



Managing climate change impacts on biodiversity inquiry
Standing Committee on Natural Resource Management (Climate Change)
Parliament House
Macquarie St
Sydney NSW 2000

24/04/2009

Subject: Submission to the “Managing climate change impacts on biodiversity inquiry”.

Dear Committee members,

Thank you for the invitation to make a submission to the new inquiry by the Legislative Assembly’s Standing Committee on Natural Resource Management (Climate Change). Climate change is a critical threat to our natural systems and our biodiversity – and thus also a threat to the ecosystem services that support and sustain many communities and industries across NSW. We welcome the opportunity to comment, and commend the Legislative Assembly’s Standing Committee on Natural Resource Management (Climate Change) for their initiative in this matter.

The Namoi Catchment Management Authority (CMA), established in 2004, is a regional natural resource management organisation. The Namoi Catchment Action Plan guides the efforts of the Namoi CMA and the Catchment Community as a whole. It outlines catchment targets focussed on four key regional resources: people and their communities; landscapes; surface and groundwater ecosystems; and native plants and animals (biodiversity) (www.namoi.cma.nsw.gov.au).

Namoi CMA has significant concerns regarding managing climate change impacts on biodiversity in NSW ecosystems and the adequacy of current management strategies in order to ensure resilience to the likely impacts of climate change.

Overall Concerns

Climate change is a significant concern for the Namoi Catchment Management Authority. Biodiversity has significant (and often underestimated) benefits and values for our economy and the community. These are at increased risk due to climate change. Climate change will exacerbate a range of existing (and well understood although not well managed) threats to our biodiversity and the environment.

The higher temperatures and drier conditions predicted will have a major impact on biodiversity. Climate change will result in significant changes to biodiversity across the Catchment and new challenges for biodiversity dependant industries such as agriculture and tourism. This will occur through increased pressure from invasive species (both existing and new), reduced habitat available for a range of already fragmented and isolated biodiversity some of which are already at the extremes of their range, disruption or changes to the life cycle, increased fire frequency and intensity, greater fluctuations in water availability, and increasing pressure from communities and industry for access to limited resources.

Biodiversity occurring at higher altitudes in the Catchment are likely to undergo major contractions in distribution. Ecosystems that are already fragmented will be placed under even greater stress. Ecological communities with highly restricted range or specialised requirements are also at risk of degradation or loss. Key resources for fauna (such as nectar and hollow bearing trees) are also likely to become more limited. Fire frequency and intensity will probably result in major changes to the ecosystems of the Catchment. Soils are likely to be at increased risk of erosion due to changes in vegetation growth, weather patterns and increased storm intensity. Despite overall drier conditions, flood events are also expected to increase in intensity due to rainfall patterns.

Climate change exacerbates all of the currently existing threats and adds some new ones. The responses are clear in terms of maintaining intact ecosystems and increasing resilience in remnant communities and creating greater connectivity.

Legislation

It is essential to retain intact ecological systems if we are to maintain any resilience in natural systems and not suffer further catastrophic loss of species and ecological communities along with the breakdown of ecosystem processes in the face of climate change. The range of strategies and initiatives to protect biodiversity from climate change impacts will remain ineffective whilst ever native vegetation, rivers, and land are not being adequately protected. An integrated approach must be developed. Two priority threats critical to retaining biodiversity and ecosystem services given climate change impacts, are any ongoing clearing of native vegetation and over-extraction of surface and ground water.

The extent and condition of native vegetation communities is critical to biodiversity conservation and land clearing as a key threatening process must be controlled. This is particularly relevant for agriculture as any further clearing west of the Great Dividing Range is aimed at pushing agriculture (in particular cropping) further west into more marginal country – which has the potential to be highly destructive given climate change impacts. Land use patterns such as this will make the task of adaptation to a new more sustainable footing harder for industries dependant on biodiversity and ecosystem services. The priority should be to avoid clearing of further native vegetation rather than attempting to find “offsets” to facilitate that clearing. It is still unclear if offset areas retained for conservation management are indeed secure for the long term – and whilst ever such doubts exists, further broadscale land clearing may occur. Any land clearing contributes to an increase in greenhouse gas emissions.

Aquatic & riverine ecosystems are also critical and further degradation of these systems must be halted if biodiversity and biodiversity dependant industries are to survive climate change impacts. It is critical that meaningful water reform is delivered and environmental flows are genuinely restored alongside sustainable agricultural production systems. A clear need exists to have a fully integrated “all sources” Water Sharing Plan based on sustainable yield.

