LEGISLATIVE ASSEMBLY

Standing Committee on Natural Resource Management

THE IMPACT OF WATER MANAGEMENT ARRANGEMENTS ON SALINITY MANAGEMENT

"*Trade us not into trouble, but into advantage*"

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Terms of Reference

(a) current disincentives that exist for ecologically sustainable land and water use in New South Wales;

(b) options for the removal of such disincentives and any consequences in doing so;

(c) approaches to land use management on farms which both reduce salinity and mitigate the effects of drought;

(d) ways of increasing the up-take of such land use management practices;

(e) the effectiveness of management systems for ensuring that sustainability measures for the management of natural resources in New South Wales are achieved;

(f) the impact of water management arrangements on the management of salinity in NSW.

Chairman's Foreword

Australian Governments recognise that healthy freshwater systems are fundamental to sustaining the economic, cultural and social well-being of our communities. Over the past two decades there have been concerns that increasing water use and low rainfall, have had detrimental impact on the freshwater resources of this nation.

In 1994, the Council of Australian Government [COAG] Strategic Water Reforms Framework sought to establish an integrated and consistent approach to water resource management throughout Australia. The water reforms were explicit in addressing both environmental and economic objectives and encouraged trading in water entitlements, to enable water to be allocated to its highest value use. In October 2003, COAG further announced the National Water Initiative, with States and Territories signing an intergovernmental agreement under National Water Initiative on June 25, 2004.

A Pilot Interstate Water Trading Program to evaluate the impacts of interstate water trading on salinity has been conducted by the Murray-Darling Basin Commission [MDBC], with a two-year review finding that water trading may indeed, increase salinity. In response, the Commonwealth Scientific and Industrial Research Organisation [CSIRO] suggested that stronger, market-based, institutional arrangements that assist with mitigating potential salinity impacts caused by water trading should be developed, whilst interstate water trades are low.

This inquiry commenced in mid 2003 in response to the concern that water trading may exacerbate salinity in particular regions. This inquiry has intended to consider the impacts of water management arrangements on salinity management, however, it recognised that there has been considerable evolution in dealing with the environmental impacts of water use over the past year. The Committee acknowledges the recent improvements in State policy and programs and would like to highlight that the report includes evidence taken before the recent legislative changes.

Under the National Water Initiative intergovernmental agreement, the States have agreed to develop effective and efficient water management and institutional arrangements that both promote socio-economic well being and mitigate environmental impacts caused by water trading.

The Committee would like to acknowledge NSW Minister for Infrastructure and Planning and Minister for Natural Resources, the Honourable Craig Knowles' commitment that new legislative arrangements should "continue to provide the vital environmental and economic services on which Australia has come to depend.[1]"

The Minister has informed the committee that the National Water Initiative recognises that the environmental impacts of trading need to be taken into account when designing the rules that govern water trading. The Minister has also said that the new legislative arrangements for water management contain comprehensive provisions relating to the regulation of water

[1] *NSW Water Reforms: A secure and sustainable future*. 2004. Ministerial Statement by the Honourable Craig Knowles, Minister for Infrastructure and Planning and Minister for Natural Resources. Available at www.dipnr.nsw.gov.au/water/pdf/wms02.pdf

use on land and the management of relevant environmental impacts and water sharing plans will ensure that adverse impacts be avoided, or minimised, when a water trade takes place.

The Minister also informed the committee that Catchment Management Authorities, who will be responsible for much of the water sharing process from hereon, will be able to fund water recovery schemes through environmental water conservation trust funds, on the understanding that the water saved will accrue to the Catchment Management Authorities to be managed as adaptive environmental water.

New legislation has also established an independent Natural Resources Commission, which will review both water sharing plans and catchment actions plans, to ensure the achievement of specified catchment health objectives.

This report is structured to provide an understanding about the issue of salinity and existing water management arrangements and considers the challenges that face policy makers as new approaches to water and salinity management are developed to assist the new Catchment Management Authorities in their new role as water managers. The committee would like to thank all of those who provided submissions and evidence to this inquiry

Honourable Pam Allan MP
Chairman

Executive Summary

The imperative of increasing the productivity and efficiency of Australia's water use and ensuring the health of river and groundwater systems is widely recognised at both the national and state levels. The reforms arising out of COAG have set the scene for new institutional arrangements at the national and state levels to ensure that both environmental, economic and social needs are being met by water management policy and practice.

Considerable evolution has taken place in water management policy and law over the past decade and our knowledge about the environment's capacity to handle introduced water use practices has improved. However, given the competing demands on water resources from consumptive use and the environment, water management issues remain complex and there is still some way to go before the sustainable and wise use will be achieved.

It is thought that trading in water entitlements water may provide overall improvement in the environment and the natural resource base by that encouraging the more efficient use of water, including allowing governments to buy water for the environmental flows to improve water quality and biodiversity indicators.

As a result, water trading is being promoted to make the best use of the environment, economic and social values of the nation's most precious natural resource. However, it is also considered that water trading could make the management of salinity and water quality more complex and concerns have been raised that increased water trading may increase salinity in some areas.

NSW has responded to COAG by developing new legislation that recognises environmental water allocation, focuses on capping extraction of water from stressed rivers and aquifers and promotes water trading (the buying and selling of water entitlements) and provide for water sharing plans that aim to avoid, or minimise, adverse impacts during water trading.

However, guidelines to assist the Minister for Infrastructure and Planning and Minister for Natural Resources to develop a process to assess the cumulative adverse environmental and socio-economic impacts of trade decisions, both for the source of the trade and the trade destination need to be developed.

Matters arising out of the National Water Initiative provides an opportunity to ensure that salinity objectives are included in the water sharing process and the Intergovernmental Agreement aims to deliver institutional arrangements that deal with accounting for water resources (i.e., robust water accounting; environmental water accounting; metering and measuring actions and developing and applying national guidelines on water reporting).

Institutional arrangements that manage salinity impacts are supported and the NSW water sharing process however, rules for water trade deal with unintended salinity impacts need to be established.

Catchment Management Authorities will be responsible for much of the water sharing process and will be able to fund water recovery schemes through environmental water conservation trust funds, on the understanding that saved water will be managed as adaptive environmental water. The Natural Resources Commission will review both water sharing plans

and catchment actions plans, to ensure the achievement of specified catchment health objectives.

Water Sharing Plans aim to "share" water between the environment and licence holders and require rules that provide for environmental water that is protected from being traded. Water Sharing Plans should include accountable salinity objectives which reflect catchment targets set by Catchment Action Plans and potential negative environmental and socio-economic impacts.

Due to the uncertainty of how the plans will perform, natural and expected variability in the systems and changes in scientific knowledge, water sharing plans must be underpinned by the principles of adaptive management ensure ecosystems are appropriately managed.

The Department of Infrastructure, Planning and Natural Resources, the Department of Environment and Conservation and the Natural Resources Commission should consider the State water sharing planning process is an opportunity to apply adaptive management principles over the next five to 10 years, using best scientific principles and combine resources to assist the Catchment Management Authorities in their new role as water managers.

List of Recommendations

PART A – BACKGROUND

Chapter One - Why is Salinity an Issue?

Why does salinity occur?

1.1 Historically, the nation's once highly variable 'wild' rivers supported a diverse and unique flora and fauna, as well as a thriving Indigenous population. Many large rivers in Australia rise west of the Great Dividing Range and flow inland towards Lake Eyre. Floodwaters periodically flushed accumulated salts from within the soil and into the rivers, which would then transport the salts downstream to be deposited on low-lying floodplains or into the sea.

1.2 Consequently large parts of the Australian landscape are naturally saline, with salts being stored below the root zone of native vegetation. Changes in rainfall patterns are considered to be a contributing factor to increasing salinisation. However, the landuse changes of the past two hundred years since European colonisation, is the primary reason for rising salinity in Australia.

1.3 Regulating wild rivers to provide a constant water source for extraction and irrigation, and clearing the landscape of native vegetation to plant introduced crops, has seen the nation's waterways and associated floodplain areas exploited for agricultural purposes and to support an increasing human population.

Water extraction as an issue for salinity

1.4 River regulation and water extraction for irrigation reduces the dilution flows of rivers and increases natural salt loads. Applying irrigation water to land can result in the watertable rising at an increased rate by excess water leaking past the root zone into the groundwater zone. Additionally, where there is insufficient leaching, salts dissolved in irrigation water can enter the soil, or saline water can be discharged from farms into the river.

1.5 Irrigation practices also contribute to increased waterlogging, as excess water not taken up by crops and vegetation, can build up in the sub-surface of the soil, causing the watertable to rise. As the watertable reaches the surface, the soil becomes waterlogged. Soil saturation is compounded by periods of heavy rainfall, poor drainage and poor irrigation practices. The roots of waterlogged plants have limited access to oxygen and as a result, crop and pasture is replaced with more tolerant species.

1.6 Most Australian rivers are connected to surrounding groundwater aquifers that supply the river's base flow. Some existing groundwater resources may be sustainably extracted for livestock purposes, domestic use and irrigation, however, significant volumes of ground water have been extracted to support an increasingly consumptive human use.

1.7 Whilst only a small percentage of the available groundwater sources are currently being utilised, compared with their estimated sustainable yield, most of these are close to, or being overused and are at threat of over-extraction.[2] The result is that the ground-surface water equilibrium in NSW is considerably disturbed and it is estimated

[2] Department of Environment and Conservation, *NSW State of the Environment Report 2003*, Chapter 5. Groundwater Extraction.

that it could take from between 20, 100 and 500 years (local, intermediate and regional systems, respectively) for the surfacewater-groundwater equilibrium to recover.[3]

Salinity in the Murray-Darling Basin

1.8 In NSW, most salinity impacts occur in Australia's largest and most extensive river drainage system and most productive agricultural area, the Murray-Darling Basin, which drains the southern part of Queensland, New South Wales (including the Australian Capital Territory) and Victoria and is composed of two main channels:

- the Darling River, which drains into the Menindee Lake System (including the Ramsar listed Narran Lake); and
- the River Murray, which drains to the Great Australian Bight via Lake Alexandria, in South Australia and which provides flows to a number of important wetland areas on its way to the ocean via the Murray Mouth.

1.9 However, the Murray-Darling Basin is the most regulated river system in Australia and it has exceeded sustainable extraction limits. Currently, nearly all of the water in the Murray-Darling Basin is diverted and used for agricultural purposes, with an estimated 85% of available surface water being utilised. Water diversion has reduced the flows in the lower River Murray to only 21% of those that would have occurred prior to development.[4]

Extraction issues in the Basin

1.10 By 1996–97 entitlements to water exceeded its use by nearly 25%. Diversion and extraction of surface waters in NSW rose by 52% from 5932 to 9000 gigalitres [GL], the largest increase in any Australian State or Territory. Most of the increase, including the use of groundwater, was for irrigation [90%] from 4910 GL in 1983–84 to 8643 GL in 1996–97.

1.11 European approaches towards water management and land-use practices (such as clearing of native vegetation for introduced crops and the supply of water for irrigation during summer and autumn) have affected the level of the water table, with subsequent salinity impacts contributing to the declining health of the overall river system. Problems with salinity associated with water extraction in the Basin were evident soon after the establishment of the first irrigation schemes in the 1890s.[5]

1.12 The Department of Infrastructure, Planning and Natural Resources gave evidence that licence entitlement in many rivers is substantially greater than the amount of water that is typically extracted and that full use of entitlements would mean that more than 100% of any given river in NSW would be allocated for consumptive use.[6]

1.13 Water extraction for irrigation purposes within the Basin is seriously impacting upon both ecosystems and human communities along the river. Over-allocation of water within the Lower Murray, the Lachlan, the Macquarie, the Namoi, the Gwydir, the Warrego and the Condamine-Balonne catchments, has resulted in decreased water

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3 National Land and Water Resources Audit, *Australian Dryland Salinity Assessment, 2000*, January 2001.

4 Murray Darling Basin Ministerial Council, *The Salinity Audit*, December 1999, page 2.

5 Ibid, page 18.

6 Evidence taken before the committee, 4 September 2003, page 6.

quality, salinisation, and soil degradation. Reduced flows from in the upper catchment of the Condamine-Balonne system is impacting on town and stock water supplies from the Darling River, which is increasingly salinised and contaminated by blue green algae.[7,8]

1.14 Altered flow regimes are causing the decline of places with significant environmental, social and cultural importance. Many wetlands, once abundant natural resource areas in particular for Indigenous Australians, have been affected by changed seasonal flooding and drying cycles. Emergent floodplain vegetation is being replaced by submerged plants in places that are now inundated for long periods. Such places also demonstrate losses in biodiversity, including waterfowl.

1.15 Secondary salinisation as a result of human activities, has resulted in the loss of a number of wetland areas. It is predicted that within 20 years, 'increasing salinity levels in major systems will exceed tolerance thresholds known to reduce reproduction in many species and alter food webs'.[9]

1.16 As salinisation increases, freshwater species of submerged plants decrease, leading to dominance by salt-tolerant submergent species (halophytes). If salinity further increases, halophytes may also die, forming a 'strongly cohesive' benthic microbial mat on the floor of the water bodies, the result being the formation of a salt pan residue. This causes water that is normally distributed to groundwater sources to be lost as evaporate.[10]

How much land is affected by salinity?

1.17 The Murray-Darling Basin provides over 41% of the gross value of national agricultural production.[11] Whilst salinity currently affects less than 1% of agricultural land in Australia, where it does occur, the yield losses are large.[12] If mitigation practices are not implemented, salt loads are predicted to increase for many catchments, with a predicted risk of increased area impacted by salinisation, ranging from approximately 152,000 hectares to 1.3M hectares by 2050.[13]

1.18 By 1987, 96,000 hectares of the Basin's irrigated land were estimated to be salt affected, with 560,000 hectares of land demonstrating water tables rising to within two metres of the land's surface.[14]

1.19 In 1999, it was predicted that, without new interventions, all irrigation regions within the southern Murray-Darling Basin will have water tables within two metres of the surface by year 2010. In 2000, 89,000 hectares of land in NSW were affected by production yields limited by salinity (predicted to rise to 286,000 hectares by 2020)

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7 New South Wales Government *Response to the Consultation Draft Water Resources [Condamine and Balonne] Plan*, May 2004.

8 Ozgreen, *My River*: *Darling River*, 2003.

9 Inland River's Network, *State of the Murray Darling Basin*, http://www.irnnsw.org.au.

10 Australian Landcare, March 2004.

11 Murray-Darling Basin Ministerial Council, Draft Integrated Catchment Management in the Murray-Darling Basin 2001-1021: Delivering a Sustainable Future [September, 2000], page 1. In, Farrier, D. *Integrated Natural Resources Management in the Murray-Darling Basin, Australia*: The Dryland Salinity Lever, Centre for Natural Resources, Law and Policy, University of Wollongong.

12 National Land and Water Resources Audit, *Australians and Natural Resource Management 2002*, March 2002, page 89.

13 Ibid.

14 Ibid.

and 180,000 hectares of land in NSW demonstrated shallow watertables or were affected by dryland salinity. [15,16]

1.20 More than 90% of the salinity impacts occur in the Murray, Murrumbidgee, Lachlan, Macquarie and Hunter river catchments. The Hunter and Hawkesbury-Nepean river catchments have the most extensive areas of existing dryland salinity or shallow groundwater of NSW coastal catchments.[17]

1.21 It is also predicted that rising watertables will continue to occur in large areas of the Murrumbidgee and Murray catchments and considerable areas of the Lachlan, Castlereagh and Macintyre catchments. The most significant increase is expected in the Lachlan, Murrumbidgee and Namoi rivers, with salinity in the Bogan, Macquarie and Namoi catchments expected to reach levels above the World Health Organisation's recommended limit for potable drinking water [800 μ/cm].[18]

Accounting for salinity impacts

1.22 Whilst river regulation and extraction has provided both great economic and social benefits, there is grave concern that if left unchecked, the natural resource base on which agriculture depends will continue to degrade.[19] There are concerns that salinity impacts in irrigation areas can be made worse, as irrigators use salinised water which is drawn from rivers flowing from affected dryland areas.

1.23 Over-irrigation of farm land, inefficient water use, poor drainage, irrigating on unsuitable or "leaky" soils, allowing water to pond for long periods and allowing seepage from irrigation channels, drains and storages has resulted in at least 40% of irrigated land in NSW becoming prone to shallow water tables. Such land requires drainage to manage waterlogging and control salinity.[20]

1.24 Eminent social, environmental and economic scientists argue that Australia is now "entering into a period of water scarcity" and faces "painful readjustment", which has the

> "potential to liberate another burst of wealth production for rural Australia, or to destroy much of the land on which rural communities presently depend."[21]

1.25 Whilst salinity is having a negative impact on the nation's land and water resources, increasingly the nation's infrastructure in some areas is being adversely affected and it is predicted there is a risk that public costs arising from the effects of salinity could be as much as $500 million per year over the next 20 years.[22]

1.26 Salinity is an economic 'externality' caused by current water use practices, which has unanticipated side effects on both the environment and other water users. Using water to irrigate land effectively imposes economic costs on downstream users, as their resources are affected by salinised return flows. The lack of information and

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15 Ibid.

16 Ibid, page 91.

17 National Land and Water Resources Audit, *Australian Dryland Salinity Assessment 2000*, January 2001, page 16.

18 Ibid, page 19.

19 Wentworth Group of Concerned Scientists, *Blueprint for a National Water Plan*, 2003.

20 Ibid.

21 Committee for Economic Development in Australia [CEDA], *The challenges of water policy for Australia*, Chapter 1, 2004.

