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SEPP 46 FORUM:

Grassland management in NSW: The evolution of an approach

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Summary: Concerned with the extent and nature of native vegetation clearing across NSW, the incoming NSW Labor Government introduced controls in August 1995. This control, State Environmental Planning Policy No. 46, sought to prevent inappropriate native vegetation clearing so as to ensure such vegetation was protected and managed in the environmental, social and economic interests of the State. SEPP No. 46 was part of a phased approach to achieve long term native vegetation and conservation in co-operation with the community and built upon the principles of Total Catchment Management. The management of native grasslands is a difficult matter to address. Issues of definition, identity, community awareness and the dynamic (seasonal) nature of grasslands increase complexity compared with other plant communities. Against this, native grasslands have been extensively cleared in NSW and in some areas less than 5% remain in pristine condition and do so in small fragmented remnant areas under public ownership. Recognising this dilemma, SEPP No. 46 included specified native grassland controls. On 1st January 1996, amendments were introduced that established a grassland management regime, based on self regulation through Plans of Management. Such Plans were developed by local landholders and Catchment Management Committ-ees. These Plans form the preface for regulatory thresholds for the management of specified native grasslands. The Plans were also seen as dynamic and are currently being updated, again by landholder and catchment groups. Through this process, it is intended to bring regionally based "best land management practice" to NSW native grasslands.

In recent years, there has been increasing community pressure and Government action to achieve environmental protection and improve the management of our natural resources. This pressure stems from increasing evidence of land degradation in our land and river systems and the need to encourage an ecological sustainable land management approach consistent with community needs. In 1992, the National Strategy for Ecological Sustainable Development (ESD) was adopted across Aust-ralia. This Strategy recognised an intrinsic link between economic development, social wellbeing and environmental health. It also introduced issues of equity between generations and the need to protect biological diversity as well as essential ecological processes and life support systems. Native vegetation provides a diversity of economic, environmental and social benefits (Table 1).

Extent and nature of native vegetation clearing

It has been estimated that in one year alone, 1989-1990, the extent of clearing for the whole of Australia was approximately 650,000ha (National Greenhouse Gas Inventory Committee [NGGIC] 1994).

In the period 1983 to 1990, an annual average clearing rate of some 500,000 ha per annum put Australia as one of the top countries in the world (Table 2).

There are no reliable estimates on the rate or extent of vegetation clearing in NSW. However, the [NGGIC] 1994 estimated the clearing rate could be around 150,000 ha per year which is second only behind Queensland (Table 3).

Until quite recently, clearing was supported and encouraged by Governments to enhance land development, particularly for agriculture. NSW's economy has benefitted immensely from agricultural development, however the extent of clearing was done without the full knowledge of its potential impacts. Many of these impacts clearly indicate that it is time to ensure sustainable management of our native vegetation is pursued.

Table 1. Benefits of native vegetation protection

Ecological benefits include:

- Protection of water resources, *e.g.* vegetation along creeks and streams traps nutrients and sediment, and reduces bank erosion.
- Protection of soil from wind and water erosion.
- Soil formation.
- Nutrient storage and cycling.
- Pollution breakdown and absorption.
- Maintaining biodiversity and ecological processes.
- Acting as carbon sinks which absorb greenhouse gases.
- Contributing a vital part of the hydrological cycle including maintaining regional rainfall patterns.
- Providing habitat for fauna

Economic benefits, particularly for agriculture, include:

- Maintaining watertable levels and preventing salinity through deep rooted vegetation in catchments.
- Providing shade for stock, reducing heat stress which leads to higher weight gains, improved fertility in sheep and milk production in dairy cattle.
- Providing stock shelter which reduces lamb and sheep off-shears mortality and improves growth rates.
- Providing shelter and windbreaks for crops and pastures, reducing moisture loss and physical damage to crops.
- Preventing and reversing soil erosion and other land degradation.
- Providing habitat for predators of crop pests such as insectivorous bats and birds.
- Maintaining water quality and yields.
- Providing green timber and other timber products.
- Providing genetic resources for future development of pharmaceutical or agricultural products.
- Providing fodder resources for the apiary industry.
- Providing buffers between agriculture and other land uses, particularly residential areas.
- Providing feed gap and drought fodder.
- Providing native grasslands which are a very significant fodder resource for fine wool enterprises.
- Providing resource for native plant seed harvesting and wildflower harvesting.

Social benefits include:

- Providing places of scenic beauty.
- Providing sites for tourism and recreation.
- Providing places for research, education and scientific purposes.
- Maintaining the distinctive Australian landscapes.

