is to be included in Carr's reserves,

- 1700 breeding Tiger Quolls in two populations, yet Carr has reserved sufficient habitat for less than one fifth of these, and
- 3,460 breeding pairs of Yellow-bellied Gliders in three discrete populations, yet Carr has reserved sufficient habitat for only about one fifth of these.

(Pugh, 2000)

RIVER RED GUM

The Preliminary Assessment Report on River Red Gum Forests by the Natural Resource Commission followed a series of assessments of the Riverina Red Gum forests conducted as a consequence of years of campaigning leading finally to legal action by the National Parks Association. It was appalling that these assessments were so belated, and all so manifestly inadequate, and that this process only occurred because of the persistence of environment groups over some years in the face of intractable authority.

Over 20 years ago cases brought in the NSW Land and Environment Court established the legal obligation to conduct comprehensive EIS for operations in state forests. Failure of Forests NSW (FNSW) to do so in the Riverina had been subject of complaint for many years, as had been the severe impacts of operations over all that time of lamentably inadequate environmental protection prescriptions – impacts much exacerbated by drought. Determined action over several years by the National Parks Association (NPA) supported by other environment groups led to a so-called "EIS" which even FNSW acknowledged did not meet legal requirements. Likewise, requirements of the EPBC Act had not not been met...

Major issues were the impacts of operations both for timber product and for residue, especially firewood, together with the impacts of other activities, especially grazing, the impacts of such activities specifically on national values, and the lack of reservation of river red gum forests and woodlands in National Park Estate. These issues had not been addressed in the NRC Preliminary Report.

In response to proceedings brought by the National Parks Association (NPA) in September 2007, because of the failure to comply with Part 5 EPA requirements, FNSW denied operations were having a significant affect on the environment, and in February 2008 the Minister asserted this explicitly. However, FNSW then evidently determined operations *were* having a significant affect on the environment, and undertook to prepare an EIS and also a Preliminary Assessment under part 3A of the Act. Meanwhile operations, which were illegal under State and Federal law, continued. Subsequently in 2009, even a most reluctant local magistrate, trying cases against protesters in River Red Gum forests, found ForestNSW operations illegal and dismissed the charges.

In August 2008 the Department of Environment and Heritage conducted an assessment concluding that operations, especially patch clearfelling, was very significantly impacting Ramsar wetlands in River Red Gum forests.

NPA (2008) find that

" River Red Gum logging and associated activities are likely to have a significant impact on matters of National Environmental Significance because of intensity, their magnitude, their frequency, the extreme sensitivity and high conservation value of the environment in which they are occurring, the large geographic area affected annually and over time, the high cumulative impact in the context of other sources of impact (climate change, drought, invasive species, previous logging, land-clearing

and fragmentation), the low level of confidence with which the impacts are understood, and the context in which they occur of a heavily cleared and highly fragmented landscape with very low levels of reservation."

The NPA 2008 Report details most comprehensively that River Red Gum lands represent an extraordinarily high quality environment with numerous important conservation values, which is extremely sensitive to disturbance and perturbation due to the severe stress and decline that is already occurring.

River Red Gum forests had only 3.8% of their original (pre-1750) distribution reserved in National Parks. As a vulnerable ecosystem experiencing severe decline, NSW Government policies (such as the National Forest Policy Statement) should have required that 60% of its distribution be protected. Biodiversity experts identified more than 80% of all River Red Gum forests as high conservation value areas or Indicative Key Areas for conservation in the Riverina bioregion (Todd and McDonnell 2003).

River Red Gum Crown-timber lands are the last major areas of vegetation left between the Great Dividing Range and South Australia. A virtually unbroken belt extends not only along the Murray River, but also along the lower reaches of the Lachlan and Murrumbidgee Rivers and the entire Edwards River. Together these are the best landscape-wide stands of vegetation remaining in south-western NSW. They are vital as corridors for movement of fauna to enable species to adapt to human-induced climate change.