22 National Land and Water Resource Audit, op cit, page 28.

knowledge in this area has meant it is difficult to factor in the potential impacts of salinity as part of the economic equation. Therefore, as salinisation impacts on both environmental and agricultural values, the impacts of salinity are increasingly seen as both a natural resources and an economic issue.

1.27 Managing the impacts of salinity has thus become a priority for both the Commonwealth and State Governments, who now recognise that if salinity is to be controlled, the existing demand for the use of water in the Murray-Darling Basin is unsustainable. A number of programs and initiatives are in the process of being established so that up to date information can be applied to land use practices, bolstered by improved institutional arrangements to maintain economic growth and development whilst protecting the nation's valuable natural resources.[23]

[23] www.dipnr.nsw.gov.au

Chapter Two - A national approach to salinity management

The National Action Plan on salinity and water quality

2.1 In early November 2000, COAG agreed that the issues relating to salinity, particularly dryland salinity and deteriorating water quality, were of major national significance. COAG is concerned that salinity has the potential to seriously affect the sustainability of Australia's agricultural production, the conservation of biological diversity and the viability of infrastructure and regional communities.

2.2 As a result, the *National Action Plan on Salinity and Water Quality* (the National Action Plan) was endorsed.[24] The National Action Plan is a fundamentally new approach to natural resource management and investment to deliver the benefits of improved salinity and water quality.

2.3 Implementing the National Action Plan involves integrated catchment/regional planning that stimulate best management practices, aim to restore degraded landscapes where it is practical and economical and promote new sustainable production systems. The Intergovernmental Agreement for the National Action Plan aims to be flexible and to reflect different circumstances in jurisdictions and variations in the capacity and expectations of communities and the needs of different catchments/regions.

2.4 The National Action Plan has a number of elements to tackle salinity and water quality problems in key catchments and regions and builds on the work established under the National Heritage Trust (Mark II), the Murray Darling Basin Commission, State/Territory strategies and the COAG Water Agreement by implementing:

- targets and standards for natural resource management, particularly for water quality and salinity and associated water flows, stream and terrestrial biodiversity, based on good science and economics;
- integrated catchment/regional management plans, to be developed by the community, in all highly affected catchments/regions where immediate action will result in substantial progress towards meeting State/Territories and basin wide targets, to reverse the spread of dryland salinity and improve water quality;
- capacity building for communities and landholders, to assist them to develop and implement integrated catchment/region plans, together with the provision of technical and scientific support and engineering innovations;
- an improved governance framework to secure the Commonwealth-State/Territory investments and community action in the long term, including property rights, pricing, and regulatory reforms for water and land use;
- an effective, integrated and coherent framework to deliver and monitor implementation of the National Action Plan, that clearly articulates roles for the Commonwealth, State/Territory, local government and the community, to

[24] National Action Plan on Salinity and Water Quality, website: www.napsqw.gov.au

replace the current disjointed Commonwealth-State/Territory frameworks for natural resource management; and,

- a public communication program to support widespread understanding of all aspects of the National Action Plan, so as to promote behavioural change and community support.

2.5 With NSW signing an agreement in 2002, all States and Territories have now committed joint funds to develop better approaches to salinity and water quality management. The National Action Plan will be evaluating the development of salinity mitigation schemes and market based instruments that manage water impacts by using market forces.

2.6 In 2002, the Select Committee into Salinity evaluated several general issues regarding salinity and produced a final report which proposed a number of recommendations regarding funding allocations from the National Action Plan and National Heritage Trust, arrangements to enable efficient delivery of the National Action Plan and monitoring and evaluation of the program.[25]

Monitoring and evaluating the National Action Plan

2.7 The Salinity Committee recommended that a Commonwealth/State Steering Committee be established to monitor and evaluate as to whether arrangements set up under the bi-lateral agreement are adhered to.[26]

2.8 A Joint Australian and NSW Government Steering Committee has been established to oversee the delivery of the National Action Plan and the National Heritage Trust in NSW. The role of that committee includes:

- developing principles and criteria to guide National Action Plan and National Heritage Trust investments;
- making recommendations to Australian and NSW governments on accreditation of Natural Resource Management Plans for National Action Plan and National Heritage Trust investments;
- making recommendations to ministers on National Action Plan and National Heritage Trust investments;
- approving release of funds for investments; and,
- reporting annually to ministers on National Action Plan and National Heritage Trust funded activities.

2.9 That committee comprises of:

- two representatives from the Australian Government – the General Manager, Natural Resources Management Team (Department of Agriculture, Fisheries and Forestry) [Cwth], and the Assistant Secretary, Natural Resources Management Team (Department of Environment and Heritage) [Cwth];
- two NSW Government representatives – the Deputy Director General for the Office of Coastal, Rural and Regional NSW (Department of Infrastructure,

[25] Final Report of the NSW Parliament Select Committee on Salinity, December 2000.

[26] Ibid, Recommendation 13, page 33.

Planning and Natural Resources) and the Director, Biodiversity and Conservation (Department of Environment and Conservation); and,

- two chairpersons from the Catchment Management Authorities.

2.10 A further recommendation states that a working party of Commonwealth State and Territory representatives be set up to build on the current National Market-Based Instruments Pilots Program by identifying the current disincentives that exist for ecologically sustainable land and water use.[27]

2.11 Currently the Natural Resource Management Pilots and Program component of the National Action Plan is evaluating the effectiveness of market-based instruments and natural resources management. Ten projects, approved by the Natural Resource Management Ministerial Council, will investigate ways to use innovative financial arrangements to encourage better land and water management and to reduce salinity in irrigation-based agriculture and will be further discussed in Chapter 7 (Section C).

2.12 One study evaluating trading mechanisms is the Hunter River Salinity Trading Scheme, which aims to manage saline water discharges so as to minimise impacts on irrigation, other water uses and on the aquatic ecosystems of the Hunter River catchment. The Scheme uses trading in salinity credits to manage saline water discharge from a licensed point source and aims to achieve this objective at minimal cost to the community in an equitable and flexible manner and in a way that provides ongoing financial incentives to further reduce pollution.[28]

Funding allocations for salinity research

2.13 The Salinity Report recommended that a percentage of the budgets of the National Action Plan and Natural Heritage Trust be allocated to research and commercialisation of technologies for the improved management of salinity recharge and discharge areas and include investment in supporting infrastructure and help with finance arrangements for new industries.[29]

2.14 On 25 February 2004, the then Minister for Environment and Heritage, Dr David Kemp, and the Minister for Agriculture, Fisheries and Forestry, Mr Warren Truss announced funding of $434M, derived from the National Heritage Trust, the National Action Plan, the NSW Sustainability Trust and NSW Land and Water Management Plan Program, to assist with reparation of salinity.

2.15 Table 1 (on page 10) summarises the funding allocations. Projects for 2003/04 received $64.6M reflecting priorities outlined in the 2003/04 regional investment strategies to be implemented by Catchment Management Authorities. These are intended to develop investment packages which will be supported by $369.3M for 2004/05 – 2006/07.[30]

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27 Final Report of the NSW Parliament Select Committee on Salinity, op cit. Recommendation 8, page 24.

28 Hunter River Salinity Trading Scheme, NSW Environmental Protection Authority, http://hrs1.epa.nsw.gov.au
Final Report of the NSW Parliament Select Committee on Salinity, op cit. Recommendation 1, page 11.

30 Source: National Action Plan on Salinity and Water Quality, op cit.

TABLE 1: Regional funding allocations under the National Action Plan for Salinity and Water Quality Management

REGION	FUNDING	
[Description]	2003/04	2003/05–2006/07
Murray *On-Farm Implementation South West Slopes* • targeted incentives to landholders to address salinity; • river zone protection; • saline run-off control; • recharge control.	$14,500,000	$53,600,000
Murrumbidgee *Riparian Restoration*	$13,400,000	$47,300,000
Namoi *Removal of Barriers to Fish Passage*	$4,500,000	$24,600,000
Northern Rivers *Restoration Project*	$2,500,000	$21,900,000
Southern Rivers *Snowy River Recovery Program*	$1,500,000	$16,100,000
Western *Sustainable Grazing and Farming Best Management Practice* • voluntary adoption by landholders of industry-developed best practice codes for sustainable grazing and farming; • soil erosion, salinity and water quality.	$3,500,000	$17,200,000
Lower Murray-Darling *Wetland Rehabilitation* • identify wetlands at risk; • contribute to improvements in water quality.	$3,700,000	$17,200,000
Lachlan *Lachlan Salinity Program* • promote adoption of farming systems that minimise access to the water table; • increased water-use efficiency on irrigated lands	$7,500,000	$32,500,000
Hunter-Central Rivers *Central Coast Biodiversity and Native Vegetation Protection Program*	$2,100,000	$18,600,000
Central West *Management, revegetation and reconstruction of high conservation value/significant vegetation communities* • expanding planting for salinity control.	$6,900,000	$32,000,000
Border Rivers/Gwydir *Natural Resource and Environmental Management education awareness* • information to landholders – appropriate land use management for saline discharge areas to minimise productivity loss	$4,480,000	$26,300,000
Hawkesbury Nepean	*pending*	$14,100,000
Sydney Metro	*pending*	$5,100,000
Strategic Reserve		$41,000,000
Total	$64,580,000	$369.300,000

2.16 The Report of the Select Committee on Salinity also recommended that the Natural Resource Management Ministerial Council establish a body to allocate funding for research and commercialisation of technologies for the improved management of salinity recharge and discharge areas.[31]

2.17 The committee also recommended that that the body referred to in Recommendation 2 of the report, be supported by an advisory council to assess proposals and advise on their priority. That the advisory council comprise a wide range of prescribed industry groups and research organisations.[32]

2.18 The committee further recommended that the working party referred to in Recommendation 2, consider the following criteria for the assessment of proposals and efficacy for reducing salinity:

- current commercial potential;
- whether the market for the product or service is mainstream or niche;
- whether the product or service can be applied broadly across the landscape;
- where there is a high benefit-cost for actions taken in a particular location;
- the extent of change and capital costs for landholders [where the technology is intended for use by landholders]; and,
- status of knowledge on production and markets. [33]

2.19 In June 2004, The House of Representatives Standing Committee on Science and Innovation tabled its report entitled *Science overcoming salinity: Coordinating and extending the science to address the nation's salinity problem.*[34]

2.20 The Committee gave particular consideration to:

- the use of salinity science and research data in the management, coordination and implementation of salinity programs and the linkages between those conducting research and those implementing salinity solutions, including the coordination and dissemination of research and data across jurisdictions and agencies;
- the concerns relevant decision makers [including catchment management bodies and land holders]; and,
- adequacy of technical and scientific support in applying salinity management options.

2.21 The report made a number of recommendations, primarily that mechanisms be developed to ensure that validated salinity research findings are considered in regional planning processes.[35]

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31 Final Report of the NSW Parliament Select Committee on Salinity, op cit. Recommendation 2, page 11.

32 Ibid, Recommendation 4, page 11.

33 Ibid, Recommendation 5, page 12.

34 House of Representatives Standing Committee on Science and Innovation. *Science and Overcoming Salinity: Coordinating and extending the science to address the nation's salinity problem*. Available at www.aph.gov.au/house/committee/scin/salinity/report.htm.

35 Ibid.

2.22 The Report of the Select Committee on Salinity suggested that the Minister for Land and Water Conservation re-examine the need to introduce legislative changes to the *Catchment Management Act 1989,* so as to ensure the adequacy of the Act to support the implementation of the National Action Plan for Salinity and Water Quality.[36] Additionally the committee recommended that the Minister for Land and Water Conservation ensure membership of each of the Catchment Management Boards included adequate representation from the industry sector.[37]

2.23 In response to the Final Report by the Native Vegetation Reform Implementation Group [NVRIG] (the Sinclair Group) chaired by the Right Honourable Ian Sinclair AC, the Premier announced the Natural Resource Management Reforms, in October 2003.[38]

2.24 These reforms provide for, inter alia:

- Catchment Management Authorities – to be responsible for local natural resource management and services and effectively replace the previous 72 catchment boards and vegetation and water management committees;
- establishment of the Natural Resources Commission – comprised of independent experts, who will set new natural resource management standards and audit the performance of the Catchment Management Authorities;
- establishment of the Natural Resources Advisory Council – so that stakeholders may voice their opinions on natural resource issues.

2.25 The Sinclair Group comprised of farmers representatives, key environmentalists and members of the Wentworth Group of Scientists and representatives of key interest groups, working with the government to develop good policy. The native vegetation reforms are intended to facilitate community input into natural resource management and aims to deliver improvements in vegetation, soil and salinity management and will support delivery of the National Action Plan.

2.26 The *Catchment Management Authorities Act 2003* repeals the *Catchment Management Act 1989* to create 13 locally driven Catchment Management Authorities to deliver natural resource management programs at the catchment level. Catchment Management Authority board membership is based on relevant knowledge and skills in a wide range of areas relevant to the operation of each catchment area, including an understanding of natural resource management and land use systems. Consideration was also given to geographical representation.

2.27 The Report of the Select Committee on Salinity recommended that cost-benefit analyses of catchment management blueprints be undertaken to determine whether the plans and their associated investments are adequately justified on technical and economic grounds. The committee considered such studies would allow funding to be more efficiently targeted and would highlight the areas in which further technical or economic input is required.[39]

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36 Final Report of the NSW Parliament Select Committee on Salinity, op cit, Recommendation 11, page 32.

37 Ibid, Recommendation 12, page 32.

38 The Native Vegetation Reform Implementation Group Final Report .Available at www.dipnr.nsw.gov.au

39 Ibid, Recommendation 6, page 17.

2.28 The Standing Committee on Natural Resources Management envisages that this task may be undertaken by the Natural Resource Commission recently established under the *Natural Resources Commission Act 2003.* The Natural Resources Commission will recommend state-wide standards and targets for natural resource management and in particular recommend approval of catchment action plans developed by the Catchment Management Authorities.

Delivering the National Action Plan in NSW

2.29 In NSW, the Department of Infrastructure, Planning and Natural Resources has been designated the lead NSW government agency for delivery of the National Action Plan and National Heritage Trust. The bilateral agreements will reflect the recent natural resource management reforms and the new delivery arrangements in NSW.

2.30 Delivery of the National Action Plan will be focusing on seven priority regions considered to be most affected by salinity and water quality degradation in the Murray-Darling Basin:

- Condamine-Balonne;
- Border Rivers;
- Namoi-Gwydir;
- Macquarie-Castlereagh;
- Lower Murray;
- Lachlan-Murrumbidgee;
- Murray.

2.31 Under the reforms, Catchment Management Authorities have been established as statutory authorities, with a responsible and accountable board that reports directly to the minister and will be supported by the Department of Infrastructure, Planning and Natural Resources and Department of Environment and Conservation. The newly established Natural Resources Commission will audit the Catchment Management Authorities.

2.32 The role of the Catchment Management Authorities, the Natural Resources Commission, the Department of Infrastructure, Planning and Natural Resources and Department of Environment and Conservation in water and salinity management will be discussed further in Part C of this report.

PART B – EVOLUTION OF WATER MANAGEMENT ARRANGEMENTS

Chapter Three - A national approach to reforming water overuse

COAG water reforms

3.1 The past decade has seen a number of State Government agencies involved in water management, such as the Department of Infrastructure, Planning and Natural Resources[40] and the Department of Environment and Conservation, [41] playing a significant role in the Strategic Water Reforms Framework agreed to by COAG in 1994.

3.2 All States are required to implement and continue to observe these reforms, which recognise that as a result of the combined impacts of river regulation and extraction, the nation's freshwater resources are stressed. The reforms were explicit in addressing both environmental and economic objectives and sought to establish 'integrated and consistent approaches to water resource management throughout Australia'.[42]

3.3 The National Competition Policy for Australia was endorsed in 1995. National Competition payments were made available to those States and Territories that were successful in implementing a range of important reforms.

3.4 The policy including achieving an efficient and sustainable water industry and the following critical issues were identified:

- allocation of water for the environment;
- ecological sustainability of new developments;
- institutional reform;
- incorporation of environmental costs in water pricing;
- ecologically sustainable water trading;
- protection of groundwater; and,
- implementation of the National Water Quality Management Strategy.

3.5 Until 2005, the National Competition Council will be responsible for annually assessing the progress of jurisdictions in implementing the reforms. National water reform commitments have been prioritised as follows:

- 2003 assessment – urban water pricing and cost recovery, institutional reform, intrastate water trading arrangements, integrated catchment management and water quality reforms;
- 2004 water assessment – rural water pricing and cost recovery, interstate water trading arrangements and progress with implementing environmental allocations; and,

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40 Formerly known as the Department of Land and Water Conservation.

41 Predominately the former NSW Environmental Protection Authority and the former NSW National Parks and Wildlife Service.

42 CEDA 2004, *The National Water Initiative*, Chapter 2.

- 2005 assessment – across the entire package of reforms.

3.6 The National Competition Council notes that while there has been considerable progress made with reforming rural water use through new water legislation enacted in most jurisdictions, progress has not always conformed to the established timetable. Time frames for implementing aspects of the framework, including for allocations and water trading, have been extended to 2005.

3.7 One concrete measure of reform progress was the establishment of the 1995 'cap' on new entitlements to diversions in the Murray-Darling Basin. The cap limits new licence allocations and water trading and provides for economic incentives to sell water entitlements and allocations. Water for new developments in the Murray-Darling Basin must be obtained via improved water use efficiency or purchased from existing developments.

3.8 The current water reform framework obliges all States to legally recognise allocations of water for environmental outcomes and focuses on:

- stopping over-allocations of water from stressed rivers and aquifers;
- ceasing to build ecologically unsustainable river regulation structures; and,
- using the water management planning process to assist with providing for environmental flows in both surface and groundwater, to preserve ecologically significant environments.