Source: Department of Environment, Sport and Territories (1995)

The impact of clearing in NSW has been significant. The Resource Assessment Commission (RAC, 1992) estimated that prior to European settlement, forests and woodlands probably covered 52 million hectares or two thirds of NSW. The other one third was covered with open woodlands and native grasslands. Of the original 52 million hectares of forests and woodlands only 21 million remain.

Clearing has been most prevalent in those areas suitable for agriculture, especially those with better soils of flat to undulating country. Sivertsen (1994) found in the northern part of the wheatbelt between 1977 and 1984 some 67% of all remaining native vegetation was cleared and only 19% of the original vegetation cover remained. Less than 10% of the arable land in the Cargelligo-Forbes area supported native vegetation.

Other studies have found similar results:

- Goldney *et. al.* (1995): A study of remnant woodland in the Central West of NSW found that 72% of the land in the Molong area had been cleared, and of the (690 km^2) remaining bushland, 42% (or 289 km^2) was severely degraded. The remaining vegetation generally appears as "islands" on private properties, roadsides, travelling stock routes and Crown lands separated by a multitude of land uses. Such isolated remnants are susceptible to dieback and the effects of weed invasion and fire.

Change of government

- The NSW Labor Party was elected in March 1995 on a strong green platform as illustrated by the following: *"Labor will issue an immediate direction to ..... to fully implement and endorse all private land clearing and land protection control ..."* (Labor's Forest Policy);
- *"Labor will, ... protect agricultural land and to ensure that plant cover is retained on recharge areas and near watercourses"* (Labor's Rural and Agricultural Policy);
- *"Labor will institute strict controls on clearing of native vegetation, where conservation, water or cultural values will be adversely affected ..."* (Labor's Water Protection Plan).

Upon being elected, the new Government moved quickly to establish SEPP No. 46 which was part of a phased approach to achieve the long term sustainable management of native vegetation, namely:

- **Phase 1:** Introduction of SEPP No. 46 to prevent inappropriate native vegetation clearing (August 1995)
- **Phase 2:** Community consultation and SEPP No. 46 performance review (August 1995-June 1996)
- **Phase 3:** Consideration of further amendments, options or alternatives for SEPP No. 46 (June 1996 onwards)
- **Phase 4:** Sustainable native vegetation management through a co-operative process of Total Catchment Management (ongoing).

As at the time of writing the approach is at Phase 2, namely a Community Consultation Phase: to consider the options for reform and the performance of SEPP No. 46.

The introduction of land clearing controls for native vegetation management in NSW has, as in other States, been controversial. Persons interested in gaining a broader overview of these developments are directed to two papers *"Native Vegetation Protection and Management in NSW: Information Paper"* and *"Native Vegetation, Protection and Management in NSW: Directions and Options for Reform"* published by the (NSW) Department of Land and Water Conservation. These documents provide an overview of the situation which lead to the introduction and control of native vegetation clearing and the current reform options being considered by Government.

Table 2. International comparison of annual deforestation rates,1981-1990.

Country	Annual deforestation rate 1981-90, ('000 ha)
Brazil (Amazonian region)	2113 *
Indonesia	1212
Zaire	732
Mexico	678
Bolivia	625
Venezuela	599
Thailand	515
Australia	**500** **
Sudan	482
Tanzania	438
Paraguay	403
Myanmar (Burma)	401
Malaysia	396
Columbia	367
Zambia	363

**Estimated provided in the National Greenhouse Gas Inventory for the period 1983-93 (NGGIC 1994, p. 129b).

Sources: adapted from Food and Agriculture Organisation cited in WRI et al (1994, p306-307).

Notes: Gross figure of deforestation for 1979-88 based on Landsat satellite survey data (Institute National de Pesquisas Espaciais 1992). Other methods have calculated higher rates of clearance for Brazil. For example, FAO sourced data indicates that the annual deforestation rate for the period 1981-90 was about 3.671 million ha (WRI *et al.* 1994, p. 307). The rate of clearance in the Brazilian Amazonia appears to be tapering off after a peak in the second half of the 1980s. The estimated amount cleared in 1990/90 was 1.113 million ha (Institute National de Pesquisas Espaciais 1992).

Source: DEST, 1995

Grasslands and native vegetation management in NSW

It is almost an understatement to say that the issues surrounding the management and clearing controls of grasslands is a difficult area. Unlike other plant communities of defined form structure and composition, grasslands are difficult to define in a legal and regulatory sense. Further, the general level of awareness of native grasslands and the ability to identify particular species is less well known than the botanics of most other NSW's trees, shrubs and plant communities. Grasslands are also dynamic in their nature, responding dramatically to seasonal effects management (*e.g.* grazing and fire) as well as longer term ecological transitions of grasslands to shrublands and woodland communities. Improvement in machinery plant technology has meant cropping areas have also been extended westward, especially in the heavy clay soils areas.