The level of reservation in the Riverina bioregion within NSW prior to the recent conversions was extremely poor, with only 1.9% of the bioregion protected in National Parks and Nature Reserves in NSW. This compared with at least 15% reservation in coastal bioregions. The Murray Fans subregion, where most of the River Red Gum State Forests are located, had 0% in reserves and there was only a single tiny National Parks reserve along the entire length of the Murray River in NSW.

The Riverina bioregion has been recognised by both the National Land and Water Resources Audit and the National Reserve System report as one of the highest priority bioregions for consolidating the protected area system in Australia (NLWRA 2002, NRMMC 2005).

At least 16, and possibly up to 26, fauna species are believed to have become extinct in the region and an additional five bird species have been reduced to rare vagrants that no longer breed in the region (Todd and McDonnell 2003). At least 63 fauna species (Todd & McDonnell 2003) and 28 plant species (Forward 2003) are at risk of extinction in the region, and are listed as endangered or vulnerable by the NSW *Threatened Species Conservation Act* 1995. A further 20 plant species are thought to be listed on the database of Rare or Threatened Plants of Australia (Forward 2003). At least 51 terrestrial ecosystems are considered threatened in the Riverina bioregion as a whole (NLWRA 2002)." - NPA (2008).

NPA (2008) estimate that approximately 19,780 hectares of declared Ramsar wetlands and 9,296 hectares of Superb Parrot breeding habitat had been logged illegally by FNSW. This was due to FNSW failure to refer the matter of River Red Gum logging to the Federal Government immediately after the commencement of the EPBC Act, or to refer the matter immediately after the designation of the Central Murray State Forest Ramsar site. (NPA 2008).

Apart from logging, very significant additional impacts result from other activities which are both ubiquitous and intensive – namely, commercial residue harvesting (including especially firewood), domestic firewood collection, grazing (conducted over 72% of the total forest estate) and recreation.

Such impacts over many decades have been the greater because virtually unregulated.

The Victorian Environmental Assessment Council (VEAC) investigated such impacts for their *River Red Gum Forests Investigation (*Papers 2006, 2007, and Report 2008). Their findings as cited in the NPA Report are relevant to NSW State Forests:

VEAC (2006) found that grazing can, "*potentially lead to pugging, selective plant removal, weed invasion, soil compaction, erosion and increased sediment in rivers and streams*" and that "*the selective nature of grazing has the potential to significantly change the biodiversity of an area*". VEAC refer to other studies which have found that increased grazing, "*reduces the ecological condition of riparian habitat and results in the loss of bird, frog and plant diversity in river red gum habitats*". Continuous and intensive grazing is expected to cause "*significant loss of habitat value through species selectivity, changes to vegetation structure and impacts on habitat values*".

VEAC (2007) identified off-track fourwheel-driving, trail-bike riding and dispersed camping as having a substantial environmental impact, for the following reasons:

"…in some popular camping areas…..the current rate of use of firewood is unsustainable, with firewood becoming very scarce. Roadsides along Yarrawonga have been stripped of their fallen timber, affecting flora and fauna that require the fallen timber for habitat. It is not only the small, easily handled wood that is taken. Some campers attach very large logs their four-wheel drives and drag them through the forest causing soil disturbance and erosion".

The lack of formed campsites with facilities in most State Forests means that human waste and rubbish is frequently left spread around the forest. This results in substantial pollution with potentially significant impacts on water quality during inundation. Wildfires escaping from campfires also represents a substantial risk (VEAC 2007).

In relation to four-wheel driving, VEAC (2007) notes that: "*This often results in roads and tracks being badly damaged with rutting, potholes and corrugations….Road damage also leads to erosion, damage to vegetation and water pollution*". Perhaps the biggest impact of four-wheel driving arises from off-track driving, which destroys sensitive vegetation.

And in regard to trail-bike riding, VEAC (2007) notes that in some NSW State Forests in the past:

"*Inappropriate use of bikes was degrading vegetation on sandhills and in the forest, and spreading weeds such as spiny burr grass. Bikes often cause noise pollution and disturb wildlife. Some bike riders cause damage to Indigenous heritage areas as they use midden and burial sites as ramps from which to jump*".