3.9 However, the CSIRO argue that whilst the cap recognises better management of limited water resources, the current level of 'capping' is only 'partial', as groundwater in most States remains uncapped.[43] In evidence before the committee, the CSIRO further stated that:

- with proposed further development of groundwater systems, current water trading arrangements are inconsistent with water use hydrology;
- the caps are not designed to cope with climate change.[44]

The National Water Initiative

3.10 All of the States have been moving to reform water management by separating water rights from land title, so that water can be traded independently to improve agricultural outcomes. The water reform program has involved consideration of the creation of a national system of tradeable water rights.

3.11 The National Competition Council stated:

> "Increases in the value of water and in water trading will improve economic outcomes for Australia by encouraging the use of water where it is most valued. The relatively limited water trading in New South Wales in 1997-8 for example is estimated to have increased the value of irrigated agriculture in that State by $65 million."[45]

3.12 The CSIRO have stated that if water trading is to become the norm, a nationally consistent system is required and that in order to establish national tradeable water rights, the following is required:

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43 Young, M. D and McColl, J. C. *Robust Reform – Implementing robust institutional arrangements to achieve efficient water use in Australia*, The Australian Economic Review, vol 36, no 2, May 2003

44 Evidence taken before the committee, 18 September, 2003.

45 National Competition Council, *Annual Report 2001-2002,* September 2002, AusInfo, Canberra

- clearly quantifying users' entitlements to water;
- securing of tenure in water entitlements; and,
- establishing systems of water entitlements that are separate from land title.[46]

3.13 The Committee for Economic Development of Australia has noted that the proposal for a national system aimed at facilitating water trading and addressing associated environmental issues is complex and contentious, however, there appears to be:

> "unprecedented unity of purpose among governments and the community [and] vigorous debate as to the specifics of desired outcomes and the instruments to achieve them."[47]

3.14 In August 2003, COAG proposed the National Water Initiative, intended to establish a nationally compatible system of water access entitlements, efficient water markets, institutional arrangements to facilitate recovery and management of water for the environment, improved accounting, best practice water pricing, and recognition of urban water issues. Two objectives of the proposed National Water Initiative were to improve water allocations to the environment and to provide a nationally functioning water market.[48]

3.15 The CSIRO gave evidence to the committee, that the National Water Initiative was

> "very exciting as it facilitates the States having a compatible set of water rights and for putting in place a suite of mechanisms to discuss problems". [49]

3.16 In a media release dated 15 June 2004, the World Wildlife Fund applauded the National Water Initiative as

> "deliver[ing] one of the most significant reforms since Federation."[50]

The National Water Initiative Intergovernmental Agreement

3.17 On 25 June 2004, COAG further announced; the National Water Initiative Intergovernmental Agreement intended to deal with a number of contentious issues. The Agreement noted the importance of maintaining the productivity and efficiency of Australia's water use and ensuring river and groundwater system health will require arrangements that provide greater certainty for the environment.

3.18 The Agreement aims to promote:

- "effective and efficient management and institutional arrangements to ensure the achievement of the environmental outcomes; and, where it is necessary to recover water to achieve environmental outcomes, to adopt the principles for determining the most effective and efficient mix of water recovery measures"; and,
- "feasibility of establishing market mechanisms such as tradeable salinity and pollution credits to provide incentive for investment in water-use efficiency and farm management strategies and for dealing with environmental externalities" (page 25).

3.19 Key general elements of the Agreement are:

- water access entitlements and planning framework;
- water markets and water trading;

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46 Young and McColl, 2003, op cit.

47 CEDA, 2004, op cit, Chapter 2

48 Ibid.

49 Evidence before the committee, 18 September 2003.

50 Available on www.wwf.org.au.

- best practice water pricing;
- integrated management of water for environmental and other public benefit outcomes;
- water resource accounting;
- urban water reform;
- knowledge and capacity building; and,
- community partnerships and adjustment[51].

3.20 A National Water Commission, which will report to COAG, is proposed, to assess the progress in implementing the National Water Initiative; and, advise on actions required to better realise the objectives of the Agreement. The National Water Commission will also undertake the 2005 assessment of progress with implementing water reform commitments under the NCC.

3.21 A further outcome of expanding trade in water entitlements, is to provide water for the environment, in particular, the Murray-Darling Basin. The Murray Darling-Basin [MDB] Water Agreement set out the arrangements for investing $500 million over five years commencing in 2004-05, to reduce the level of water over-allocation and to achieve specific environmental outcomes in the Basin[52].

3.22 Water recovery measures to be funded under the MDB Agreement include investment in water infrastructure and behavioural change and purchase of water on the market, with recovered water to be set-aside for environmental purposes. The first priority for this investment will be water recovery for six significant ecological assets, such as Ramsar listed wetland areas such as Barmah-Millewa Forest and the Coorong World Heritage area (discussed further in Chapter 4).

3.23 The COAG reforms, including the National Water Initiative, clearly aim to facilitate both inter and intrastate water trade by improving compatibility across borders. These goals require most jurisdictions to amend their water management legislation and under the National Water Initiative intergovernmental agreement.

3.24 Under the Agreement, NSW has to make legislative change to remove barriers and permit increased trade "up to the interim limit" and new legislation is expected to be introduced into the Parliament by the Minister in the Spring 2004 sittings of Parliament.[53]

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51 National Water Initiative 25 June 2004. Available at www.coag.gov.au.

52 Murray-Darling Basin Intergovernmental agreement. Ibid.

53 Peter Sutherland, DDG DIPNR, Local Government and Shire Association Water Conference, Moama, August 12, 2004.

Chapter Four - Flows for a "Living Murray"

The issue for an over-allocated system

4.1 Full or over usage of existing water resources is a major issue in Australia and is influencing water quality issues, including exceeding guidelines for nutrients, turbidity and salinity.

4.2 Salinity the most prominent indicator in the Murray-Darling Basin. COAG has recognised the need to address over-allocation of water resources and achieve environmental objectives in the Basin. The concern that the River Murray will not meet drinking water standards by 2020 and the environmental impacts of degraded flows, has driven political debate and garnered community support for the return of 20-40% of irrigation water to the River, in order to restore it to a healthy working river.[54]

4.3 In March 2001, the Murray-Darling Basin Ministerial Council [the Council] agreed to a vision and objectives for the River Murray and its catchments. The vision is for a healthy River Murray system that both sustains communities and values unique natural features, such as wetlands, which play a vital role in health of the river systems by improving water quality.[55]

4.4 The decrease in the number and spatial distribution of important wetlands is cause for concern, as scientific advice indicates that if nothing is done to improve the situation, freshwater values will inevitably get worse. This will in turn impact on irrigation and other industries and ultimately, multiply negatively on the broader community.

4.5 The Council has a strong desire to manage the resources of the River Murray to achieve environmental, social and economic benefits of water use. Whilst the current lack of environmental flow regimes is known to contribute to decreasing biodiversity values, the issue of providing and managing environmental flows is complex and requires recognition of the need for certainty for those communities that depend on irrigated agriculture.

4.6 Given the issues of over-extraction, returning flows to the River Murray is considered a necessity to recreate a healthy working river, to provide clean water, a flourishing environment and continued prosperity. Whilst agricultural and environmental or social needs appear 'in competition' with each other, it is imperative to find balance between improving the condition of the river and the level of human use. In evidence to the committee, the CSIRO stated that environmental allocations must remain stable.[56]

4.7 River and wetland health may be addressed through the provision of environmental flows, which are 'managed changes in a river flow pattern intended to maintain or improve river health'. Managed environmental flows improve river ecosystem health by:

- making the best use of water currently available to the environment;

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54 Young and McColl, 2003, op cit.

55 Available at www.mdbc.gov.nsw.au

56 Evidence before the committee, 18 September 2003.

- saving water lost in channels and other distribution systems and redirecting it to the environment; and,
- reducing the amount of water removed from the river for human use.

4.8 In February 2002, an independent report prepared for the Murray-Darling Basin Commission by the Living Murray Scientific Reference Group, found that the ecological condition of the River Murray continues to degrade under present the Murray-Darling Basin cap and river operations, including elevated salinity levels.[57]

4.9 The report provided scientific comment on the costs and benefits of returning water to the river and options for water recovery and trade. The process involved 60 scientific and local experts with knowledge of ecological flow requirements of the river system. Assessment of three 'reference points' (or volumes of water – 350 GL, 750 GL and 1500 GL a year) found that that water allocations, even at the lower end of the scale, could provide 'significant local benefits' for parts of the Murray system.

4.10 The study relies on modelling (rather than on-ground data collection) and found that there would be a higher probability of achieving a healthy river system, if key flow indicators were greater than two thirds of the 'natural level' of the level of the existing weir. This translates to environmental flows of over 3,000 GL.

4.11 The study used modelled flows to several significant wetland areas (such as the Barmah-Millewa Forest, Chowilla floodplain and the Murray mouth) and stated that even the 'smart use' of a minimum of 750 GL may improve ecological outcomes, as opposed to the 'poor use' of 1,500 GL per annum. The report noted that information on the social and economic effects of returning water to the river will not be available until later in 2004.

4.12 The Council recognised a need to spend $150 million to provide for the modification of dams, weirs and locks and other measures, to make the best use of water currently available to the environment and anticipated that actions will take about seven years to improve floodplain health; better management for fish; and, better management of the Murray Mouth, Coorong and Lower Lakes.

4.13 According to the Department of Infrastructure, Planning and Natural Resources, COAG had committed to provide $500 million to fund a range of works for the *Living Murray* program that aimed to both increase environmental flows and sustain agricultural industries.

4.14 In November 2003 the Living Murray program proposed:

- clear environmental outcomes for specific sites;
- defining the source of the necessary water;
- focussing on water recovery mechanisms with known management and social impacts; and,
- proper costing indicative of cost sharing arrangements between the states, Commonwealth and the 'country'.

[57] *Ecological Assessment of Environmental Flow Reference Points for the River Murray System*, Living Murray Scientific Reference Group. Available at www.savethemurray.com

4.15 Funds are proposed to facilitate water savings and improve flows by removing choke problems, improve on-farm efficiency use and reduce evaporative loss by covering irrigation channels.[58]

The National Water Initiative and the Murray Flows

4.16 As part of the National Water Initiative COAG noted that a MDB Water Agreement, signed by the Prime Minister, the Premiers of New South Wales, Victoria and South Australia and the Chief Minister of the Australian Capital Territory, sets out the arrangements for investing $500 million over five years commencing in 2004-05, to reduce the level of water over-allocation and to achieve specific environmental outcomes in the Murray-Darling Basin. [59]

4.17 As part of his recent Ministerial Statement on water reforms, Minister Knowles highlighted that 500 GL of extra water will be committed, in particular for six major sites with high ecological values (such as the Barmah-Millewa Forest and the Chowilla floodplain), with the initial focus being to recover water through infrastructure projects that reduce losses (i.e., from evaporation). However, 500 GL is less than the 'wise use of 750 GL' as recommended by independent scientific assessment.

4.18 However, the CSIRO stated in evidence that money going into water savings efficiency could be wasted and suggested that funds should be placed in a trust to address the issue of current capacity for flows to be lost out of the system and further recommended that trustees be appointed to design efficient 'new arrangements' that address externalities of water extraction.[60]

4.19 Under the National Water Initiative, COAG noted that maintaining productivity and efficiency of Australia's water use ensuring river and groundwater system health will require better institutional arrangements that provide greater certainty for the environment.

4.20 COAG have agreed to use water more profitably, more cost effectively and flexibility to recover water to achieve environmental outcomes and to enable a sophisticated, transparent and comprehensive approach to water planning that provides water to meet specific environmental outcomes.

4.21 One of the primary objectives of the National Water Initiative was to facilitate water trading within and between the states. The Water Agreement aims to ensure:

- water access entitlements to generally be defined as open-ended or perpetual access to a share of the water resource that is available for consumption as specified in a water plan;
- improved specification of environmental outcomes to be achieved for particular water systems, improved accountability arrangements for environmental managers and statutory recognition for environmental water;
- return over-allocated water systems to sustainable levels of use to meet environmental outcomes, with substantial progress by 2010;
- a framework that assigns risk of future reductions in water availability as specified under certain circumstances;

58 Evidence before the committee, 9 September 2004.

59 COAG website www.coag.gov.au.

60 Evidence before the committee, 18 September 2004.

- more efficient administrative arrangements to facilitate water trade in connected systems;
- removal of institutional barriers to trade in water (especially in the southern Murray-Darling Basin);
- regional assessments of land use change activities;
- continued implementation of full-cost recovery pricing for water in both urban and rural sectors; and,
- national standards for water accounting, reporting and metering.[61]

4.22 Effectively, participating governments are now committed to:

- expand permanent trade in water, i.e., promoting the use of water more profitably, more cost effectively and providing for flexible recovery of water to achieve environmental outcomes;
- deliver more secure water access entitlements, better and more compatible registry arrangements, better monitoring, reporting and accounting of water use, and improved public access to information, to provide more confidence for those investing in the water industry;
- provide sophisticated, transparent and comprehensive water planning that deals with key issues; such as the major interception of water, interaction between surface and groundwater systems, and provision of water to meet specific environmental outcomes;
- quickly addressing over-allocated systems including consultation with affected stakeholders, addressing significant adjustment issues where appropriate; and,
- more efficient management of water in urban environments, such as through the increased use of recycled water and stormwater.

4.23 Actions relevant to water pricing and institutional arrangements that were also agreed to. These included accounting for water resources such as, robust water accounting; environmental water accounting; metering and measuring actions and developing and applying national guidelines on water reporting. (To be further addressed in Section C, Chapter 6.)

4.24 A number of other actions were listed under community partnerships and adjustment, including open and timely consultation with all relevant stakeholders in relation to significant decisions affecting the security of water access entitlements. [To be further addressed in Section C, Chapter 6].

4.25 This Agreement establishes arrangements for the recovery and management of water to support the decision by the Murray-Darling Basin Ministerial Council of 14 November 2003 to implement a first step to address the declining health of the River Murray system (the Living Murray First Step decision), and to address other water over-allocation issues in the Murray-Darling Basin.

4.26 Arrangements for investing $500 million over five years, to reduce the level of water over-allocation and to achieve specific environmental outcomes in the Murray-Darling Basin (commencing in 2004-05) were announced. Water recovery measures are to be funded under the MDB Water Agreement and include investment in water

[61] COAG website,op cit.

infrastructure and behavioural change and purchase of water on the market, with recovered water to be set aside for environmental purposes.

4.27 The first priority for investment will be water recovery for six significant ecological assets identified by the MDB Ministerial Council in November 2003:

- the Barmah-Millewa Forest;
- Gunbower and Koondrook-Perricoota Forests;
- Hattah Lakes;
- Chowilla floodplain (including Lindsay-Wallpolla);
- the Murray Mouth, Coorong and Lower Lakes; and,
- the River Murray Channel.

4.28 The Agreement explicitly states that water recovery measures to be funded under the MDB Water Agreement include investment in water infrastructure and behavioural change and purchase of water on the market, with recovered water to be set aside for the achievement of the objectives of the Agreement.[62]

4.29 The Agreement also states that

> "Other natural resource management initiatives subject to separate agreements by the Parties, particularly the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust, play an important and complementary role in improving the sustainable management of water in the MDB. Continued implementation of the National Water Quality Management Strategy will also complement the outcomes of this Agreement. The Parties agree to implement these initiatives in a manner which facilitates the achievement of their common objectives".[63]

4.30 It has also been agreed under National Water Initiative, that the National Water Commission monitor the impacts of interstate trade and consider the management of environmental externalities, such as salinity, are managed through a range of regulatory measures.

Scientific accounting of flows

4.31 The National Water Initiative aims to restore environmental flows to over-allocated systems such as the River Murray. In March 2004, a Commonwealth Parliamentary Committee report raised the crucial role of science in achieving environmental outcomes and concluded that 'the level of disagreement between scientists is itself cause for concern'. Two recommendations regarding the proposed environmental flows were made.[64]

4.32 First, that plans to commit an additional 500 GL as in increased river flows to the River Murray be delayed until:

- a comprehensive program of data collection and monitoring by independent scientists is completed;

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62 Intergovernmental Agreement on *Addressing water over-allocation and achieving environmental objectives in the Murray-Darling Basin*. COAG website op cit.

63 Ibid.

64 House of Representatives Standing Committee on Agriculture, Fisheries and Forestry, Interim Report on an inquiry into future water supplies for Australia's rural industries and communities, March 2004. Available at www.aph.gov.au/house/committee/primind/watering/report.htm.

- non-flow alternatives for environmental management are considered and reported upon more thoroughly; and,
- a full and comprehensive audit focussed specifically on the Murray-Darling Basin's water resources, including all new data, is conducted.

4.33 Secondly, the report recommended that prior to proceeding with the proposal to provide increased flows, the Australian Government ask the Murray-Darling Basin Commission Ministerial Advisory Committee to allocate sufficient funds (out of the $500 million allocated to the River Murray by COAG) to the abovementioned tasks.

4.34 However, a dissenting view by the Deputy Chair of the committee, Mr Dick Adams MP, argued that *The Living Murray Initiative* is based on extensive scientific research and that this research should be acknowledged rather than dismissed.

4.35 Mr Adams argued that the proposed commitment of water to increase flows in the River Murray should proceed and that the release of this water should be accompanied by rigorous, independent research and monitoring which will provide more and better indicators of river health.

4.36 The issue of 'the best science' was also raised in by a number of stakeholders evidence to the Standing Committee on Natural Resources Management Committee. The Nature Conservation Council acknowledged that improved salinity outcomes may be a by-product of greater dilution flows.