Yet against this difficulty of dealing with grasslands is the current status of NSW grasslands. Such areas have been extensively cleared for cereal crops or heavily modified through grazing and pasture improvement techniques. Added to this pattern is the impact of aggressive colonising noxious weeds such as African lovegrass and serrated tussock.

Native grasslands areas have been the subject of extensive clearing or modification. The earlier figures quoted in the report provide an overview of the clearing undertaken in the cereal/wheatbelt. If one turns to the grazing areas, for example the Cooma/Monaro, studies undertaken by Benson (1994) indicate that only a small fraction of the original extent of a number of grassland communities remains in reasonable condition and those areas generally relate to small fragmented remnants such as cemeteries, church yards and travelling stock reserves. To provide contrast though, a considerable amount of The Monaro is retained under native species, albeit with varying mixes of introduced grasses.

Recognising the reduced extent and modification to grasslands, they were included in the definition of

native vegetation contained within SEPP No. 46. However, the definition did not cover all native grasslands but four specific areas being the The Monaro, the Liverpool Plains, the Moree (and Walgett) Plains, and the Hay Plains.

Amending grassland approach

A number of amendments were introduced to SEPP No. 46 as 1st January 1996. One amendment provided the option for development consent to be set aside where clearing of native vegetation is carried out in accordance with a Plan of Management approved by the Minister for Land and Water Conservation.

Landholders within Specified Native Grasslands were given the opportunity of developing such Plans of Management for the Minister's consideration. This opportunity builds on a provision already contained within the original SEPP No. 46. Specifically, I am referring to the area covered by the Murray Regional Environmental Plan No. 2 -Riverine Lands. That provision excluded SEPP No. 46 from applying to the area covered by the Plan, as the Government, community and landholders had agreed, and established, a management regime for native vegetation. Where clearing is carried out consistent with that agreed Plan, then SEPP No. 46 could be set aside.

Upon consideration of the landholder's draft Plans, the Minister established a three part Specified Native Grasslands Plans of Management.

The first part established "basic thresholds (limits) which must be met for self regulatory clearing. The basic thresholds were generic across all grasslands and included:

- Retention of areas of known high conservation value.
- The requirement to meet relevant Nature and Land Conservation Acts (Threatened Species Act 1995, National Parks 1994, and Soil Conservation Act 1938).
- The requirement that specified native grasslands could not be reduced to a level below 15% of the private property area, ie. any contiguous landholding in the same ownership.
- That the current exemptions would continue to apply to specified native grasslands."

The second part of the Plan applied "additional basic thresholds" to provide improved definition and to account for specific regional issues.

The final part of the Plan was, in fact, the draft Plans that were submitted by landholders and catchment groups which provide the overall context and direction for grassland management.

As at the time of writing, a self regulatory control of grasslands is being implemented on the above Plans of Management strategy. However, concurrent with the Minister's endorsement was a six month review process. This process recognised the shortage of time available for the development of the original draft grassland Plans of Management. To assist in this matter, the NSW Vegetation Forum has developed a model Plan of Management framework to improve consistency between Plans. The model Plan sets an outline of the format, content and direction of specific regional native grasslands. The model Plan will be made available to landholders within the specified grassland areas so as to enable them to work with relevant Catchment Management Committees and interested parties to develop improved regional Plans. It is scheduled that the second draft Plans be forwarded to the Minister in the third quarter of 1996.

The opportunity is available for landholders to apply for development consent to clear specified native grasslands beyond the basic thresholds. Such proposals are outside of self regulation and would require a SEPP No. 46 application.

Conclusion

NSW grasslands have been subjected to extensive clearing and modification as a part of the development of NSW's agriculture. The nett impact has been only remnant areas of native grasslands remaining in original condition although larger areas contain a dominance of native species.

Recognising the need for sustainable management of native grasslands such areas were included in the vegetation management control, State Environmental Planning Policy No. 46, introduced into NSW in August 1995. However, this inclusion related only to four specific native grassland areas (The Monaro, Moree, Hay, and Liverpool Plains).

An amended regime has been set in place that shifts towards the Government's overall goal. This goal is to work, in partnership with the community, under Total Catchment Management, to achieve sustainable management of native grasslands. This regime has entailed the development of self regulatory Plans of Management underpinned by basic floors or "thresholds". The initial review phase of those Plans of Management is in progress.

Despite the controversy of SEPP No. 46 one area of accord has always existed, namely: the long term objective of achieving the sustainable management of grasslands in co-operation with landholders,

the community and Government.

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