This impact has been confirmed by field inspections cited in NPA, (2008) which indicate substantial degradation of important, high conservation sandhills by trial-bike riding that is currently occurring.

What emerges overwhelmingly from the VEAC and NPA Reports, is a shameful lack of appreciation of these forests and wetlands. Ravaged by drought, these forests have been trashed for decades for predominantly low value product, and in addition, much recreational use has been unregulated and abusive.

The Victorian assessment resulted in 90% of its red gum state forests being removed from production and large new National Parks being declared. NSW reserved far less – and private red gum forests remain unprotected. The extent to which critically degraded NSW river red gums may eventually recover, remains uncertain.

What is surely certain, however, is that a lesser protected area of river red gums, or a more permissive protected regime, could not be justified.

Murray Darling Basin, from the Guide:

Waterbird abundance in the Basin has declined by 80% since 1983!

With respect to **fish**, the Guide states that

"Currently, native fish populations are estimated to be about 10% of their pre-European levels. Additionally, the structure of the Basin's fish populations has changed, with 16 of the Basin's 35 native fish species now listed as threatened and 80–90% of the fish biomass in the Murray and Murrumbidgee rivers consisting of alien fish species. The Sustainable Rivers Audit found that the fish populations in 20 of the 23 river basins studied were in 'poor' to 'very poor' condition for the period 2004–07."

With respect to **River Red Gums** the Guide summarises thus:

"In 2003, approximately 80% of river red gums on the River Murray in South Australia showed signs of crown stress. A survey in 2006 showed a general decline along the River Murray progressing downstream from Hume Dam. Along the Victorian River Murray floodplain only 30% of river red gum stands were in good condition, and northern Victoria was the only area where the majority of stands were in good condition. By 2009, the area of river red gum forests and woodlands estimated to be in good condition in The Living Murray icon sites had fallen to 28%.

The decline of river red gum forest and woodland has continued in the Macquarie Marshes since it was first recorded in the 1990s. By 2004, up to 30% of trees identified as stressed in 1996 had died. By 2008, 40% of river red gum communities in the marshes were in poor condition, with more than 80% dead canopy. More than half the area of river red gum forest and woodland was identified as stressed and only 5% of the area was in good condition, having less than 10% loss of canopy. A similar pattern of decline has been recorded in the Murrumbidgee and Lachlan valleys."

Recent belated River Red Gum reservation declarations by the Victorian and NSW Governments require the support of the Basin Plan to gradually restore as many of these river red gum communities to a healthy condition, as may still be possible. The Guide's assessment is that approximately 7,600 GL/Yr would be required to achieve this for 80% of these communities. However, the Guide proposes a target of 75% for only a sub-set of these communities, those within the "indicator assets":

"The Guide targets for the indicator assets seek to maintain or restore about 75% (about 230,000 ha) of the river red gum communities contained in those assets to good condition..... Scenario 3 is likely to provide sufficient water to achieve the 75% target."

However, there is altogether 531,900 ha of River Red Gum forest in the Murray-Murrumbidgee floodplains (401,000 in NSW, 130,900 ha in Victoria) and in addition, 162,000 ha of Red Gum/Box types in NSW. Notwithstanding reserve declarations by the State Governments, Australia's performance in acting to protect and restore these internationally-significant river red gum wetlands has been very poor – too little, too late.

Jamie Pittock said "The targets were very low, so for example only 30 per cent of red gum forest

areas of the Gumbower-Perricoota forest on the Murray River was proposed for conservation, and since 2003 the government simply hasn't delivered on those promises."

It is a national tragedy that our river red gum forests, woodlands and wetlands have been allowed to degrade to such an extent; that after decades of inadequate flooding and abuse, of trashing for firewood, and the rest of it, they should be hit by severe drought in an already-decimated, weakened and stressed condition.

The implications of water scarcity under climate change scenarios will be bleak for these communities and species. The Basin-wide Plan is of course long overdue. The fate of many areas of these communities and species will depend on the detail of the final Basin Plan.