4.37 However, the Nature Conservation Council questioned whether environmental flows per se will mitigate salinity efficiently, as the program does not include a focus on water quality, and query whether more needs to be done to assess the outcomes of any flows.[65]

4.38 The World Wildlife Fund stated in evidence that in order to evaluate environmental outcomes, proper measuring and monitoring is required and that more funding from both Commonwealth and States is required so the system is more accountable.[66]

4.39 The World Wildlife Fund also expressed concerns that whilst assessments are being done in certain areas (such as the Barmah-Millewa choke – where trade downstream is not allowed), there has been no public release of the integrated assessment procedures for comment by The Department of Infrastructure, Planning and Natural Resources.[67]

4.40 The World Wildlife Fund stated that whilst assessment may appear good on paper, a "tick a box" approach is a threat to efficient management and environmental outcomes

> "if we cannot find the adequate and regulatory approach, particularly for the Murray…I suspect the Commonwealth will take a much stronger role, using whatever constitutional capacity it has.[68]"

4.41 The Committee for Economic Development in Australia argue that given the natural variability of water resources and the ecosystems it supports, "a sophisticated system

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65 Evidence before the committee, 19 September 2003.
66 Evidence before the committee, 13 May 2004.
67 Ibid.
68 Ibid.

of adaptive management to assist water managers to make the best use of a resource at any particular time" is required.[69]

4.42 One answer may lie within the legislative arrangements for environmental protection. Under the *Protection of the Environment Operations Act 1991*, objective 2 states that:

> "ecologically sustainable development requires the effective integration of economic and environmental considerations in decision-making processes".

RECOMMENDATION 1: That the government write to the Murray-Darling Basin Commission asking it to forward a copy of the report on the Living Murray Scientific Reference Group's study on the social and economic effects of returning water to the environment, to the NSW Ministerial representatives on the Murray-Darling Basin Commission as soon as is practicable, for tabling in State Parliament.

[69] CEDA, 2004.Chapter 2. op cit.

Chapter Five - Will water trading impact on salinity?

Piloting trade in the Murray-Darling Basin

5.1 COAG has committed to both providing environmental flows to improve water quality in the River Murray and provide for improved opportunities for water trading, including between the States along the River Murray, in order to provide for such flows. The Murray-Darling Basin Commission is working with the participating States to develop complementary approaches to environmental management in water trading.

5.2 Water trading has been occurring in the regulated river valleys of the Murray-Darling Basin, since the 1980s, with most trades being temporary and occur within river valleys with limited affects on salinity.

5.3 ABARE gave evidence water trading may lead to increased salinity in parts of the Murray system, thus making the management of salinity and water quality more complex. ABARE argues that unless water quality effects, such as salinity, are accounted for, water trading will not lead to an efficient allocation of water resources.[70]

5.4 The Committee therefore has concerns that water trading may increase salinity in some parts of the Basin, particularly in the upper catchments, which currently have low salinity impacts.

5.5 Interstate water trading is currently limited to the Murray-Darling Basin Commission's Pilot Interstate Water Trading Project. The Pilot Trade Scheme, to evaluate permanent interstate water trade was agreed to in November, 1997 and commenced in the Mallee regions of NSW, South Australia and Victoria in January, 1998.

5.6 Water access rights are central to the environmental flows with regard to the Murray-Darling Basin and the Ministerial Council requested the Murray-Darling Basin Commission to accelerate its work on the development of water trading arrangements and access rights to water in the Basin, including development of water trading rules that take full account of the environmental impacts of such trade.

5.7 Under Schedule E of the Murray Darling Basin Agreement, permanent interstate water trading is permitted between individual irrigators with high security water licences in an area stretching from Nyah to the Murray Mouth and the Darling River down stream of the Murray Weir Pool. The Pilot Trade Scheme does not involve irrigators in group schemes.

5.8 The Pilot Trade Scheme aims to find solutions to issues that need to be addressed when introducing permanent interstate trade on a wider scale, an important step in fulfilling the objectives of the COAG water reforms, the National Water Initiative and the Murray Darling Basin Ministerial Commission Council's Irrigation Management Strategy.

5.9 Under Schedule E, there are environmental responsibilities under the Pilot, a commitment to developing a procedural framework and a set of standards so that the Scheme is accountable and does not result in increased levels of salinity, reductions in environmental flows or degradation of the natural environment, was established.

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[70] Beare, S and Heaney A. ABARE paper for AFFA, called Water trade and the externalities of water use in Australia, August 2002.

5.10 Under the Pilot, the licensing authority of each contracting government must assess the proposed transfers of water for their impact on the environment in the same way that they assess impacts for water allocations and the use of water diverted pursuant to an intrastate transfer. The participating States must also provide a report to the Murray-Darling Basin Commission on the environmental impact of interstate water trading.

5.11 In 2000, each of the three participating States had different policies regarding the impact of salinity:

- South Australia made approval to use interstate trade water subject to the completion of a Irrigation Drainage and Management Plan – this included an assessment determine what an irrigator's needed to prevent salinity impacts. This analysis provided the Department of Water Resources (SA) with information from which to negotiate with an irrigator regarding the irrigator's arrangements for future works that address the impacts;
- Victoria has a number of policies including a $129.60/ML salinity levy on all trades into the Sunraysia area and prohibits trades into the High Salinity Impact areas; and,
- at that time, NSW, had neither levies nor salinity prevention obligation arrangements but was intending to introduce market mechanisms in the form of salinity credits and other similar arrangements.

5.12 In a meeting held in November 2003, the Murray-Darling Basin Ministerial Council considered expanding the Pilot Trade Scheme to the Southern Basin including the Murrumbidgee, Murray and Goulburn Rivers. The expansion was to include general security entitlement holders in NSW.

5.13 In evidence to the committee, the Commissioner of the Murray-Darling Basin Commission advised that the Pilot Trade Scheme enables trade only in areas with high reliability licences and water rights in the Murray region from below Nyah [near Swan Hill] to the Barrages in South Australia and that this represents only a very small percentage [<10%] of water entitlements in the southern Basin and is within a very restricted geographic zone.[71]

5.14 Almost all permanent interstate trade has been into capital intensive horticulture and viticulture crops suitable to that region. A wider water trading zone will enable transfers to occur according to industry opportunities and reflect the relative economic advantages of development of particular irrigation crops in given locations.

5.15 The Murray-Darling Basin Commissioner also stated that it is important to note that only a small percentage of trade across the Basin occurs under the Pilot. In 2001/02 total trades for that year were in the order of 900GL, while total trades under the Pilot from 1998 — 2003 were just over 16 GL. The Murray-Darling Basin Commissioner stated that the vast majority of trades are temporary and most trade occurs within each valley following by within the State.

5.16 The Murray-Darling Basin Commission noted it has a role in ensuring that the pilot interstate water trading scheme does not impact negatively on the environment by:

[71] Evidence before the committee, 19 September 2003.

- reporting and providing advice to the Ministerial Council on the operation and outcomes from the pilot;
- adjusting the delivery of State entitlements to water and river flows;
- adjusting the water cap for each contracting government and ensuring interstate transfers maintain the integrity of the overall Murray-Darling Basin cap;
- determining exchange rates to limit the impact that any trade may have on other water users, taking losses and security of supply into account;
- advising the licensing authority [eg, The Department of Infrastructure, Planning and Natural Resources in NSW] in the State of destination of any exchange rate to be applied and whether the Murray-Darling Basin Commission can deliver the water;
- making recommendations to the Ministerial Council on adjustment of State financial contributions;
- maintaining the register of salinity credits and debits as per Schedule C to the Agreement and assigning any credits and debits arising from trade;
- maintaining a register of transfers; and,
- evaluating the operation of the Scheme.

Reviewing the Pilot Trade Scheme

5.17 The Pilot is subject to review of the economic and environmental impacts every two years, or whenever cumulative interstate trade exceeds 10,000 mega litres since the last review. The first review was undertaken in December 2000[72] Not all parties share the Murray-Darling Basin Commission's confidence that the management of salinity has been adequately addressed in the pilot scheme.

5.18 The two-year review[73] reported a number of outcomes, including that the markets are interdependent, with effective market operations for water requiring the widest possible geographic and entitlement coverage. It was found that 90% of the water trades moved to South Australia, with 51 trades involving 9.5GL.

5.19 In evidence to committee, the Murray-Darling Basin Commissioner stated that water was generally being traded out of NSW and Victoria into South Australia, but that changes are expected under the new arrangements to expand trade and that more water is likely to be traded across the Murray between Victoria and New South Wales.

5.20 The Pilot evaluated the economic, social and environmental impacts of interstate water trading, which is increasing the value of water use in the Murray Darling Basin. The results of the Pilot were:

- virtually all [99%] of the water sold was not being used by sellers. During the first two years, virtually all the water has gone to high value uses. Around three quarters has gone into new irrigation development using state-of-the-art

[72] Evidence before the committee, 18 September 2003.

[73] Young, M., Hatton MacDonald, D, Stringer, R., Bjornlund, H. *Interstate Water Trading; A Two Year Review Draft Final Report* CSIRO, 2000.

technology. The value of some of the transactions involved exceeds $0.5 million and in some cases over $1 million;

- there were no negative social impacts on areas that sold water, as the seller was not using most of the water that was offered for sale;
- whilst the economic and social impacts of water trading were positive, the impact on salinity was negative;
- States admit that monitoring and enforcement of plans and licence conditions is a problem. From a salinity perspective and in the long run, interstate trading can be expected to have a negative impact on river salinity. Most water is being transferred to South Australian land that has not been previously irrigated with the consequence that river salinity can be expected to increase; and,
- the review of the pilot raised concerns about the impact on salinity and called for stronger institutional arrangements to be developed while the volume of permanent interstate water transfers is low. According to the Murray-Darling Basin Commissioner, the Murray-Darling Basin Commission is supportive of this recommendation.[74]

5.21 The report on the Pilot also concluded that environmental degradation might increase at other water trading destinations since all States expressed 'difficulties in enforcing plans'. The reviewers found the need for all States to 'improve their mechanisms for enforcement'.

5.22 The reviewers advocated that 'stronger, market based institutional arrangements' be established while the volume of trades is low to manage the impacts of water trading on salinity, and in particular that protecting water quality is a long term goal and the fundamentals need to be put in place today "while the volume of inter state trade is low."[75]

5.23 The review concluded, inter-alia:

> "From a salinity perspective and in the long-run, inter-state [water] trading can be expected to have a negative impact on river salinity;"
>
> "With regard to environmental degradation at each trading destination, our conclusion depends upon the degree to which plans are enforced and the adequacy of the standards they set;"
>
> ...Salinity Prevention Obligations should be recorded on the licence. Failure to comply with the obligations should result in the sale of sufficient water to finance restitution of the obligation. In cases where the purchaser is required to set aside money, this money should be put aside in a trust account.[76]"

5.24 In evidence, it was heard that the findings of the review were based on the failure to implement the requirements of Schedule C (Salinity Management) of the Murray-Darling Basin Agreement (the Agreement) at the arrival location for interstate trades (predominantly South Australia). The Murray-Darling Basin Commission and Ministerial Council have called on South Australia to account for the findings and the State was implementing measures to meet its obligations under Schedule C of the Agreement.

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74 Evidence before the committee 19 September 2003.

75 Ibid.

76 Young et al, 2000, op cit.

5.25 On 15 December 2000, a workshop considered the two-year review. According to the workshop report participants agreed with the review's finding:

> "Provided that [the] spirit of adaptation and willingness to solve problems as they emerge continues, we see no reason to stop the trial."[77]

5.26 Workshop participants agreed that permanent interstate water trade should ultimately be expanded beyond the Mallee region. Other matters of importance to the participants included:

- expanding the project upstream to the Barmah Choke as the logical first step.
- the reality of long-term leasing provides an incentive to formalise permanent interstate trade.
- provided third party costs could be minimised or avoided, most workshop participants were keen to see interstate trade taking place wherever it was physically possible.
- political and institutional risks posed by placing more load, more quickly, on the frail administrative system that now underpins interstate trade. there still being many barriers to full and fair intrastate trade;
- even confined to intrastate trade, these administrative systems transmit significant political, institutional and financial risks. Interstate trade compounds these risks.

5.27 The workshop concluded that fixing the administrative system was the number one priority.

5.28 In June 2001, the Murray-Darling Basin Commission released the Community Advisory Committee's *Integrated Catchment Management Policy*, which outlines a framework for natural resources management by the Murray-Darling Basin Commission for the period 2001-2010.

5.29 The Integrated Catchment Management Policy includes goals, values and principles to guide community, industry and government partnerships aimed at improving the health of the Basin, and commits the Murray-Darling Basin Commission to setting and achieving resource condition targets that will limit the stresses placed on the Basin's natural resources.

5.30 The policy includes a timeframe for setting Basin and catchment targets for water quality, water sharing, river ecosystem health and terrestrial biodiversity. Other key aspects of the policy include capacity building for all partners to play their part, knowledge generation and sharing, strengthening catchment approaches to planning, implementing and evaluating actions directed at achieving targets, linking catchment planning with land use planning, and articulating clear roles, responsibilities and accountabilities for the Murray-Darling Basin Council and Commission, through all levels of Government, catchment and regional organisations, to land holders and managers.[78]

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[77] MDBC 2000 Stakeholders Workshop Report – MDBC website www.mdbc.gov.au/naturalresources/watertrade/watertrade.htm.

[78] Integrated Catchment Management (ICM) Policy Statement www.mdbc.gov.au/naturalresources/icm/icm_framework.htm.

5.31 A fundamental principle of the Pilot Trade Scheme is that the interstate transfer of water entitlements is accountable and does not result in increased levels of salinity, reductions in environmental flows or degradation of the natural environment. Further, no transfer should result in an acceleration of environmental degradation resulting from the use or management of the transferred water.

5.32 In evidence, the committee heard that the Murray-Darling Basin Commission is developing draft water trading rules that take full account of the environmental impacts (including salinity impacts) of such trade.[79]

5.33 According to the Murray-Darling Basin Commission:

- water transfers are to be consistent with the Murray-Darling Basin Ministerial Council's policies on environmental flow management and the Salinity and Drainage Strategy;
- currently, all new and expanded irrigation developments resulting from the transfer of water entitlements are subject to rigorous environmental protection and clearance standards and processes developed by each of the States;
- the requirements cover such matters as land use change and development, the movement of water between high and low impact zones, soil surveys, the clearance of native vegetation, endangered species of plants and animals, wetlands protection, heritage issues, on-farm irrigation design and management standards, surface drainage, and the disposal of groundwater; and,
- the environmental clearance processes ensure that water will only move to suitable sites and to irrigation enterprises that are properly managed.[80]

5.34 In November 2003, the prospects for an expanded permanent interstate market across the southern basin by the 2004/05 irrigation season was considered. The Murray-Darling Basin Commission is developing mechanisms to establish expanded trade within the southern basin within existing legal and administrative systems. These mechanisms include:

- exchange rates;
- [water] trading zones;
- rules for water trading
- updated salinity and environmental clearance procedures;
- assessment tools for salinity management;
- agreed transfer procedures; and,
- agreed methods for the management of infrastructure pricing and asset management.

5.35 This work is targeted to enable expansion of the Pilot to include the regulated Murrumbidgee, Murray and Goulburn systems, and including trade in high security and general security licences in New South Wales, water right and sales in Victoria and water licences in South Australia.

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79 Evidence before the committee, 18 September 2003.

80 MDBC website on water trading www.mdbc.gov.au.

5.36 According the Murray-Darling Basin Commissioner, the role of the Murray-Darling Basin Commission is to ensure that the accountability arrangements agreed to in Schedule C by each of the Partner Governments are implemented.[81]

5.37 The salinity impacts of accountable actions [Schedule C Clause 2(1 a)] are converted to salinity credits and debits (recognising the salinity and economic impact to downstream water users and recorded on the Murray-Darling Basin Commission's Salinity Registers. Under Schedule C, each State Contracting Government is obliged to keep the total of any salinity credits in excess of, or equal to, any salinity debits attributed to it in Register A.

5.38 The obligation to implement accountability arrangements for salinity impacts for individual actions at the landholder scale is the responsibility of the State Contracting Governments.

5.39 These accountability arrangements vary for each of the State Contracting Governments. Victoria has implemented accountability arrangements for salinity impacts through a regulatory framework (the Nyah to the Border Salinity Management Plan). This framework includes restricting new irrigation development in high salinity impact zones, while allowing new irrigation to be developed in low salinity impact zones. These new developments are charged with an upfront salinity levy to offset the cost of salinity mitigation works required to maintain a zero salinity impact.

5.40 South Australia is currently developing accountability arrangements for new irrigation developments, that include zoning areas to avoid high salinity impacts and levies to deal with remaining salinity impacts, so that salinity issues can be dealt with more transparently.

RECOMMENDATION 2: That the National Water Commission report publicly on the impacts of interstate water trading on salinity outcomes in the Murray-Darling Basin. The report should focus on the implications of the National Water Initiative on increasing the potential for salinisation in catchments that currently have limited salinity impacts.

[81] Evidence before the committee, 19 September 2003.

Chapter Six - Water Management Arrangements in NSW

Water Management in NSW

6.1 The NSW Government recognises that freshwater water is a limited resource that needs to be protected from overuse.[82]

6.2 With the exception of stock, domestic and non-commercial irrigation access rights for properties that front a watercourse, the right to access water is controlled by a licensing system. Water access licences have been controlled by the Crown since the proclamation of the *Water Act 1912*.

6.3 The water licensing authority in NSW is the Department of Infrastructure, Planning and Natural Resources, which supports the Minister for Infrastructure, Planning and the Minister for Natural Resources Management [the minister].