For any of the initiatives instigated to protect biodiversity from damaging climate change impacts, relevant natural resource management and conservation legislation needs to be enforceable and enforced. NSW needs an effective and functioning regulatory framework in place to ensure investments in natural resource management programs are not undermined. This means strengthening, instead of further eroding, the biodiversity protection measures contained in existing NSW legislation. This requires a strong political will and the availability of adequate resources for both compliance and monitoring purposes. The NSW Government must deliver on its natural resource management duty of care.

The solution is to increase compliance capacity through greater support and resourcing for monitoring, compliance and enforcement activity on vegetation and water management. This needs to be accompanied by a strengthening of legislation to protect biodiversity e.g. Native Vegetation Conservation Act regulations that allow clearing under some circumstances may need to be further tightened. This needs to be accompanied by a campaign to better inform land managers of their rights and responsibilities (in particular their duty of care) under existing natural resource management and conservation legislation.

Strategies and Plans

NSW Biodiversity Strategy

Given the concerns raised above, the proposed new NSW Biodiversity Strategy is on a stand alone basis inadequate on its own to address the impacts of climate change on biodiversity. It is imperative that the NSW Biodiversity Strategy is more ambitious than the draft released earlier in 2009. Naturally, it must come with the resources and political will and leadership to implement it. Whilst there have been some successes, NSW has not met the majority of the goals, nor implemented the majority of actions from the previous NSW Biodiversity Strategy. The new strategy inspires little confidence about implementation and is unlikely to succeed since it fails to address the issues that prevented NSW from achieving its previously planned outcomes from the earlier Biodiversity Strategy.

The draft NSW Biodiversity Strategy makes many references to improved decision making. We don't need cleverer ways of making decisions – we simply need the political will to make the decisions that are in the best interest of the environment and biodiversity (and thus our communities in the longer term). Currently, biodiversity issues are frequently considered secondary to short term economic and political interests. The issue is political – not a lack of science or decision support tools. All factors that contribute to triple bottom line outcomes need to be considered equally (social, economic and environmental)

Biodiversity loss in the face of climate change will increase where ever our existing natural resource management does not fully protect existing functioning ecosystems. Nor will biodiversity dependant industries prosper into the future. Natural resource management despite significant Government expenditure via programs such as Landcare is still 'patchy'. The capacity (both technical and financial) of land managers to undertake improved land management is also variable. This is evidenced by the fact that we are still seeing: significant land clearing of native vegetation west of the Great Divide; significant over-allocations of surface and groundwater resources; and land management practices resulting in ongoing land

degradation. Ecosystem and species level protection in situ needs to be made a much higher priority.

NSW State Plan

The NSW State Plan has a series of laudable targets for biodiversity, water and land which if achieved would greatly increase biodiversity conservation and maintain ecosystem services critical to a number of biodiversity dependant industries despite climate change. Currently targets are being set, and the institutions charged with delivering on them are not being adequately resourced. NSW will need a significant investment of resources for biodiversity protection programs and natural resource management in order to achieve State Plan targets for biodiversity, land and water.

Biodiversity Conservation on Public Land

Protected areas will be vital refugia for biodiversity as climate change impacts take effect. The reserve system will require further investment if it is to become a comprehensive, adequate and representative reserve network – especially west of the Great Dividing Range. Additions of further lands and waters to the reserve system should focus on under-represented ecosystems in the west, in particular those occurring on the more fertile land types. The aim should be to create large landscape scale linkages across NSW. Furthermore greater investment in the management of existing conservation areas is required to control critical threats such as weed and feral animals.

Travelling stock routes (TSRs) and reserves are also a critical resource, and provide opportunities to retain connectivity across the landscape. They should be incorporated into the “protected area” network. In the Namoi TSRs contain significant conservation values. In some overcleared regions of NSW they are the only significant stands of remnant vegetation. TSRs should be maintained and managed for their conservation values to assist in maintaining environmental resilience. They provide a vital network that can be the basis of further essential landscape scale linkages in combination with remnant vegetation on private land.

Biodiversity Conservation on Private Land

The scale of existing public lands will never be adequate to conserve biodiversity given climate change impacts. A combination of private and public lands is required to adequately achieve landscape scale linkages. Conservation on private land is thus critical to the successful

creation of landscape scale linkages vital for the protection of biodiversity and increase resilience of natural systems in the face of climate change.

