Nature Conservation Council of NSW
The voice for the environment since 1955

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The Committee Manager
Standing Committee on Natural Resource Management (Climate Change)
Parliament House
Macquarie St
Sydney NSW 2000
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Dear Vicki Buchbach,

RE: Sustainable Water Management Inquiry (December 2009)

The Nature Conservation Council of NSW (NCC) welcomes the opportunity to comment on the Legislative Council's sustainable water management inquiry.

General

The Nature Conservation Council is a strong supporter and advocate of sustainable use of water. To achieve sustainable water management will involve a mix of actions, including:

- demand management and water restrictions when necessary;
- recycling and reuse;
- rainwater harvesting such as through rainwater tanks;
- management of urbanization impacts through Sustainable Drainage Systems (SUDS);
- salinity management;
- drought & flood mitigation and adaptation;
- management of groundwater extraction;
- habitat creation; and
- environmental flow implementation, monitoring and adaptation.

The likely impact of climate change on the availability of water resources under different climatic scenarios

The latest Australian climate change projections[1] indicate our rainfall will be more variable under climate change, and rivers are likely to decline following an increase in the frequency of droughts in south-eastern Australia.

Availability of water resources has a variety of economic, environmental and social impacts. The current climate shift means we will need to balance reduced rainfall and lower river flows against escalating crop water demands. Technology and policy changes are needed to help us use smaller volumes of water in a smarter way. The costs and

[1] CSIRO, (2007). Climate change in Australia. www.climatechangeinaustralia.gov.au

benefits of saving water must be shared by all Australians (including people living in urban areas, farmers and irrigators) or real water savings will not be possible.[2]

We need an immediate, effective strategy to address climate change. The Nature Conservation Council believes the Federal Government's draft legislation for the Carbon Pollution Reduction Scheme (CPRS) will not achieve the emissions reduction that we need to avert the onset of dangerous climate change, due to its low targets, overly generous compensation to polluters, and allowance of unlimited International off-sets. NCC is opposed to the CPRS because urgent action is needed to manage climate change, and the CPRS will fail to achieve this. There are other policies the government can implement to reduce Australia's greenhouse gas emissions. These include:

- Prioritise saving energy (e.g. Strengthen building standards for all new buildings);
- Fast-track the switch to a renewable-energy economy (e.g. Double the Renewable Energy Target to 90,000 GWh by 2020; and an immediate moratorium on construction of new coal-fired electricity plant);
- Drive the shift to low emissions vehicles and sustainable cities (e.g. Set binding targets for fuel efficiency and emissions intensity of Australian vehicles, as well as provide strong incentives to support electric vehicles);
- Protect our forests and woodlands as a carbon store and make agriculture a part of the solution (e.g. End logging of old growth forests and high conservation value native forests in favour of plantation harvesting by the end of 2011);
- Grow the green job economy (e.g. Increase Australia's manufacturing capacity to deliver a renewable energy-powered economy).[3]

Approaches to the management of water resources by all water users including provision for environmental flows

Under the National Water Initiative, governments have made commitments to prepare water sharing plans (WSPs) with provision for the environment; and deal with over-allocated or stressed water systems.

Many of the NSW water sharing plans were suspended in 2006 due to the extremely dry conditions. When very little water is available the water needs of towns, stock and industry have taken precedence over environmental needs. There is serious doubt as to whether WSPs are accurately implementing the priority of environmental water provided for in the legislation. WSPs do not reflect the same priority for environmental water as required in the legislation, largely due to the fact that the planning process in many areas

[2] International Centre of Water for Food Security. (2007) Climate Change or Shift? How it affects the Australian Community. http://news.csu.edu.au/uploads/documents/Climate%20Change%20or%20Shift%20(3).doc

[3] Nature Conservation Council of NSW. (2009). Plan B: An Agenda For Immediate Climate Action. http://nccnsw.org.au/images/stories/ClimateChange/plan%20b%20report_june%202009.pdf

has not satisfactorily identified environmental requirements of systems prior to making trade-offs for consumptive supply. [4]

We expect drought conditions to become more frequent under climate change; therefore, there is a need for water sharing plans to be updated, providing environmental water managers with detailed plans for restoring the long-term ecological health of rivers. The WSPs need to expressly refer to the health of the water source, address risks to the water source, identify the knowledge base on which the plans are based and provide pathways to correcting over-allocation. These plans should ensure environmental outcomes are achieved even in drought conditions.

Best practice in water conservation and management

Demand management and water restrictions
Water needs to be used more efficiently to reduce demand. Water conservation measures include the installation of water saving devices in households and industry, and the rapid fixing of leaks.

Water restrictions are preferable to alternatives such as energy intensive desalination plants that we are opposed to. Water restrictions give the Government time to expand our level of recycling, increase the number of rainwater tanks and improve our water conservation. These measures are more sustainable options for securing our water supply.

Recycling and reuse
A long term strategy is needed for water recycling, with a strong emphasis on industry using recycled water for commercial uses. Recycled water can be used for agriculture to reduce fresh water consumption. The 2006 Metropolitan Water Plan sets out how the NSW Government intends to secure the water supply for Sydney, the Illawarra and the Blue Mountains, in both the short and long terms. Under the plan, Sydney Water is responsible for increasing the amount of wastewater recycled to 70 billion litres a year by 2015. Recycling in 2008–09 was just over 27 billion litres of water[5] and further efforts in water recycling are required.