6.4 The Department of Infrastructure, Planning and Natural Resources is the State's main natural resource management agency, with primary responsibility for ensuring that natural resources are used in a sustainable way. The Department of Infrastructure, Planning and Natural Resources is responsible for monitoring the riverine condition, including surface waters, groundwater and soils and managing 'flows' in regulated rivers.[83]

6.5 The Department of Infrastructure, Planning and Natural Resources administers the *Water Management Act 2000*, the *Water Management Amendment Act 2004*, the *Catchment Management Authorities Act 2003* and the *Natural Resources Commission Act 2003.*

6.6 The Government agency in NSW with primary responsibility for managing the environmental impacts of natural resource is the Department of Environment and Conservation[84], through:

- administering the *National Parks and Wildlife Act 1974*, the *Threatened Species Conservation Act 1995* [TSCA], the *Protection of the Environment Administration Act 1991* and the *Protection of the Environment Operations Act 1997*;
- supporting the Minister for the Environment, who is a Murray-Darling Basin Ministerial Councillor and who has a concurrence role in water sharing plans;
- chairing the Water Chief Executive Officers Group. This group is comprised of the Department for Infrastructure, Planning and Natural Resources Management, the Department of Primary Industries[85], The Cabinet Office and Treasury; and,

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82 NSW Water Reforms: A secure and sustainable future. Ministerial Statement. Available at www.dipnr.nsw.gov.au.

83 The Department of Infrastructure, Planning and Natural Resources website: www.dipnr.nsw.gov.au.

84 The Department of Environment and Conservation website: www.dec.nsw.gov.au

85 Comprising of the agencies previously known as NSW Fisheries and NSW Department of Agriculture.

- participation on the Implementation Management Committee at officer level, providing technical advice to relevant natural resource management committees, including the Water Chief Executive Officers.

6.7 The Department of Environment and Conservation gave evidence that they support the Department of Infrastructure, Planning and Natural Resources by providing an integrated perspective on environmental outcomes from resource management decisions and undertaking responsibilities related to biodiversity, conservation, cultural heritage, water quality and ecosystem health and by implementing the Ramsar convention on wise use of significant wetlands and lead government policy advice and policy development on elements of the water reform process.[86]

The Water Management Act 2000

6.8 The COAG reforms has already seen NSW establish new water management arrangements to facilitate both the expansion of water trading and to ensure protection for flows for the environment. NSW was the first state to amend its legislation to give effect to the reforms, with the Department of Infrastructure, Planning and Natural Resources preparing the *Water Management Act 2000* to repeal the *Water Act 1912*.

6.9 The *Water Management Act* provides for an integrated approach to land and water management and aims to manage water sources in a balanced way, that addresses the needs of both the users and the environment. The *Water Management Act* established 10-year licences, a compensable regime and development of water sharing plans: Key provisions are:

- recognise and preserve environmental water;
- provide a process for developing, approving and implementing water management and water sharing plans, that specifically involve the community in addressing relevant issues;
- define water rights attached to land as domestic and stock rights and a proportion of harvestable water;
- separate water entitlements into share entitlements, extraction entitlements and water use approvals;
- provide separate components of water entitlements that can be owned and traded; and,
- construct a modern legal framework with new compliance provisions.

6.10 The *Water Management Act* recognises the importance of maintaining the environmental health of the State's water while encouraging innovative and efficient use of this scarce commodity. Provisions to protect the environmental health of our water sources are set in the water sharing plans as well as the rules for a range of new water dealings for licence holders.

6.11 35 Water Sharing Plans have developed for each 'water source' nominated under the *Water Management Act* by representative water management committees, comprising stakeholders with a wide range of interests. Of these, 31 surface water plans came into effect on 1 July 2004. If a water source is not covered by a water sharing plan,

[86] Evidence before the committee, 5 May 2004.

management of licences remains under the *Water Act 1912*.[87] Commencement of the four groundwater sharing plans under the *Water Management Act* has been deferred until 1 July 2005.[88]

6.12 Water Sharing Plans are statutory instruments that establish:

- environmental water rules;
- requirements for basic landholder rights;
- requirements for water extraction under access licences; and,
- a bulk access regime for extraction licences.

6.13 The legislation has been designed to encourage best management practices, in particular for the application of water for irrigation. Site specific approvals for 'water works' and 'water use' must be issued. These approvals must reflect conditions as set out in Water Sharing Plans and may be subject to discretionary conditions imposed by the minister.

6.14 Water Sharing Plans are intended to ensure environmental assets are sustained and should indicate the size of the consumptive pool likely to be available over the duration of the plan and the means of determining this on a seasonal basis.[89] Water Sharing Plans provide a bulk access regime, or 'water sharing rules', which establishes the amount of water there is available to be shared among consumptive users in each catchment or groundwater system.

6.15 Water Sharing Plans are to be developed and reviewed through an open and transparent process that involves all stakeholders, supported by best practice hydrological and ecological modelling and providing for regular reporting and delivery against the plan.

Stakeholder response to water reform

6.16 The response to the COAG reforms was generally positive. The Department of Infrastructure, Planning and Natural Resources provided evidence that steps were being taken to remove barriers to water trading, in particular:

- arrangements in relation to irrigation corporations;
- adopting water trading rules at a statewide level and adopting water trading rules within Water Sharing Plans; and,
- removing previous impediments to water trade, while retaining a system of decision making that provides for assessment of water trading.[90]

6.17 The newly established Catchment Management Authorities are expected to provide a community perspective into the both National Water Initiative and the Living Murray process, as Chairs of the Murray, Murrumbidgee and Lower Darling Catchment Management Authorities have been appointed by the minister to the Murray Darling Basin Advisory Committee.[91]

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87 Water management arrangements, DINPR website, op cit.

88 Water Sharing Plans – www.dlwc.nsw.gov.au.

89 CEDA, 2004, op cit.

90 Evidence taken before the committee, 4 September 2003

91 Evidence taken before the committee, 12 May 2004.

6.18 However, NSW Irrigators Council gave evidence that they were concerned that details as how the National Water Initiative would be implemented was required, in particular with regard to access rights. The Irrigators Council in evidence stated that whilst they do not expect a 'given volume of water each year', but a defined share of the available resource. The Irrigators Council is aiming for

> secure and defined rights to access water should be issued in perpetuity. They argue that secure access rights provide confidence for irrigators and their financiers to invest in improved irrigation methods and environment enhancement.[92]

6.19 In evidence, the Irrigators Council highlighted:

- the importance of having water on the policy agenda of all governments;
- that the irrigation industry is a $10 billion industry critical to regional and community development; and,
- the importance of environmental sustainability to economic productivity.[93]

6.20 The Irrigators Council highlighted an already existing practice of implementing programs and practices for responsible resource use, through management plans which establish the expected level of responsibility from the community and bridge the gap where existing government programs are considered to 'fall short' of these community expectations.[94]

6.21 The Irrigators Council expects the National Water Initiative to deal with the issue of 'compensation' and maintains the position is that water access rights will have been established when the following exists:

- fixed shares of the resource [defined yield and reliability of supply];
- just terms acquisition triggered when access, or reliability of supply of these shares diminished, other than through seasonal variability;
- legislation that compels 'exploration of all other community investment/savings options before resorting to just terms acquisition';
- shares being treated as 'real' property;
- shares that can be used as collateral;
- being able to transfer – as part of the right and the rights to transfer are defined; and,
- COAG recognised the need to move from short-term licensing provisions to 'perpetual' licences, and address issues of structural adjustment, sustainability and compensation by assignment of risk.[95]

6.22 The World Wildlife Fund gave evidence that the National Water Initiative is a:

> last chance for a negotiated 'whole-of-Australia' jurisdictional approach for water management ... if we cannot find the adequate and regulatory approach, particularly for

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92 NSW Irrigators Council, Policy Statement, Principles of Water Access Rights, provided in Evidence before the committee, 5 September 2003.

93 Evidence taken before the committee, 17 September 2003.

94 Evidence taken before the committee, 5 September 2003.

95 Williams, B. and Knowles, J. *Water reform – policy, practicality and patience*, NSW Irrigators Council. page 1.

> the Murray ... the Commonwealth will take a much stronger role, using whatever constitutional capacity it has. [96]

6.23 The World Wildlife Fund stated that it supports water trading as a way of obtaining better environmental outcomes and that the National Water Initiative needs to:

- restore over-allocated systems and establish rules that provide clear direction on various levels of responsibility and that there is a need to demonstrate environmental outcomes with proper measuring and monitoring, integrated 'whole of system' planning; and,
- provide funding to resource the accountability in the systems through measuring and monitoring.[97]

Water sharing planning

6.24 The Irrigators Council gave evidence that they view the existing Water Sharing Plans as 'contentious' and argue that the focus is on how the available water will be shared between the environmental and extractive use, but do not focus on the 'overall health of the system' and argue the irrigation industry recognises its responsibilities in promoting sustainable use of water resources.[98]

6.25 As an organisation, the Irrigators Council focuses on ensuring that land and water management plans are designed to improve natural resource management. The Irrigators Council consider that the water committees were provided with little direction or framework within which to work and are very critical that Government promotes a 'new' framework after (previous) 'planning is completed' and the existing plans no longer appear relevant.[99]

6.26 In evidence, the Chairs of the Catchment Management Authorities gave evidence that the Catchment Management Authorities may provide some input into salinity management as the Chairs of Murray, Murrumbidgee and Lower Darling have been appointed by the minister to the Murray Darling Basin Advisory Committee.[100]

6.27 According to the Department of Infrastructure, Planning and Natural Resources, Catchment Management Authorities will also be responsible for development amendments to and for conducting an annual review of Water Sharing Plans.[101]

6.28 This may address the EDO concern regarding the role of public consultation and "strongly recommended" that

> "more regular reviews of the performance of Water Sharing Plans be undertaken as opposed to less."[102]

6.29 Additionally, the Water Agreement is intended to develop more effective and efficient processes and institutional arrangements that maintain the productivity and efficiency of Australia's resources and facilitate greater certainty for the environment.[103]

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96 Evidence before the committee, May 13 2004

97 Ibid.

98 Williams and Knowles (date), op cit.

99 Ibid.

100 Evidence before the committee, 12 May 2004.

101 Peter Sutherland, DDG DIPNR, op cit.

102 Water Management Amendment Act 2004, Discussion paper. Environmental Defenders Office website: www.edo.org.au.

Providing for water trading in NSW

6.30 Given that water trading has become particularly important since the decision to stop issuing water licences was made by COAG in 1994, trading in water entitlements is now the primary means by which new developers can obtain water, or existing developers can expand production. In evidence, the Department of Infrastructure, Planning and Natural Resources indicated that:

- water trading has been occurring in NSW since the 1980s;
- water is increasingly seen as a tradeable, economic asset;
- trading entitlements will move licences from 'low return activities' to more productive ones and allows water users to make their own decisions about their use of water, providing positive incentives to ensure water licences are used in the most productive way; and,
- separation of the access licence from the use approvals will streamline the process, as it is the access licence that is the tradeable commodity.[104].

6.31 The Department of Infrastructure, Planning and Natural Resources also stated that:

- that the actual volume of water traded varies with the prevailing climatic conditions;
- that in average to dry times, trade can be substantial, whereas, during a very dry year there may be no allocations, as there is little available water to trade;
- trade will continue be driven by climatic conditions;
- most of the water in regulated systems is already over allocated;
- an increase in the number and volume of trades in unregulated and groundwater systems is anticipated;
- water trading will be 'restricted to local areas via the water sharing plans' (in particular for groundwater, which will not have Water Sharing Plans made until 2005);
- there are physical restraints on the ability to trade water within an aquifer;
- that ***sleeper licences*** entitlement is substantially greater in many rivers than the amount of water that is typically extracted;
- once the compatibility of jurisdictions is increased and a management system for cross-border systems is finalised, some increase in cross border trades is expected.[105,106]

6.32 The Department of Infrastructure, Planning and Natural Resources gave evidence that from 2003, water licences have been separated into access licences and approvals for works and water use and in NSW, trades can be either permanent, which involves the transfer of part or all of a legal entitlement to receive water, or temporary, which involves the sale of some, or all, of a yearly allocation of water to an existing licence

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103 The National Water Initiative Intergovernmental agreement, COAG website op cit.

104 Ibid.

105 Ibid.

106 The Committee interprets this as meaning the recent amendments as a result of the National Water Initiative.

holder.[107] Any person or corporation can hold an access licence. Buyers may be an existing licence holder or a new user.[108]

6.33 The Department of Infrastructure, Planning and Natural Resources also stated in evidence that during high flow periods, water users are able to take their licence entitlement, however, during periods of low flow, extraction is limited. Some users may be entitled to a licence of 1,000 mgl however, their maximum allocation is 800 mgl. In order to obtain the additional 200 mgl required for their business, they must enter the market to purchase their full water entitlements.[109]

Water Management Amendment Act 2004

6.34 In June 2004, the Minister announced that the underlying principles of the National Water Initiative would be reflected in the *Water Management Amendment Act 2004*[110] which is intended to progress both the water sharing arrangements designed under the *Water Management Act*, as well as deliver outcomes articulated under the National Water Initiative and to incorporate change developed under the National Water Initiative into the water sharing plans.[111]

6.35 The *Water Management Amendment Act* is intended to reflect the COAG agreement on the National Water Initiative, with proposed the legislative amendments required. The minister's second reading speech highlighted that the amendments provide for:

- clearer water planning processes – to ensure access share entitlements and a more robust entitlement register;
- integrated management of water for environmental outcomes – to assist with moving to a more market-oriented, innovative and less bureaucratic approach to water management; and,
- implementation of the Water Sharing Plans – so that they may operate from 1 July 2004 in the manner intended.

6.36 The amendments provide for water sharing and management plans, access licences approvals and other matters, and provides for 'perpetual entitlement' in the share of the resource. (defined as 'the available water' for water trading) and recognises the obligation to ensure sustainable use of the State's water resources.

6.37 Other amendments relevant to the deliberations of the committee include:

- the definition of environmental water, the minister's plan making powers, the need for the Minister for the Environment's concurrence for the making of water management plans, Water Sharing Plans being extended on the recommendation of the Natural Resources Commission and the extent of judicial review of Water Sharing Plans *(Schedule 1);*
- changing access licence types, procedures related to access licences, changing the period of granting the licences and enabling the granting of extensions, modification of associated procedures and Interstate agreements for water trading *(Schedule 4*);

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107 Evidence before the committee, 4 September 2003.

108 Ibid.

109 Ibid.

110 Act No: 39, 2004, assented to on 24 June 2004.

111 NSW Parliament Hansard, 12 May 2004.

- savings and transitional amendments relating to entitlement conversion *(Schedule 6); and,*
- consequential amendments to other Acts, including the *Catchment Management Authority Act 2003*, including the establishment and operation of Environmental Water Trust Funds *(Schedule 7)*.

6.38 Under water management arrangements in NSW, the following can be traded on the water market:

- shares of the available water;
- extraction rights; and,
- water allocation.

6.39 According to the Department of Infrastructure, Planning and Natural Resources, water sharing plans and Minister's state-wide dealing principles set out administration and natural resource rules which assess the movement of the extracted water from one place to another and ensure that dealings don't result in increased stress on water sources, or adversely impact other water users ability to extract.[112]

6.40 Additionally, the Department of Infrastructure, Planning and Natural Resources acknowledges that 'structural adjustment' will be necessary in response to changing markets and as a response to environmental problems and advise that the government will be monitoring the market as it develops to see whether further regulation will be necessary in the future.[113]

6.41 In August 2004, the Department of Infrastructure, Planning and Natural Resources stated that the *Water Management Amendment Act* aligns with the National Water Initiative, which it anticipated will assist the community with adjusting to the new market structures that will be developed.

6.42 The new State arrangements provide for a:

- transparent process for reviewing Water Sharing Plans based on catchment outcomes;
- role for an independent body (the Natural Resources Commission);
- perpetual licences for water users for a share in the available resource;
- robust licence register;
- increased opportunity for water trading; and,
- risk assignment model – where irrigators will bear the first 3% of reduction in entitlements and the States/Commonwealth will bear the cost of reductions after 3%.[114]

112 Proceedings of the *Australian Water Trading Conference*, March 2004, Melbourne, page 2.

113 Ibid.

114 Peter Sutherland, DDG DIPNR, op cit.

Responses to water trading

Community issues with water management

6.43 According to the Department of Infrastructure, Planning and Natural Resources, the community has raised concerns regarding the separation of water and land entitlements, especially with regard to speculators entering the water market and buying up access licences, and not using them.[115]

6.44 Concerns expressed by community include that:

- water (should not be seen) as a commodity that can be traded (willy-nilly) (sic) without consequences;
- water may taken from the communities that depend upon and these communities would be stranded if they have no access to water;
- the benefits of trading should stay in the rural communities where the water is located.[116]

6.45 The Department of Infrastructure, Planning and Natural Resources acknowledged that while non-local ownership of licences is possible, water licences can only be used where the water is located and stated that the concern over speculators holding onto excessive entitlements for profit, is a "grass roots fear" based on misunderstanding.[117]

6.46 The Department of Infrastructure, Planning and Natural Resources responded to concerns from the community that:

- the risk that water licences being bought and held without being used is very low, given the capital expenditure required and the limited scope for speculators to control the market through controlling large volumes of trade;
- there are currently no restrictions on who can own rural land or rural businesses;
- the market price of water is driven by scarcity and fluctuates from year to year depending upon climate, rather than speculators whom it is feared may try and manipulate the market;
- speculators provide market depth, providing 'someone to sell to' and make it easier for those wishing to buy licences or water allocations; and,
- trades would be constrained by the return that could be gained from the use of the water.[118]

6.47 NSW Farmers gave evidence that the issue of water barons is 'overrated' and suggests that a balance between an unfettered market and 'no ability to trade' is required.[119]

6.48 The Department of Infrastructure, Planning and Natural Resources' position that for the market to operate at its best it is necessary to keep regulatory constraints to a

115 Australian Water Trading Conference, op cit.
116 Ibid.
117 Ibid.
118 Ibid.
119 Evidence before the committee, 17 September, 2003.

minimum. This is so that both flexibility for individuals and the overall benefit to the community is maximised.[120]

Issues raised in evidence

6.49 In evidence to the committee, the Australian Bureau of Agriculture and Resource Economics [ABARE] stated in that their research indicates water trade allows water to move between regions and farms that are spatially different in terms of their groundwater salinity, soil types and irrigation practices which influences the impact of irrigation on water quality.[121]

6.50 The committee also heard that water trading is considered useful to improve environmental benefits to stressed river systems, by restoring over-allocated systems. Both the Nature Conservation Council[122] and the World Wildlife Fund[123] support the expansion of permanent intrastate water trading and stated in evidence there must be rules must aim to achieve improved environmental outcomes.