Comments on Management Issues

Successful lobbying by private interests has led to NPWS adopting management practices inappropriate for Conservation Areas.

Hazard Reduction Burning (HRB).
This is indeed, a hazardess practice. Pressure from landholders has led NPWS to adopt hazard reduction burning regimes contrary to conservation objectives and ignoring Fire Frequency as a Key Threatening Proccess (NSW Scientific Committee). This applies especially at areas of interface with both urban and rural settlements, and grazing assets also, where burning is frequent and extensive – extending one killometre deep in a recent Pilliga burn, over a length of 50km.

On private land HRB guidelines are often ignored. Many graziers continue to broad-area burn annually for green pick. Fire regimes, and especially fire interval, prescribed by both NPWS and RFS, are based on Bradstock's recommended intervals for broad forest types. If not interpreted as minimum intervals, the guidelines may be cited to justify, say a 5-year interval, applied regularly over a few decades, degrading all values, and breaching the intent of the guidelines. The area of National Parks and Reserves zoned for strategic (frequent) burns, is excessive. Wildfires generally arise on private lands into Parks, although in recent years the incidence of arsonists seemingly particularly targetting Reserves is of concern.

NPWS adopt the defensive position of justifying their management by citing figures for the area burnt annually; notwithstanding that it is accepted that burning should be strategic, not broad area. It is: where you burn, not: how much.

Protection of life and property is important, of course. However, there is excessive broad area burning, which is most destructive, and escaped burns – (especially by graziers, but also escaped "controlled" management burns) are the most common cause of wildfires. Escaped burns, including magement burns, are enormously expensive, involving deployment of helicopters etc, with a heavy burden falling on the inadequately-funded NPWS. Strict application of guidelines (which should include that burning permits be required year-round, especially in north eastern NSW where late Winter and early Spring burns escape frequently), and concentraing on key areas, and efficient deployment of resources, would be more effective, less dangerous, and less expensive.

Lands adjoining National Parks often share similar vegetation and therefore habitat and other values; it is important that a buffer area of land surrounding parks is managed sympathetically to such values, - with respect to fire frequency, for example.

The frequency of fires in many areas impacts on economic as well as ecological interests. Grazing lands benefit from management having regard to the values of remnant vegetation.

The impacts and benefits of different fire regimes in different vegetation types is complex, and generalising or extrapolating difficult. Appropriate deliberate fire regimes have benefits for biodiversity, grazing and farming, and the protection of life and property. Inappropriate regimes are currently damaging all interests. Intemperate responses occur successively following years of particularly destructive wildfires impacting property and life, calling for more burning – broad area burning. This has inhibited employing the more targetted approach over a smaller area, now accepted as safer and more effective, on all tenures.

Poison Baiting.
Use of 1080 baits has long been of great concern because of evidence that it kills quolls and a number of other native fauna. NPWS used mound baiting despite evidence it was not speciic for quolls, who consumed baits buried to a depth of 10cm. Then NPWS conducted aerial baiting trials in quoll areas, concluding it did not affect quoll populations. However, the trials confirmed that 1080 kills quolls, and we have little information on quoll populations. Belcher (2005) states that

"there have been no systematic surveys for *D. m. maculatus* throughout its range, and no information exists on the extent of local populations or on movement between populations."

The NSW and Victorian Scientific Committees rejected 1080 poisoning as Key Threatening Process; however, the basis was only that there wasn't adequate evidence of significant effect on a population - not that they considered it established that there wasn't. Their cautious conclusions included "Localised impacts on some non-target vertebrate populations are possible which suggests careful program design and monitoring are essential, especially where less conservative baiting protocols are employed" (NSW); and "Some 1080 poison bait programs could pose severe risk to quolls in certain circumstances in Victoria and must be avoided wherever possible" (Victorian Committee).

It would seem difficult to establish impact on a population. There is research evidence that baiting has significantly impacted populations, and evidence that it has not. However, that 1080 kills Quolls, a poorly known, nationally endangered top order predator, is not disputed by anyone. And as the NSW Committee comment "direct measurement of field mortality is difficult".