Rainwater Harvesting & Rainwater Tanks
The widespread introduction of rainwater harvesting for both household and industrial use will provide significant water savings. In Sydney, water collected in rainwater tanks can

[4] Environmental Defender's Office (EDO) New South Wales (2007). Submission on the First Biennial assessment of the National Water Initiative – NSW Implementation.
http://www.edo.org.au/edonsw/site/pdf/subs07/nwi_nsw070212.pdf

[5] Sydney Water. (2009). Annual Report
http://www.sydneywater.com.au/AnnualReport/performance/water_efficiency.html

result in savings of up to 97 KL of water per household[6]. This can significantly reduce water extractions from our catchments.

Management of urbanization impacts through SUDS

Promotion of Sustainable Urban Design Systems (SUDS) will help communities adapt to decreased water availability as a result of climate change, as well as provide environmental benefits.

SUDS should be designed to maximise ecological value. The Urban Stormwater Best Practice Environmental Management Guidelines[7] listed five key objectives of water sensitive urban design. They are:-

- Protect and enhance natural water systems within urban developments;
- Use stormwater in the landscape by incorporating multiple use corridors that maximise the visual and recreational amenity of developments;
- Protect the quality of water draining from urban development;
- Reduce peak flows from urban development by local detention measures and minimising impervious areas; and
- Add value while minimising the drainage infrastructure cost of development.

Salinity management

The current rate of increase in salinity is a problem across NSW, with some rivers no longer suitable for drinking water.

The regional catchment management strategies developed by Catchment Management Authorities set out objectives for reducing land degradation processes, which can contribute to salinity. One of the major components of the catchment management regional strategies is to promote sustainable agriculture and land management practices. These practices include conservation cropping, introduction and management of perennial pasture species, regeneration of remnant vegetation and tree planting.

Drought & flood mitigation and adaptation

The government should review and revise water management plans on a case-by-case basis, within relevant legislative and policy frameworks, to determine priorities for environmental flows under drought in each catchment. Areas of high conservation value (locations of tributaries, reaches and refuges) should underpin this review[8].

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[6] enHealth Council (2004). Guidance on use of rainwater tanks. http://www.health.gov.au/internet/main/publishing.nsf/Content/3D981B51B4FB458DCA256F1900042F6E/$File/env_rainwater.pdf

[7] CSIRO. (1999). Urban Stormwater: Best Practice Environmental Management Guidelines. http://www.publish.csiro.au/?act=view_file&file_id=SA0601047.pdf

[8] eWater CRC. Beating drought: Environmental flows. http://www.ewatercrc.com.au/drought/beating_drought_env.shtml

A long-term approach to flood risk needs to be realised. Action must be taken to make sure that NSW's sewage network can cope with flooding, to prevent water quality problems. The NSW government's Draft Flood Risk Management Guide[9] recommends that local councils, the development industry and consultants incorporate the sea level rise benchmarks in floodplain risk management planning and flood risk assessments for new development.

Management of groundwater extraction

Studies have shown many of Australia's underground aquifers are already over-allocated and we must not risk their exhaustion by allowing further water extraction for commercial purposes. In particular, limits on bottled water should be implemented considering the large amount of energy spent on extracting groundwater, transporting, bottling and packaging it.

The National Water Commission report on water reform progress found that there are very few, if any, overallocated and overused systems that have been successfully transitioned to within sustainable extraction limits[10]. The government needs to achieve a clear definition of the sustainable level of extraction in many water systems, as well as continue with buybacks and other water recovery initiatives.

Habitat creation

As sea levels rise, their saline water will be able to overcome natural barriers to move into low lying areas now dominated by freshwater. Rising sea levels will also push seawater into coastal fresh water aquifers[11]. The creation of new wetland areas should be considered to compensate for habitats which could be lost to the sea because of rising sea levels.

Environmental flow implementation, monitoring and adaptation

Environmental flows are the amount of water that is needed in streams, rivers, lakes and marshes to meet the requirements of aquatic flora and fauna. To adapt to climate change, practitioners require best-practice operational guidelines for active environmental water management, and procedures that allow them to move rapidly and react to on-ground situations as they develop[12].

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[9] Department of Environment, Climate Change and Water NSW (2009). Draft Flood Risk Management Guide Incorporating sea level rise benchmarks in flood risk assessments. http://www.environment.nsw.gov.au/resources/climatechange/09711draftfloodrisk.pdf

[10] National Water Commission (2009). Australian water reform 2009: Second biennial assessment of progress in implementation of the National Water Initiative. http://www.nwc.gov.au/resources/documents/2009_BA_chapter_5_overallocation.pdf

[11] OzCoasts, Saline intrusion. http://www.ozcoasts.org.au/indicators/saline_intrusion.jsp

[12] eWater CRC, (2009). Emerging practice in active environmental water management in Australia. http://www.ewatercrc.com.au/documents/Environmental-water%20managers%20report.pdf

The Nature Conservation Council of NSW would like to thank the Standing Committee on Natural Resource Management for its interest in the issues of climate change and water management and hopes this submission will be of assistance in regards to the inquiry.

If you require any further information please do not hesitate to contact Amara Glynn on aglynn@nccnsw.org.au or 02 9279 2466.

Yours sincerely,

Cate Faehrmann
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