Many investments in biodiversity conservation on private land, outside the formal reserve system, are undermined by surrounding land use decisions. Incentive and market-based mechanisms – often promoted as the solution – can be ineffective if not supported by an effective legislative regime. Existing private land conservation programs need greater support and resourcing and effective monitoring and evaluation needs to be prioritised.

Required management actions need to be based on the best available science, with adequate follow up with land managers over time to ensure that those doing a good job are recognised and supported, whilst those not delivering on agreed conservation outcomes are required to do so. Well managed conservation areas on private land, especially when linked with public lands, could prove to be vital refugia for biodiversity given the threat of climate change.

Resourcing & Responsibilities

The NSW Government could achieve significant improvements to biodiversity conservation by clarifying, co-ordinating and aligning agency activities more effectively. To achieve a whole of Government response, better cross agency co-ordination and information exchange is required. There is also a need to better define and co-ordinate local, state and federal responsibilities. Currently the NSW and Australian Government programs have been positioned in isolation of each other. It would be more efficient and effective to negotiate an integrated strategy. All levels of Government then need to be held accountable for delivering on their “duty of care” in relation to biodiversity and natural resource management. There is little clarity currently re how State and Government priorities will be balanced in relation to biodiversity conservation and climate change.

Environmental Accounting

If we are to effectively protect biodiversity and ecosystem processes from the impacts of climate change, we need to better incorporate the costs of environmental damage and biodiversity loss into the cost structures associated with natural resource use. Whilst the principles of environmental accounting have been discussed and written about widely, research effort needs to go into real cost accounting of environmental degradation.

Monitoring, Evaluation, Reporting & Improvement

Monitoring, evaluation and reporting are essential to any efforts to manage climate change impacts on biodiversity and biodiversity dependant industries. The lack of access to baseline data and credible environmental accounting is an issue, and renders almost impossible the evaluation of any initiatives to protect biodiversity from climate change – or to separate it out from the deleterious effects due to contradictory policy settings. Without access to credible baseline data and credible environmental accounting it is impossible to measure progress on key strategies such as the State Plan and the NSW Biodiversity Strategy or the climate change Action Plan. Sound biodiversity monitoring, evaluation and reporting are required to truly monitor the progress and/or failures of biodiversity protection in the face of climate change impacts.

Fully resourced monitoring and evaluation activity is essential otherwise further natural resource management funds may be wasted. Namoi CMA has recognised that available statewide natural resource management baseline data is inadequate to drive and inform CMA decision making. Hence Namoi CMA has spent over \$5 million on developing catchment baseline information.

Namoi CMA's Approach

Since its inception, the Namoi CMA has operated on a range of levels – from strategic to operational – to help protect biodiversity, and biodiversity dependant industries, from the threats posed by climate change. Strategic initiatives include the development of a catchment wide conservation strategy (Namoi Conservation Strategy) to guide action and investment in biodiversity conservation across the Catchment. The Namoi CMA has also undertaken a range of research and survey projects to better understand the status of threatened and declining biodiversity, the extent and condition of vegetation and soils, and the condition of aquatic and riverine systems in the Catchment – along with the socio-economic status of the Catchment Community. These and many other projects have been undertaken in collaboration with Government agencies and the private sector.

On-ground projects include a range of conservation incentive programs targeting private land managers with high conservation value assets, as identified via the development of the Namoi Conservation Strategy. These are based on 10 year contract agreements with a higher standard of conservation management required than in many similar State and Australian Government programs. Whilst there is no guarantee of long term security of tenure on title with

these projects as with most other incentive-based programs, landholders involved are provided ongoing support by Namoi CMA staff and thus become better and more committed conservation managers as a result. Natural resource management baselines have also been established for every Namoi CMA biodiversity conservation project. This will allow a much more meaningful assessment of the conservation outcomes achieved in future years as ecological recovery progresses and as climate change impacts emerge. Namoi CMA has also trialed a range of innovative approaches, including for example, a collaborative project with the then Rural Lands Protection Boards to protect and manage a number of TSR sites with high conservation values.

Community capacity building efforts have included promoting the value that biodiversity generates for the whole of the Catchment as well as biodiversity dependant industries. The Namoi CMA has also tried to continuously inform the community about the likely impacts of climate change, and to encourage biodiversity dependant industries to assess the likely impacts on their activities and to explore opportunities for adaptation where appropriate.

Namoi CMA can also provide more detailed feedback regarding the information provided if requested by the Legislative Assembly's Standing Committee on Natural Resource Management (Climate Change).

Yours sincerely

Bruce Brown

General Manager