The EPBC criterion is: significant effect on an important population, defined as follows:

An ˜important population™ is a population that is necessary for a species™ long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:
¢ key source populations either for breeding or dispersal;
¢ populations that are necessary for maintaining genetic diversity; and/or
¢ populations that are near the limit of the species range.

In general data is inadequate regarding populations and genetics for Quolls. 1080 baiting kills quolls, and research (e.g. MacIlroy) conducted over 20 years ago found it kills a number of other animals and birds, by secondary feeding. Aerial baiting would exacerbate these impacts, presumably, since carcases are not collected.

DEH Administrative Guidelines 2004 state that

"Aerial or broadcast surface baiting should only be used in areas where it can be demonstrated that there is a low risk to Tiger Quolls."

That is, a low risk to Quolls, not a low risk of "significant impact on a population". We surely

cannot be complacent about killing individuals of this nationally endangered species, on the basis that the population, about which probably little is known, will most likely not be significantly affected.

Belcher's response to Kortner (2003) is: "While this concluson may be true for their study area, data from elsewhere (Belcher 1994; 1998; 2000; Williams and Marshall 2000; Glen 2001; Glen and Dickman 2003) demonstrates that their conclusions cannot be extrapolated beyond their study sites." (Belcher 2005).

Belcher (2005) cites these same studies in addition to State Forests NSW Southern Region records, as finding that "Bait trials and free feed programs have found that *D. m. maculatus* can detect and consume baits on the ground covered with 7 to 10 cm of soil or sand and baits buried below the ground up to a depth of 10 cm."

A low risk to Quolls cannot be demonstrated with respect to baiting in forested areas providing suitable habitat, especially where Quolls have been recorded within the past 15 years or so (perhaps many areas have not been surveyed since Forestry Commission EIS and RFA Surveys in the 1990s?).

It is abundantly clear, as pointed out by Belcher (2005) that "the spatial requirements of *D. m. maculatus* (Belcher and Darrant 2004) preclude relying on reserves for its conservation. Management at the landscape level, across land tenures, is required if the species is to be conserved. Current land management practices, in and out of reserves, are either failing to halt or contributing to the species' continuing decline in range and numbers."

There are compelling reasons to adopt a pre-cautionary policy. This policy should be based on Belcher's conclusion, as follows:

"The current baits and baiting techniques are not target-specific and place *D. m. maculatus* at risk throughout its range. Reserach is required to develop more target-specific baits and baiting techniques for dogs, foxes and rabbits. In the interim, 1080 poison baiting should not be undertaken within *D. m. maculatus* habitat, unless baits are buried below the ground at a depth of 15 cm. Bait stations should be at least 1 km apart, to minimise caching of baits by canids" (Belcher 2005).

That is, buried baits, not mounded baits.

This is presumably more strict than the latest mound baiting protocol, which may specify mounds to cover baits to a depth of at least 10 cm.

If so, or Belcher is considered too strict, it would seem prudent to employ as a minimum, mounds covering to a depth of 15 cm.

Baiting with 1080 should not occur in reserves, or within one kilometre of the reserve boundary in known quoll areas (as recommended by Andrew Smith).

In the absence of dingo, feral dogs are a problem, impacting native animals and grazier's stock, and foxes abound in less forested areas. Baiting is harmful and has not been effective for dogs. A co-operative approach using professional shooters and trappers and trained landholders, may be more effective. Practices which are protective of quolls and other wildlife – and to the extent possible, dingos also) are required.

In areas where susceptible native fauna are present and the Fox is absent or rare, it would be prudent

to establish the significance and likely impacts of feral dog populations before undertaking baiting, else the risk to wildlife may be greater than the benefit in such areas.

Moreover, concern has been expressed by Andrew Smith and others that Foxes recover more quickly after baiting than Dingos, and consequently baiting may favour the Fox over the Dingo. This would be to the detriment of small mammals such as Rufous Bettong which are positively associated with Dingos and Quolls but scarce where Foxes and Rabbits are numerous. The Dingo is now a protected, not noxious, animal, and it is difficult to assess relative to wild dogs in most areas, and impossible to protect using mound-baiting.