6.51 However, a paper evaluating the *Water Management Amendment Act* by the Environmental Defenders Office indicated that conservation stakeholders are uncertain as to 'what rules' will govern water trading in 'those areas where management plans have not been prepared [or are not in force], in particular groundwater. The potential of the *Water Management Amendment Act* to 'limit the circumstances where trade can occur in the absence of principles and rules' was also raised.[124]

6.52 The Nature Conservation Council gave evidence that clear and transparent rules that require assessment of any potential environmental impacts on catchments should be encouraged and that all [water] trading must occur within hydrologically connected areas.[125] and that:

- clear and transparent rules must be established to enable clear assessment of any potential environmental impacts arising from water trading between one part of the catchment and another;
- rules must also provide clear direction on various levels of responsibility; and,
- State authorities must also ensure that transfers into the State are subject to the same regulatory provisions and environmental considerations as apply to water licences within the State.

6.53 In response, the Department of Infrastructure, Planning and Natural Resources gave evidence that firstly, transfers can only occur in hydrologically linked systems; and, there is capacity under the *Water Management Act 2000* for the minister to refuse a transfer based on environmental impact and the social and economic consequences of the transfer, including the potential for adverse impacts such as salinity.[126]

120 Ibid.
121 Evidence before the committee, 3 September 2003.
122 Evidence before the committee, 19 September 2003.
123 Evidence before the committee, 14 May 2004.
124 Environmental Defenders Office, op cit.
125 Evidence before the committee, 19 September 2003.
126 Evidence before the committee, 4 September 2003.

6.54 The World Wildlife Fund also gave evidence that what is required are, firm and national water trading rules, with 'inbuilt source, destination and cumulative impacts assessment processes'. These rules should 'provide clear direction on various levels of responsibility under the establishment of the National Water Initiative' .The World Wildlife Fund gave evidence that rules for permanent water trading requires higher level criteria than for temporary water trading. [127]

6.55 The World Wildlife Fund further indicated they favoured rules that provide for:

- a guaranteed minimum level of environmental water (protected from trading) to meet basic and fundamental eco-system health requirements; and,
- arrangements that provide for 'flexible, adaptive and discretionary water which is underpinned by strict rules, that ensure the ultimate goal is long term environmental benefits'.[128]

RECOMMENDATION 3: That the Department of Infrastructure, Planning and Natural Resources, with the support of the Department for the Environment and Conservation, establish a Working Group to draft and produce Guidelines, based on sound scientific principles, for the Minister when making decisions on the source and destination of water trades.

These Guidelines should be made available to the Catchment Management Authorities and other relevant stakeholders for comment and provide guidance on:

1. a process to assess the cumulative adverse environmental and socio-economic impacts of water trade decisions, both for the source and the destination of each water trade;
2. ensuring that Water Sharing Plans are able to meet salinity objectives and catchment targets set by Catchment Action Plans and address potential negative environmental and socio-economic impacts;
3. a process for the Minister for working with Natural Resources Commission in determining the effectiveness of Water Sharing Plans and Catchment Action Plans in achieving salinity targets and facilitating best practice water trade decisions.

RECOMMENDATION 4: That the Department of Infrastructure, Planning and Natural Resources report to Parliament on an annual basis, for the purposes of providing data referred to in Recommendation 3, on issues associated with responding to changes in environmental factors and changing water markets and how the Department is supporting the community in making required adjustments.

127 Evidence before the committee, 14 May 2004.

128 Ibid.

PART C – NEW APPROACHES TO SALINITY MANAGEMENT

Chapter Seven - The case for institutional reform

7.1 One of the main thrusts of the National Water Initiative is to recover and manage water for the environment, deal with nationwide compatibility with regard to water markets and facilitate interstate water trade by establishing new institutional arrangements.

7.2 Institutional arrangements establish laws, customs, social conventions, regulations and rules that structure the way people interact[129]. Good institutional outcomes are identified by five generic characteristics:

- clear institutional objectives;
- connectedness between formal and informal institutions;
- adaptability;
- appropriateness of scale; and,
- compliance capacity.[130]

Robust Institutional Arrangements

7.3 The CSIRO stated that Australian water resource and environmental managers face policy challenges in developing:

- a 'robust set of institutional arrangements' to enable the efficient allocation and management of water resources and both consumptive and non-consumptive water use through time; and,
- an efficient and equitable transition pathway to such a set of institutional arrangements.[131]

7.4 The CSIRO describe 'robust systems' as persistent, adaptable, able to withstand the test of time. Institutional robustness requires a

> "focus on new [water] allocation mechanisms, that have efficient and politically acceptable outcomes".[132]

7.5 In evidence before the committee, the CSIRO drew attention to flaws in existing arrangements including:

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129 Pagan, P.G. *Improving Water Resource Management in India's Agriculture: Search for Effective Institutional Arrangements and Policy Frameworks*. Australian Workshop: Institutional Issues in Water Resource Allocation: Lessons from Australia and implications for India, Beechworth, Victoria, 17/18 July, 2003.

130 Ibid.

131 Young, M.D and McColl, J.C. *Robust Reform – Implementing robust institutional arrangements to achieve efficient water use in Australia*, The Australian Economic Review, vol 36, no 2, May 2003.
Young, M.D and McColl, J.C. *Robust Separation - A search for a generic framework to simplify registration and trading of interests in natural resources*. CSIRO, September 2002.
Young, M.D *Robust Reform: The Case for a New Water Entitlement System for Australia.* Conference Paper to The 21st Commonwealth Agricultural Conference, March 2004.

132 Ibid.

- the activation of 'sleeper' and 'dozer' licences (which comprise a component of previously stored water ordinarily made available to others);
- that since the introduction of water trading, some who had obtained water at its supply cost "now have to pay market prices to access the same water" which is now more expensive;
- that the current [volumetric] system fails to take into account the impact of increased forestry and other land use changes that reduce water yield; and,
- that their research suggests there is at least a 2000 GL gap "not adequately being considered in the currently policy debate" and less, not more, environmental flow will be the result.[133]

7.6 One key issue for the CSIRO is that existing water trading arrangements are inconsistent with water use hydrology and expressed concern that policy changes may fail to take 'full account of hydrological processes in the southern connected River Murray System'. A model proposed by the CSIRO suggests that even with the addition of 1500 GL sourced from irrigators to enhance environmental flows, there will still be "negative net changes in the mean flows in the River Murray".[134]

7.7 The CSIRO gave evidence that when irrigators are allowed to 'keep savings' and expand irrigation, any benefits supposedly accrued from the Murray-Darling Basin Commission cap are effectively diminished. According the CSIRO, most States attach water trading arrangements onto existing licence systems and suggest that little attention is paid to equity, investment security, and the implications for water quality and river health.[135]

7.8 In evidence the CSIRO also stated that whilst there is a compelling argument to leave water in the river for flows, a balanced approach is required to mitigate user fear that their personal welfare will be affected as a result of enhancing environmental flows. They said:

> "Whether fears become reality depends upon implementation detail."

7.9 The CSIRO gave evidence that in order to attain robust water management arrangements, an equal number of policy instruments for each independent policy targets is required and that a separate component is required for each water use. [136]

7.10 The CSIRO argue that separating water licences from land title allows for water access entitlements and allocations to be deployed to uses generating greater economic returns and gave evidence that it makes sense to separate licensing arrangements that provide for access licence for 'shares' in the resource. Licence arrangements should have a mechanism that tailors the amount of certainty required by individual users (whether high or low security).[137]

7.11 The CSIRO maintain that a 'robust separation' approach to the allocation of the available water in any one year is required, with separate approvals and management

133 Evidence before the committee, 18 September 2003.
134 Young and McColl, op cit, Table 1, page 227.
135 Evidence before the committee, op cit.
136 Ibid.
137 Ibid.

for each component. A separate assessment instrument for each objective is then achievable, water use approvals can then addressed be on a case by case basis.[138]

7.12 The CSIRO gave evidence that they propose defining a minimum set of baseline conditions and establish a mechanism that allows some 'trade-off' amongst management objectives. This is important as supply and demand for water access and use, changes by season and through time. The CSIRO proposed a system that includes:

- 'unit shares' issued 'in perpetuity' – unequivocally guaranteed, mortgageable claim to a proportional share of any periodic water allocations; and,
- separate management of all allocations – low-cost bank-like accounting and trading protocols that define the quantity that may be traded or used in 'net' not 'gross' terms.[139]

7.13 The CSIRO stated that it 'is in the business of facilitating the best decisions when the best scientific information is available'. However, the reality is, the market is continuing to 'trade into trouble' because the best mechanisms (to prevent that) are not in place'.[140]

7.14 The CSIRO further stated that in concluding their review on the Pilot Trading Scheme, they suggested that whilst the volume of trades is low, there exists an opportunity to put a more robust system in place – one that better defines water users long term obligations to the environment.

7.15 In particular, the CSIRO review recommended the establishment of a Salinity Register, to underpin trades with a set of debit and credit arrangements. The CSIRO also recommended the register be based on the Victorian model of High Impact and Low Impact areas.

7.16 This would involve mapping all parts of water trading areas as high or low impact areas and then establishing nominal credit and debit arrangements for each area. Traders could be free to choose between accepting the nominal credit and debit arrangements for each trade or paying for a full assessment.[141]

7.17 A market based approach has also been promulgated by both the National Action Plan for Salinity and Water Quality and the National Water Initiative, as a way forward in dealing with water management issues.

7.18 Given salinity has been identified as an economic and environmental externality, which is accounted for within the current institutional constructs and which is costing the nation to improve conditions, the committee concludes it makes sense to consider the potential for institutional reforms that provide for a market that allows water users to make decisions that have both environmental and economic returns.

7.19 The National Action Plan will be evaluating the development of salinity mitigation schemes and market based instruments that manage water impacts by using market forces.

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138 Evidence before the committee, op cit.

139 Ibid

140 Young and McColl, op cit

141 Young and McColl, op cit.

7.20 One aim of the of the National Water Initiative intergovernmental agreement is to consider the:

> "feasibility of establishing market mechanisms such as tradeable salinity and pollution credits to provide incentive for investment in water-use efficiency and farm management strategies and for dealing with environmental externalities" [142]

Market Based Instruments

7.21 Market based instruments use trading mechanisms, auctions and price signals to change behaviour to address important natural resource issues and fill knowledge gaps across jurisdictions. Market based instruments can be used to encourage sustainable land management practices and their use as a tool for natural resource management is increasing in some countries.

7.22 Whilst Australia is still in the early stages of using market approaches to natural resource management, the national program seeks to increase Australia's capacity to implement market based incentives, in particular to address the problems of salinity and water quality.

7.23 According to the CSIRO, markets reveal the nature of all the flaws and mistakes that are made and the challenge is to design arrangements and mechanisms that will

> "trade out of trouble and make future investments exciting and ones that progress of society, rather than postponing and deepening problems."

7.24 The CSIRO noted that the current system is dealing with 'quasi market mechanisms' which have only developed short term solutions. Market mechanisms reveals the true cost of an activity and reduces the need for 'a carrot' to natural resource users.

Salinity credits for good water management

7.25 Existing research and evidence provided to this committee reveals the following:

- that water extraction at the current levels is unsustainable;
- that irrigation practices in the top part of the catchment areas has the potential to contribute to salinity for downstream reaches;
- that salinity is an externality that does not appear accounted for within current water management arrangements; and,
- that it is more efficient to develop arrangements that provide the best mechanisms to prevent the historical legacy of "trading into trouble".

7.26 The CSIRO stated in evidence that there is a

> "plethora of water-licensing systems onto which mechanisms for managing externalities, rationing scarcity and trading have been bolted." [143]

7.27 The CSIRO stated that a combined set of instruments (via the use of sophisticated and separated controls), can be used to design safer allocation systems that safeguard flows to the environment. They also stated the strengths and weaknesses of each instrument needs to be considered with a package put together in an effective and creative way.

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142 COAG website, op cit.

143 Evidence before the committee, 18 September 2003.

7.28 CSIRO further propose that as licences are secured, one option would be to place part of all existing access entitlements in an independent environmental trust. This would enable trade to occur counter-cyclically, with traders being able to sell allocations during drought and bought back during wetter periods.

7.29 The Committee also heard that an efficient approach would be to

> "specify interests and transparently assign risks among the parties involved".

7.30 Managing salinity in water trading can relate to the water use component of the licence that provides permission to use allocations with pre specified use conditions and sets out obligations to third parties, including the maximum allowable degree of impact on others. Young and McColl recommend that statutory management plans, such as for salinity, set out to what extent obligations can accumulate.

7.31 Where it's proposal differs more radically from the existing arrangements is the CSIRO recommend the use licence enables a separate entitlement/allocation system to be set up to manage environmental issues, like salinity, and provides for salinity being capped at particular levels. This would enable use licence holders to trade in salinity credits.

7.32 This means that water users can either implement initiatives to reduce the amount of saline water that drains from their property or buy 'salinity credits' from other water users to allow them to discharge a higher level of saline water.

7.33 The 'robust separation model' is supported by the World Wildlife Fund who stated in evidence that accurate accounting and measuring is fundamental to this process and that funds would be required to provide for annual auditing, or in five, ten years to ensure planning processes to meet any objectives.

7.34 In evidence to the committee, the CSIRO stated that a combination of instruments and approaches is needed – levies, offset arrangements, credits all have a role. The CSIRO argue that it makes 'economic sense to cap salinity impacts and allow individuals to trade them' and that dynamically efficient water use requires either a very flexible rule-based cap, or a structure that allows administrators to 'trade' an environmental allocation.[144]

7.35 The CSIRO's robust separation model defines an 'ownership' of right of access to a 'share' of defined [annual] resource, but does not provide the right to take and use the water, this process provides for the independent authorisation of irrigation through the mechanism of use licences that reserve 'pollution' (salinity) rights to the Crown.

7.36 Robust separation also defines all duties associated with water use at a site in a manner that remains consistent with conditions expressed in statutory catchment management plans. This would include defining the amount of water allocated for environmental purposes, partly as a prior right, partly as a tradeable allocation (through the environmental manager/trustee).[145]

7.37 Trading in salinity credits has been postulated as being a way in which salinity impacts may be managed within a market construct that would be useful in accounting for the external impacts of salinity. Within the Murray-Darling Basin, salinity trading currently only occurs at the State level.

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144 Evidence before the committee, op cit.

145 Ibid.

7.38 In NSW, the Hunter River Salinity Trading Scheme, is evaluating trading in salinity credits to manage saline water discharge from a licensed point source. The project aims to achieve a minimal cost to the community and provide ongoing financial incentives to further reduce pollution.

Pricing mechanisms and tax

7.39 ABARE also gave evidence they have developed a number of policy instruments that could be used to correct for externalities from water use and trade. ABARE favour a pricing mechanism that adds to the future costs of salinity impacts, as a tax on trades into higher salinity impact areas and a subsidy of trades into lower salinity impact areas and advocates trade in water rights between regions rather than individual irrigators.[146]

7.40 In their submission to this inquiry, ABARE stated that in order to mitigate the potential for water trade exacerbating salinity (particularly in the Murray River region), a well designed water market can increase water use efficiency by facilitating the transfer of water to higher value uses[147].

7.41 ABARE advocates that institutional arrangements providing for water trading should be market based, as they allow for the full benefits and costs of transferring water between alternative users to be accounted for through trade. ABARE gave evidence that water trading arrangements, such as regionally specific taxes and subsidies, for example, salinity mitigation credits would encourage water to be traded out of high salinity impact areas into low ones.[148]

7.42 ABARE posits that introducing a tax impacts on the market value of an irrigator's water assets and owners of entitlements who sell or lease their entitlements are more likely to be resistant to a tax, as opposed the those who use their entitlement. A tax would more likely adversely effect the sellers, rather than the buyers of the water, even though that water would be put to uses that contribute to salinity impacts.[149]

7.43 Whilst ABARE argue that a fixed tax would be more efficient in terms of implementation costs, they propose that a 'quantity restriction program' may be favoured by irrigators over a tax, as variability in demand may influence political and social expediency.

Evaluating market-based instruments

7.44 Whilst market based instruments which are seen as offering great potential in the effort to conserve biodiversity, reduce salinity and manage water allocation within environmental limits, the associated costs and benefits are not well known. Implanting market based instruments for environmental outcomes is currently being given high priority by federal programs, with considerable effort is going into researching their effectiveness in providing improvements to the environment, economy and society as a whole.

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146 Water trade and the externalities of water use in Australia, ABARE paper for Natural Resource Management Business Unit, AFFA.

147 Submission to the Inquiry, 6 August 2003

148 Evidence before the committee, 3 September 2003

149 Beare, S and Heaney, August 2002, op cit..

7.45 Under the first round of the National Market Based Instruments Pilots Program (under the National Action Plan) 10 projects are evaluating ways to use innovative financial arrangements to encourage better land and water management and to reduce salinity in irrigation-based agriculture. [See Chapter 2, Section A.]