The appropriateness of mound-baiting needs to be assessed on a site-specific basis with respect to these considerations, and the presence of some dogs and apparent absence of Quoll tracks should not be the sole criteria. Unless there is definite evidence of significant Fox or Dog populations, baiting should not be employed in forested areas where possibly susceptible native species including Quolls and Dingos are likely to be present. We do not consider that management should give priority to grazier demands over appropriate protection of native fauna. However, in areas where foxes and feral dogs are of concern, mound-baiting may be appropriate, and we certainly support efforts to replace helicopter drop and exposed baiting methods with the improved mound baiting technique.

Firewood
Lindenmayer et al (2005) consider the firewood industry a major issue; with the total amount cut nationwide rivalling that used by the export woodchip industry:

"The impacts of firewood harvesting in woodlands are greater than the effects of wood-chipping in forests. This is because large areas of woodland have already been cleared and remaining areas are often highly degraded. River red gum, yellow box and red ironbark communities are particularly threatened by firewood harvesting and millions of tonnes are cut each year - much of it illegally. In addition to standing trees, enormous quantities of fallen timber are also gathered. The impacts of firewood harvesting on biodiversity are substantial. In the case of birds, more than 10 species on the south-west slopes alone are threatened by these activities."

Recreation and Tourism
The increasing move towards development within Conservation Areas is of concern. In gerneral, private development in future should border, not exist within, these areas.

Any increase in 4WD, trail bike or horserider access would be of concern.

Hunting in National Parks.
This decision betrays a breathtaking disregard for the public's special regard for our Parks and Reserves, a disregard for public safety, and the safety also of Park Rangers, and for their right to comfortable work conditions. It is especially inappropriate in the context of the current significant escalation of crimes involving weapons. We should be acting to strictly restrict ownership and use of firearms.

The risk to public and ranger safety must be acknowledged as real, and unacceptable. There is also risk to neighbouring property owners. These are lethal weapons, and moreover, in the hands of amateurs. People make mistakes.

There is a further significant aspect to this, in addition to the unnecessary risk of accidental shooting, however small. There is also, the *perception* of risk, on the part of Park users - the public, rangers, Park neighbours. The apprehension, that by entering a Park or reserve, there is the possibility of

being *shot*. For many, this would detract or spoil the experience; for some, it could mean they no longer use the Parks. People's fear of sharks is out of proportion to the risk; they are so frightening. Bullets are frightening also. I consider this a most significant thing - the change to how it feels, to be walking in a National Park.

This is an extraordinarily ill-considered decision, which must be rescinded.

At the very least, the scale of impact must be greatly reduced. The Minister stated the list of reserves will be assessed. One would expect it would - the list includes areas with high visitation rates, and World Heritage Areas, and Wilderness Areas. These must all be deleted, which would drastically reduce the number of areas.

In the Hunter Region, this would mean that reserves in the Barrington, the Watagans and Myall Lakes, would all be deleted from the list.

Yours sincerely,

Barrie Griffiths.

References.

Red Gum.

NPA (2008) The impacts of River Red Gum logging and associated activities in NSW on matters of National Environmental Significance. Carmel Flint and Georgina Woods, National Parks Association of NSW, August 2008.

Attiwill, P., Burgman, M., and Smith, A. (1996) 'Gaps and Clusters silviculture: How well does it balance wood production and biodiversity conservation?' *A report by the Review Panel to the Ministerial Committee established to review the Principles and Application of the Gaps and Clusters Technique*. Unpublished report.

Carr, Bob Media Release May 9th 2009.

Cotton Research and Development Corporation 2003. *Managing riparian lands in the cotton industry.* Narrabri.

FNSW, 2008. *ESFM Plan: Western Region*. Forests NSW.

Frood, Doug. July 2007. Sworn September 2007. Affidavit in the Land and Environment Court of New South Wales. For the National Parks Association of NSW.