7.46 Four types of programs are currently being evaluated:

- trading mechanisms which may involve removing existing barriers to market activities or perverse incentives; creating new markets, such as water trading or environmental services markets; include cap and trade schemes;
- information disclosure – auctions and eco-labelling; sharing of information between, for example, the farmers and the government;
- fees, taxes and subsidies involve putting a fee or charge on the amount of pollution or degradation that a source generates; and,
- individual negotiation – the buyer engages in one to one deals with potential sellers of environmental services.

7.47 For example, in one project irrigators can choose the most cost effective way to manage salinity levels in a river catchment. To ensure salinity levels do not increase, a cap or target is set for the whole irrigation area. The cap or target can be achieved by undertaking activities to reduce salinity levels or by purchasing credits from other landholders who can achieve the same results more cheaply.

7.48 The 6th Annual AARES conference held in Canberra in September 2003, highlighted that market based instruments place an economic value on a number of natural resources values, including wetlands, which provide annually $4.9 trillion [US] worth of ecosystem services globally, but tend to be the most negatively impacted ecosystems.[150]

7.49 In his opening address Mr Roger Beale (Commonwealth Department of Environment and Heritage), stated that market-based tools can by applied to environmental management, however, he also stated

> "there are lots of uncertainties in applying markets to environmental problems. They are not a panacea, and often we are on the frontier of knowledge". [151]

7.50 Mr Beale also stated that a number of studies are in the process of being conducted and that it is important to implement 'learning by doing principles' to evaluate how market based instruments can link to specific policy processes, especially as the National Water Initiative is a

> "critical national experiment that must succeed.[152]"

7.51 A four year study in the Murrumbidgee River catchment will evaluate the effectiveness of a number of catchment management options and will include cost-benefit analyses of incentives, including direct market based incentives such as salinity or biodiversity credits. One incentive might be the possibility of using credits to reduce farm holder debt through reduction in loans. Another challenge for banks and government will be

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150 6th AARES Annual National Symposium, September 2003, Canberra.

151 Opening Address for the 6th International AARES Conference. Market-based tools for environmental management. AARES website: www.ecosystemservicesproject.org/html/markets/aares_symposium/.

152 Ibid.

accepting such incentives as the effectiveness of the incentives demands a long-term commitment.[153]

7.52 A further project aims to develop a tradable property rights structure. This would be based on identifying salinity credits to aid in addressing the external impacts of dryland salinity. Experimental economics will be implemented to identify critical market parameters, i.e., detailed specification of the property rights and credits involved, the nature and levels of uncertainty related to the necessary salinity information and methods to incorporate spatial and temporal variation in the impacts of management changes.[154]

7.53 In this study, stakeholders will participate in a computer based 'virtual market' and trade salinity credits based on their own farm statistics. Credits would be based upon the biophysical modelling undertaken and experiments would determine:

- incentives and the necessary rules for water trading to take place
- the threshold level of uncertainty above which participants will not trade
- the best form of the instrument involved; and,
- the necessary institutional and legal requirements and the potential environmental outcomes for the region.

7.54 The aim is to develop a flexible framework for market based mechanisms. One example of such a project is currently exploring the potential use of cap-and-trade pollution permits to cap emissions in the Lower Fitzroy Basin when new irrigation and industry developments take place.[155]

7.55 The project will model the potential supply of offset actions from landholders in a particular sub-catchment to evaluate the potential for trade within the lower Fitzroy catchment. The project aims will be to determine the amount of bio-physical data needed, appropriate water trading rules, how a pilot can be established over discrete areas/industries in the Fitzroy Basin and what incentives are needed to make enterprises/industries participate.

Community concerns raised in evidence

7.56 The World Wildlife Fund stated in evidence, it supports the establishment of a salinity credits schemes that 'do not cause issues for biodiversity'.[156]

7.57 The NSW Nature Conservation Council also raised the concern that ABARE suggest the 'market should be left to run itself' as it will balance out and incorporate all external costs. The Nature Conservation Council argue that when comprehensive policy instruments and information on catchment operations is available, then the market itself should be used as a tool to achieve desired environmental outcomes.

7.58 In evidence to the committee, the Chairs of the Catchment Management Authorities were concerned that ABARE promote the 'clawing water back from irrigation to go into

153 Patricia Murray [DIPNR], *Market based incentives and improving the management of floodplain wetlands in the Murrumbidgee River, NSW*. pmurray@dlwc.nsw.gov.au.

154 Wendy Proctor, Stuart Whitten and Dave Shelton [CSIRO] Trading Salt and Water: *Developing Tradable Property Rights for Dryland Salinity Management Using an Experimental Approach*.

155 John Rolfe, Jill Windle (Central Queensland University), Stuart Whitten [CSIRO] *Establishing the potential for offset trading in the lower Fitzroy River*.

156 Rolfe et al, op cit.

an environment' and suggest this fails to take account of the times that high flows for irrigation purposes' are also available for environmental needs.

7.59 The committee heard in evidence that the Irrigators Council view the cost of salinity management as a fixed and 'public cost' with the result that "salinity continues to get worse". The Irrigators Council also stated that appropriate time to respond to issues is require to

> "run meaningful communications and consultations with our members and the broader community." [157]

7.60 It is clear that appropriate 'new ways' will need to be established, to deal with the communities fears of unaccountable, external environmental, social and economic impacts of salinity and that the community needs to be involved in the discussion of managing associated potential risks.

Do the existing institutional arrangements deal with salinity?

7.61 Under the Agreement, a number of actions relevant to water pricing and institutional arrangements were agreed on:

- completing commitments under the 1994 COAG Water Reform Framework to bring into effect pricing policies for water storage and delivery in rural and urban systems by the end of 2004;
- developing consistent approaches to pricing and attributing costs of water planning and management;
- investment of new or refurbished water infrastructure to continue to be assessed as economically and ecologically sustainable before being approved;
- releasing unallocated water;
- managing environmental externalities through a range of regulatory measures;
- benchmarking efficient performance;
- achieving an independent pricing regulator; and,
- developing integrated management of environmental water – recognising the different types of surface water and groundwater systems; including institutional arrangements to ensure government achieves environmental outcomes; where necessary recover water to achieve environmental outcomes; and, adopt principles for determining the most effective and efficient mix of water recovery measures.

7.62 Actions relevant to water pricing and institutional arrangements were also agreed, included accounting for water resources (i.e., robust water accounting; environmental water accounting; metering and measuring actions and developing and applying national guidelines on water reporting).

7.63 A number of other actions were listed under community partnerships and adjustment, including open and timely consultation with all relevant stakeholders in relation to significant decisions affecting the security of water access entitlements. These actions include:

- pathways for returning over allocated systems to sustainable extraction levels;

[157] Evidence before the committee, 5 September 2003.

- periodic review of Water Sharing Plans; and,
- provision of information in relation to progress of implementation of Water Sharing Plans;
- addressing significant adjustment issues that may arise from reductions in water availability as a result of implementing the National Water Initiative.

7.64 Relevant actions regarding knowledge and capacity building include:

- identifying the key science priorities to support implementation of the National Water Initiative;
- where this work is being undertaken; and,
- implementing any necessary measures to ensure the research effort is well coordinated and publicised and which addresses identified gaps

7.65 This Agreement establishes arrangements for the a number of actions relevant to salinity management. Outlined within the Intergovernmental Agreement regarding water access entitlements and planning frameworks, were:

- implementation of the framework – involving completion of plans to address over allocations in accordance with the 1994 water reforms and amendment of legislation and administrative regimes to incorporate the elements of the entitlements and allocation framework in the IGA; and,
- definition, provision and management of water to meet environmental and other public benefit outcomes identified in water plans.

7.66 Additionally, water plans are to be prepared with priorities focussing on:

- plans for over allocated systems, those that are fully allocated or approaching full allocation;
- plans for systems that are not yet approaching full allocation;
- implementing measures to address water interception by land use change activities on a priority basis in accordance with Water Sharing Plans.

7.67 Therefore, the water sharing plans, established under the *Water Management Act 2000,* which intended to provide water for both the environment and water users, are part of the National Water Initiative in dealing with water and salinity management. However, that it has been stated in evidence that the current round of Water Sharing Plans do not have clear salinity objectives, it is not apparent whether existing Water Sharing Plans would provide for salinity credit schemes or tax incentives.

Issues raised in evidence

7.68 Whilst the new arrangements under the *Water Management Amendment Act 2004* recognise the security of a licence, but also note that limited 'available water' will facilitate a water market that is more efficient and effective than previously. Under the new frameworks, water trading rules, exchange rates and compatibility of both the terms of water access entitlements and of administrative arrangements, including registries and accounting systems will need to be addressed.[158]

[158] Ibid.

7.69 In evidence the CSIRO recommended that trustees should be appointed to design efficient 'new arrangements' that address externalities of water extraction. During the hearings, the committee asked whether the *Water Management Act* provides sufficient flexibility to design a new model, or should it be modified accommodate new ideas?

7.70 The CSIRO's responded in evidence that the *Water Management Act* contains many building blocks to do this and some "mistakes have been made around implementation", the *Water Management Act* contains sections on how shares can be issued, return flows and water use efficiency.[159]

7.71 The CSIRO further highlighted the most important concept that arose from the *Water Management Act* was the separation of each of the components to provide for the ability for separate management. A separate instrument for each management objective. Under the arrangements, the water available in any one year should be allocated separately via an access licence, which is a licence for 'shares' and both high security and general security shares are required to tailor for the amount of certainty a user wants.

7.72 The Committee for Economic Development in Australia, states that a system which 'facilitates trading and addresses associated environmental issues is 'complex and contentious', but that currently 'unprecedented unity of purpose among governments and the community' exists. It is also stated that Water Sharing Plans provide an opportunity to provide 'firm pathways and open processes for returning over-allocated surface and groundwater systems to environmentally sustainable levels of extraction' and provide a durable foundation for reformed institutional arrangements.[160]

7.73 The CSIRO gave evidence that through the *Water Management Act* and *Water Management Amendment Act*, NSW is in the process of setting up a system of accounts – a water statement with debits and credits and state that this process may 'have benefits for salinity outcomes'.

7.74 Whilst the World Wildlife Fund fundamentally agree with ABARE and the CSIRO regarding the complexity of the issues and would encourage the use of a salinity credits schemes that did not cause issues for biodiversity being set up, they have expressed concern the current water sharing arrangement have resulted in plans that do not take into account salinity impacts.

7.75 The NSW Nature Conservation Council gave evidence that water prices should reflect the fact that irrigation practices cause salinity impacts which have negative impacts on downstream users, who have to bear the environmental and economic costs.

7.76 NSW is yet to formalise accountability arrangements for the salinity impacts of irrigation developments due to water trade.

RECOMMENDATION 5: That further research into salinity credits be conducted in order to evaluate their effectiveness in mitigating the impacts of water trade decisions on salinity. Research should focus on whether water use licences enable a separate entitlement / allocation system to be set up to provide for capping salinity.

[159] Evidence before the committee, 18 September 2003.

RECOMMENDATION 6: That the Department of Infrastructure, Planning and Natural Resources and the Department of Environment and Conservation report in their annual reports, the results of relevant studies in market based instruments, including those being conducted under the National Action Plan for Salinity and Water Quality.

RECOMMENDATION 7: That the Department of Natural Resources develop a community workshop model that is delivered in conjunction with the Catchment Management Authorities. This workshop should be designed to inform the community how irrigation practices produce negative economic impacts on downstream users and how market based incentives can assist them in making better water trading decisions.

[160] CEDA, 2004, op cit.

Chapter Eight - Whole-of-catchment management arrangements

8.1 In research cited in evidence to the committee, ABARE indicates that water trade allows water to move between regions and farms that are spatially different in terms of their groundwater salinity, soil types and irrigation practices. This is turn influences the impact of irrigation on water quality.[161]

8.2 From the submissions and the evidence heard by the committee it is apparent that existing water management arrangements [via water sharing plans] may lack a focus on preventing salinity as a result of water trading. The committee heard that whilst water trading was supported there was considerable discussion around the importance of water trading rules that maintain environmental objectives.

8.3 The following positive effects of the water reforms and water sharing plans on salinity management were raised:

- improved water use efficiency in irrigation;[162]
- the provision of environmental flows that would dilute areas of high salinity in certain areas;[163]
- that the Murray-Darling Basin cap has reduced the level of irrigation water accessions to the water table through reduced consumptive use;[164]
- that water trading will encourage less irrigation water accessions to the groundwater system;[165] and
- that management plans will balance extraction to maintain sustainable yields and control of the water table.[166]

8.4 However, the Nature Conservation Council stated in their submission that Water Sharing Plans will have limited impact on salinity management in NSW as they don't have salinity management as an objective.[167]

8.5 In a submission to this inquiry, the Regional Consultative Committee also stated:

- there are no formal management arrangements to deal with salinity other than dilution flows in regulated rivers which are considered short term and largely undesirable; and,
- that water management arrangements should align with landscape management.

8.6 The NSW Minister for Agriculture and Fisheries[168] stated that reductions in access to water may result in irrigators using large quantities of poor quality water and suggested that the extent and impact of this water on the long term viability of soils

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161 Evidence before the committee, 3 September 2003.
162 NSW Minister for Agriculture and Fisheries.
163 The Murray Catchment Management Board.
164 Ibid.
165 Ibid.
166 Ibid.
167 Submission to the Inquiry, NSW Nature Conservation Council.
168 Now the Department of Primary Industries.

requires further research. NSW Agriculture has conducted some preliminary work on the impacts of saline water mixed with freshwater on crops and pastures.

8.7 Other issues raised in the Minister for Agriculture's submission included that Water Sharing Plans will have limited impact on salinity management in NSW because:

- there will not be enough water returned to the rivers to promote long term flushing and dilution effects; and,
- the plans do not consider or address land use issues such as irrigation and annual cropping and pastures which will continue to add to the amount of salt entering rivers.

8.8 The view that the water sharing process will have little effect on salinity management, was also shared by the World Wildlife Fund in evidence before the committee stating:

> "that Water Sharing Plans do not currently have salinity management as an objective. [169]"

8.9 The World Wildlife Fund gave evidence that salinity thresholds which impact upon biodiversity (approximately 600 EC) are not mentioned in the guidelines for assessing impacts of water trading on salinity. It was noted by the World Wildlife Fund that the impacts of increased salinity are potentially detrimental and currently, there are

> "no regulations under the *Water Management Act* to constrain the discretion of the Department of Infrastructure, Planning and Natural Resources beaurocrats to what sort of level of assessment is required."[170]

8.10 Additionally, the World Wildlife Fund would like to ensure that biodiversity is protected through water trading and that an adequate level of assessment at the catchment level for the purposes of the *Environmental Protection and Assessment Act* is implemented.

A whole-of-landscape approach

8.11 The committee has heard in evidence that as salinity management requires an integrated approach to catchment management aligns water management arrangements with landscape management.[171]

8.12 A submission from the (then) Minister for Agriculture and Fisheries stated, in relation to:

> "This term of reference should be looked at from another angle—that is, the potential impact of salinity management on water management. Salinity management practices have the potential to reduce flows in the river systems because of reduced overland flow as a result of increased vegetation growth and the use of perennial species. Water management planning processes need to be better integrated with the design and delivery of the Catchment Management Blueprints to avoid such contrary outcomes."[172]

8.13 The Irrigators Council stated in evidence that their key issue with 'resource management planning' is the 'lack of connection between the regional planning processes and an overarching State-wide process', from the start. The Irrigators Council were also concerned that water sharing and other natural resources committees have not had a direction or framework within which to work and that after

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169 Evidence before the committee, 13 May 2004.

170 Ibid.

171 Submission to the Inquiry.

172 Now the Department of Primary Industries.

natural resource planning is completed, Government promotes a 'new' framework where existing plans are no longer relevant.[173]

8.14 The Irrigators Council also argue that implementing necessary linkages to ensure an integrated approach to natural resource management was missing in the water reform process a meaningful and worthwhile community engagement process, as well as commitments and cost sharing arrangements (in particular relating to change management process)is required.

8.15 Better integration between water and landscape management was also raised in evidence by the CSIRO. The committee asked the CSIRO whether land use change which reduces available water could be considered an 'environmental allocation'. The CSIRO stated that as the government was intending to promote 'environmental flows', the environmental allocation would have to remain stable and not be permitted to be taken from the upper catchment:

> "taking water from the top – it must be put back in at the bottom."

8.16 The Chairs of the Murray, Murrumbidgee and Namoi Catchment Management Authorities gave evidence that whole-of-landscape approaches will be dealt with the under existing Catchment Blueprints which are approved to be the:

> "template for future investment of the National Action Plan for salinity water quality investments and Natural Heritage Trust Mark II investments."[174]

8.17 The Department of Infrastructure, Planning and Natural Resources staff supporting the Catchment Management Authorities stated that a mosaic approach and changes from annual crops to Lucerne has better water quality outcomes and that landuse option simulators (that develop a salinity index) can be used for any property. This program can be linked to a costing model from the Department of Primary Industries[175] which assists with formulating budgets and projecting financial returns for various mixes for landholders.

8.18 The Department of Infrastructure, Planning and Natural Resources also stated there may be opportunity to facilitate implementation of incentive schemes in the catchment and the program can be used to evaluate biodiversity outcomes.