Gilmore, Alexander. Sworn 10th August 2007. Affidavit in the Land and Environment Court of New South Wales. For the National Parks Association of NSW.

Law, B. and J. Anderson (1999). A survey for the South Myotis *Myotis macropus* (Vespertilionidae) and other bat species in River Red Gum *Eucalyptus camaldulensis* forests of the Murray River, New South Wales. *Australian Zoologist* 31: 166-174.

Lumsden, L.F. and Bennett, A.F. 1995. Bats of a semi-arid environment in south-eastern Australia: biogeography, ecology and conservation. *Wildlife Research* 22, 217-40.

Milledge, David 2007. Sworn 30th August 2007. Affidavit in the Land and Environment Court of New South Wales. For the National Parks Association of NSW.

National Land and Water Resources Audit 2002. *Australian Terrestrial Biodiversity Assessment.* Commonwealth of Australia.

Natural Resource Management Ministerial Council, 2005. *Directions for the National Reserve System – a partnership approach.* Australian Government, Department of the Environment and Heritage, Canberra, ACT.

Newton-John, J. 1992. Arboreal habitat hollows in River Red Gum (*E. camaldulensis*) in the Barmah Forest. Hons. Thesis, Department of Forestry, Melbourne University.

Parnaby, Harry. (2006). An assessment of the potential for adverse impacts from forestry operations on bat species on public land in the Riverina bioregion, NSW. Unpublished report to the NSW National Parks Association.

Spark, Phil. (2007). Murray Red Gum Forests Survey Report. Unpublished report to the NSW National Parks Association.

Todd, M.K. and McDonnell, R. (2003) - *Riverina Biodiversity Assessment Project*. Unpublished report produced by the NSW National Parks and Wildlife Service, Riverina

VEAC 2008. River Red Gum Forests Investigation: Final Report. 8 Nicholson Street, East Melbourne 3002, July 2008. www.veac.vic.gov.au

VEAC 2007. *River Red Gum Forests Investigation: Draft Proposals Paper for Public Comment*. 8 Nicholson Street, East Melbourne 3002, July 2008. www.veac.vic.gov.au

VEAC 2006. *River Red Gum Forests Investigation: Discussion Paper*. 8 Nicholson Street, East Melbourne 3002, July 2008. www.veac.vic.gov.au

Baiting

Belcher C (1998) Susceptibility of the tiger quoll, Dasyurus maculatus, and the eastern quoll, D. viverrinus, to 1080-poisoned baits in control programmes for vertebrate pests in eastern Australia. Wildlife Research 25, 33-40.

Belcher, C. A. 2003. Demographics of Spotted-tailed Quoll (Dasyurus maculatus maculatus) populations in southeastern Australia. Australian Journal of Zoology, 51, 611-626

Belcher, Chris (2005) The largest surviving marsupial carnivore on mainland Australia: the Tiger or Spotted-tailed Quoll *Dasyurus maculatus*, a nationally- threatened forest-dependent species; in : **Conservation of Australia's Forest Fauna** (second edition), ed. Daniel Lunney, Royal Zoological Society of NSW.

Glen, A.S. (2001) Uptake of baits by non-target animals during control programs for foxes and wild dogs. Honours thesis, Scholl of Biological Sciences, University of Sydney.

McIlroy JC (1981) The sensitivity of Australian animals to 1080 poison. I. Intraspecific variation and

factors affecting acute toxicity. Australian Wildlife Research 8, 369-383.

McIlroy JC (1982) The sensitivity of Australian carnivorous marsupials to 1080 poison. In 'Carnivorous Marsupials'. (Ed. M Archer) pp 267-271. (Royal Zoological Society of NSW: Sydney)

Williams,J. and Marshall, A. (2000) SFNSW - NPWS Mid North Coast Regions Joint Predator Control and Monitoring Exercise - Initial Results. SFNSW and NPWS, Port Macquarie.

North East Hardwoods.

Pugh, D. (2000) How Carr Sold Out the North-East Forests.

Firewood.

Lindenmayer et al (2005) Woodlands: A Disappearing Landscape (CSIRO 2005).

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