8.19 The Catchment Management Authorities stated that annual cropping process and pasture cover influences river salinity and that a

> "sustainable landscape approach needs to enable outcomes to be clearly seen for investment dollars.[176]"

8.20 The Catchment Management Authorities claimed that, with regard to programs that support landscape management and decision making processes, applying an error margins is relevant to both land use changes and salinity impacts and that it is possible to

> "run a fairly simple (computer-program) system with a small safety margin built around accounting and land use change patterns as a result of the impact of the water available."[177]

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173 Evidence before the committee, 5 September 2004.

174 Evidence before the committee, 12 May 2004.

175 Incorporating the former Department of Agriculture.

176 op cit.

177 op cit.

8.21 The Department of Infrastructure, Planning and Natural Resources also gave evidence that the alternative is to build a sophisticated program that is designed to evaluate environmental impact assessments for every land use change.[178]

8.22 In evidence to the committee, Murrumbidgee Catchment Management Authority indicated they had identified 12 priority sub-catchments with a high salt load from dryland areas. A direct investment to highly salinised recharge areas and landuse change has been applied into those areas. They also stated that in Kyeamba catchment, there has been an initial investment in salinity abatement. [179]

8.23 On 22 June 2004, the House of Representatives Standing Committee on Agriculture Fisheries and Forestry tabled their report on future water supplies for rural industries and communities. This report, entitled *Getting water right[s] – the future of rural Australia* highlights the need for a comprehensive national vision for water which balances the needs of agriculture, the environment, and rural and urban communities.

8.24 The report identified the need to urgently determine the sustainable level of use of Australia's major working rivers and aquifers and makes 30 recommendations that appear to support the thrust of the National Water Initiative.

8.25 Some of the recommendations from this report include:

- introduction of national research policy to prioritise and coordinate all research activities on water;
- a ministerial portfolio with clear responsibility for the formulation and management of water policy at the federal level;
- national investment schemes to improve water use efficiency by facilitating investment in water infrastructure, both on-farm and off-farm; and,
- a national policy on the recycling and reuse of stormwater and treated effluent, and the mandatory installation of rainwater tanks subject to suitable health codes being in place.

8.26 By highlighting the need to urgently determine the sustainable use of working rivers and aquifers, the House of Representatives Committee report appears to be following the general direction of the principles for 'auditing of the health of all rivers' and develop whole-of-system water resource planning, accounting for all significant water use across landscapes.

8.27 The recommendations develop a national research policy is also in line with the World Wildlife Fund's call for a

> "well co-ordinated knowledge strategy."[180]

8.28 Knowledge and capacity building has been raised as part of the Agreement which lists an action to identify key science priorities to support implementation of the National Water Initiative and implement necessary measures to ensure the research effort is well coordinated and publicised – and addresses identified information gaps.

8.29 There may be an opportunity to address such issues through the National Water Initiative, as water plans are to be prepared to implement measures to address water

178 Evidence before the committee, op cit.

179 Ibid.

180 World Wildlife Fund website, op cit.

interception by land use change activities on a priority basis in accordance with water sharing plans.[181]

The role of the Catchment Management Authorities and the Natural Resources Commission

8.30 Catchment Management Authorities and the Natural Resources Commission have been set up under new institutional arrangements in NSW as a result of the Natural Resource Management Reforms based on recommendations provided in the final report of the Native Vegetation Reform Implementation Group.[182] The reforms are to deliver improvements in vegetation, soil and salinity management and will support the delivery of the National Action Plan.

8.31 The Department of Infrastructure, Planning and Natural Resources will lead delivery of the National Action Plan and National Heritage Trust through the Catchment Management Authorities to the seven priority regions within the Murray-Darling Basin Commission. The Catchment Management Authorities will implement Catchment Action Plan and Water Sharing Plans, which will have to meet state-wide standards and targets The Catchment Management Authorities and the Department of Infrastructure, Planning and Natural Resources will be supported by the Department of Environment and Conservation.

8.32 In evidence to the committee, the Chairs of the Catchment Management Authorities highlighted that the Environmental Water Trusts (now to be established under the *Water Management Amendment Act 2004*) would be able to sell water in drier year and buy back for seasonal flows, for floodplain flooding and wetland watering.

8.33 However, the World Wildlife Fund gave evidence that Catchment Management Authorities should not be a vehicle for "reducing the Minister for the Environment's concurrence powers" during the water management process.[183]

8.34 Catchment Action Plans and Water Sharing Plans reviewed and developed by Catchment Management Authorities will be audited by the Natural Resources Commission, established in 2003 under the *Natural Resources Commission Act*.

8.35 Over the past six months the Natural Resources Commission has been developing it's work program and will recommend state-wide standards and targets for natural resource management and in particular recommend approval of catchment action plans developed by the Catchment Management Authorities.

8.36 However, the Environmental Defenders Office raised concerns that the Natural Resources Commission is a 'body established within the context of The Department of Infrastructure, Planning and Natural Resources' and raised concerns about the Natural Resources Commission's independence.

8.37 The Environmental Defenders Office expressed the concerns regarding the terms of reference of the review by the Natural Resources Commission;

- that the Department of Environment and Conservation should continue to play a role in the water planning review process;[184] and

181 National Water Initiative Intergovernmental Agreement, www.coag.gov.au.

182 The Native Vegetation Reform Implementation Group Final Report, www.dipnr.nsw.gov.au.

183 Evidence before the committee, 13 May 2004.

184 Ibid.

- submits that the "Minister for the Environment's concurrence be obtained during the WSP extension process."[185]

8.38 The Natural Resources Commissioner assured the committee that the Natural Resources Commission is committed to providing independent advice to the NSW Government, drawing both the practical experience of those who manage our natural resources and the best available science and that the social and economic impacts of proposed recommendations will be part of the assessment. Existing plans (especially Catchment Blueprints) will inform the work of the Natural Resources Commission.[186]

8.39 It is also understood by the committee that:

- the Natural Resources Commission will operate "independently of government agencies" but is seeking advice and support through that process;
- the Department of Infrastructure, Planning and Natural Resources have established "whole-of-government processes to support the Murray-Darling Basin Commission" and that the Department of Environment and Conservation have been involved in these processes;
- four working committees have been established to look at standards and targets for biodiversity, conservation, repairing vegetation, source salinity and cultural heritage; and,
- the Department of Environment and Conservation, the Department of Infrastructure, Planning and Natural Resources and other agency representatives are on those working groups.

8.40 The Natural Resources Commission will audit the effectiveness of the implementation of catchment action plans in achieving state-wide standards and targets, undertake significant natural resource and conservation assessments or inquiries, assist in the reconciliation of natural resource management issues and advise the government on priorities for research.

8.41 The Natural Resources Commission has appointed National Management Consultants to advise it on processes and mechanisms to ensure that Indigenous interests are taken into account in natural resource management in NSW.[187]

8.42 Standards and targets of the Natural Resources Commission will include:

- guiding real improvements in environment condition and landscape productivity;
- focussing on getting value from limited money available;
- being realistic and achievable; and,
- utilising short and long term perspectives.

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185 Water Management Amendment Act 2004, A discussion paper, Environmental Defenders Office. www.edo.org.au.

186 Ibid.

187 Dr Tom Parry, Meeting 2 June 2004.

8.43 Short-term goals include:

- the development of catchment blueprints;
- finalisation of interim standards and targets needed to support/guide short term investments; and,
- to initially focus on native vegetation, as vegetation clearing is considered a major cause of land degradation in NSW.

8.44 As an ongoing goal, the Natural Resources Commission will:

- audit the catchment and water sharing frameworks;
- integrate environmental, social and economic impacts;
- develop an appropriate level for aspirational targets; and,
- expand focus from vegetation to include water and coastal issues.

Assessing water sharing plans for salinity impacts

8.45 The Nature Conservation Council also stated in evidence that as part of the clear and transparent rules encouraged by Government should involve clear assessment of any potential environmental impacts from trading from one part of the catchment to another. [188]

8.46 At the Local Government and Shires Association Water Conference in August 2004, the Department of Infrastructure, Planning and Natural Resources stated that under the new arrangements, Water Sharing Plans and Catchment Action Plans will be viewed as a total package and that Catchment Management Authorities will now be responsible for coordinating the Water Sharing Plans and administer the Water Conservation Trusts, which will have Environmental Water Licences. [189]

8.47 It was also stated by the Department at this conference that salinity impacts will be built into the review of Water Sharing Plans and Catchment Action Plans. The aim is to assess whether water extractions is impacting salinity targets at the catchment health level. It was also stated that Catchment Management Authorities will amend the plans and will also include local government input into catchment health.[190]

8.48 The Department has also stated that as the *Water Management Amendment Act* is intended to reflect the COAG agreement on the National Water Initiative, legislation will be introduced into Parliament during the Spring 2004 sittings, to make legislative changes dealing with matters removing barriers and permitting increased trade up to the interim limit.

The issue of compensation

8.49 Issues raised by the EDO relevant to the committee include perpetual rights, access licences and approvals that may open the door for compensation under s. 87.

8.50 The issue of compensation (Section 87,WMA) may be of relevance with regard to salinity impact. The committee raised the issue of 'what is to happen at the end of the Water Sharing Plans 10 year period, especially with regard to 'compensation payable

188 Evidence before the committee, 19 September 2003.

189 Peter Sutherland, DDG DIPNR, op cit.

190 Ibid.

for reductions in water allocations arising from Minister's amendments of management plan'.

8.51 Section 87 provides for the holder of an access licence (other than a supplementary water access licence) whose water allocations are reduced as a consequence of the variation of a bulk access regime [BAR], to claim compensation for loss suffered by the holder as a consequence of that reduction.

8.52 However, compensation may not be claimed if the variation of the bulk access regime results from:

- a management plan that has been made in relation to a water management area for which a bulk access regime has not been established by any other management plan; or
- a management plan that has been made on the basis of a draft management plan prepared by a management committee, and is in the form in which it was finally submitted to the Minister by the committee, as referred to in section 41 [1] [a]; or
- a management plan that has been amended by the Minister in accordance with section 42 [2].[191,192]

8.53 Under the new arrangements, the principle has been established that access entitlement holders should "bear associated risks" (eg drought, climate change) as well as risks associated with 'bona fide improvements in the knowledge of water systems' capacity to sustain particular extraction levels and that Government should bear the risks associated with changes to water access entitlements not previously provided for and that arise from changes in government policy . This may include new environmental objectives, such as salinity management. [193]

8.54 The Environmental Defenders Office suggest the primary circumstance in which the payment of compensation is contemplated, relates to the reduction of water allocations as a consequence of the variation of the bulk access regime that has not resulted from the establishment of a management plan and interpret section 87[2][a] of the WMA as applying to "where a bulk access regime has not been established" however, argue that compensation "could apply if a management plan has expired."[194]

8.55 The Environment Defenders Offices also states that:

- "almost any alteration to bulk access regimes associated with a management plan will be protected from compensation;"

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191 Subsection [3] states that the regulations may make provision for or with respect to the manner and form in which such a claim is to be made and subsection [4] the Minister may determine whether or not compensation should be paid and, if so, the amount of any such compensation and the manner and timing of any such payments.

192 Subsections [5] and [6] relate how the amount of such compensation is to be determined on the advice of the Valuer-General, who is to have regard to the market value of the water foregone to the claimant for compensation as a consequence of the variation of the bulk access regime. Subsection [7] states that a person who is dissatisfied with the amount of compensation offered to the person under this section, or with any delay in the payment of compensation, may appeal to the Land and Environment Court and subsection [8] states that payment of compensation under this section is to be made out of the Consolidated Fund which is, to the extent necessary, appropriated accordingly.

193 CEDA, 2004, Chapter 2, op cit.

194 Environmental Defenders Office, *Water Management Amendment Act 2004*, A discussion paper. Op cit.

- proposed amendments to the duration of Water Sharing Plans that establish the bulk access regimes(presume that the plan will be extended) and therefore, raise the uncertainty of section 87[2][b]; and,
- "an amendment to the bulk access regime made by the minister in the public interest may be compensable", possibly acting as a deterrent to the minister exercising his power to amend the bulk access regime on that ground.[195]

8.56 The Environmental Defenders Office stated that NSW may prefer to cap the amount of 'uncompensated change in a 10 year period' and that The Department of Infrastructure, Planning and Natural Resources may need to be transparent about proposed roll over process at the five and ten year reviews respectively, highlighting to the stakeholders what options currently exist.[196]

8.57 The current framework for compensation is based on the existence of 'prescribed period licences'. At the end of a licence term, the minister has the discretion not to renew a licence for reasons that may relate to 'the environmental health of a water source'.[197] The committee assumes this includes for salinity management.

8.58 The National Water Initiative developed a response to a range of options for 'risk sharing split' in response to whether the reduction in entitlement is due to 'government policy' or scientific knowledge and climate change.

8.59 One issue for the impacts of water trading arrangements upon salinity management is that the 'rolling over' of approvals appears to "deny Government and stakeholders the opportunity to review the environmental impacts of activities that may have been approved in a policy/practical climate where such concerns where not of primary relevance to the decision maker."[198]

8.60 In the interest of salinity impact assessment the committee notes the EDO issue that:

- approvals should not continue to be "rolled over" indefinitely
- only one extension being granted without an environmental impact assessment – for a finite period only .

8.61 The Agreement highlights the importance of dealing with community partnerships and adjustments in dealing with returning over allocated systems to sustainable extraction levels reviewing water plans, providing information in relation to progress of implementation of water plans and addressing significant adjustment issues that may arise from reductions in water availability through implementing the National Water Initiative.

8.62 The Department of Infrastructure, Planning and Natural Resources has stated that an outcome of the National Water Initiative has resulted in irrigators agreeing to bear the first 3% of any adjustments required as part of water sharing amendments, with Commonwealth and State governments assisting after 3% has been reached.

195 Ibid.
196 Environmental Defenders Office, op cit.
197 Ibid.
198 Ibid.

RECOMMENDATION 8: That the Minister for Infrastructure and Planning and the Minister for Natural Resources report annually to the Parliament on the environmental and socio-economic issues that result from the audit of the Water Sharing Plans and Catchment Action Plans by the Natural Resources Commission.

Chapter Nine - Concluding Comments

9.1 This inquiry has evaluated the impacts of water management arrangements on salinity management. Evidence taken from this inquiry highlights that given the competing demands on the resource from consumptive use and the environment, that water management issues are complex and there is still some way to go before the sustainable and wise use of our water resources will be achieved.

9.2 It is clear from the evidence that water trading may provide overall improvement in the environment and natural resource base and as a result, water trading is being promoted at both the national and state level with the clear aim of making the best use of the environment, economic and social values of the nation's most precious natural resource.

9.3 The inquiry has found that as a result of improved knowledge about the environment's capacity to handle introduced practices, considerable evolution has taken place in water management policy and law over the past decade.

9.4 The COAG reforms have set the scene for new institutional arrangements at the national and state levels to ensure that both environmental, economic and social needs are being met by water management policy and practice. COAG continues to recognise the imperative of increasing the productivity and efficiency of Australia's water use and ensuring the health of river and groundwater systems.

9.5 The National Water Initiative aims to take the COAG reforms a further step and by ensuring States progress with regards to dealing with issues of risk, ensuring ecosystem health on a catchment and basin scale, expansion of water markets and water conservation and efficiency.

9.6 The CSIRO advocates the need for 'robust institutional arrangements' to manage Australia's water resource problems. The National Water Initiative Intergovernmental Agreement aims to deliver institutional arrangements that deal with accounting for water resources (i.e., robust water accounting; environmental water accounting; metering and measuring actions and developing and applying national guidelines on water reporting).

9.7 The CSIRO and ABARE support institutional arrangements that manage salinity impacts. The World Wildlife Fund support the establishment of a salinity credits scheme that does not create biodiversity issues.

9.8 It appears that many of the issues and concerns raised in evidence may be dealt with under the National Water Initiative Intergovernmental Agreement which has influenced the development of existing water management arrangements in NSW. However, the activity of the water management agencies and other interest groups in progressing the reforms, will need to be monitored and engaged.

9.9 At the State level, it is clear that the water sharing process is crucial to deal with unintended salinity impacts that may arise from water trading. It is clear that water sharing plans must have rules that protect environmental water from water trading and have arrangements that are flexible and adaptive based on discretion and best available information with regards to catchment standards and targets.

9.10 Additionally, rules detailed in water sharing plans are intended to govern the sharing of the water available for extraction among users. Water Sharing Plans will be

reviewed annually by the Catchment Management Authorities, with the Natural Resources Commission conducting an independent audit after five years.

9.11 The committee is of the view that the introduction in the Spring 2004 sitting legislation to deal with matters arising out of the National Water Initiative provides an opportunity to ensure that salinity objectives are included in the water sharing process.

9.12 This committee is also of the view that, due to the uncertainty of how the plans will perform, natural and expected variability in the systems and changes in scientific knowledge, Water Sharing Plans must be underpinned by the principles of adaptive management in order to ensure ecosystems are managed appropriately.

9.13 The committee is of the view that the water sharing review process is an opportunity to apply adaptive management principles over the next five to ten years, using best scientific principles supported by the joined services of the Department of Infrastructure, Planning and Natural Resources and the Department of Environment and Conservation and assessment by the Natural Resources Commission as these agencies strive to assist the Catchment Management Authorities in their new role as water managers.

Minutes

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 1)

Wednesday 21 May 2003 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

The Clerk of the Legislative Assembly opened the first meeting of the committee and read the following extract from the Votes and Proceedings of Thursday 8 May 2003, entry 17 (10)--

"Standing Committee on Natural Resource Management

(1) That a standing committee be appointed to inquire into and report from time to time on the following terms of reference:

  (a) current disincentives that exist for ecologically sustainable land and water use in New South Wales;

  (b) options for the removal of such disincentives and any consequences in doing so;

  (c) approaches to land use management on farms which both reduce salinity and mitigate the effects of drought;

  (d) ways of increasing the up-take of such use management practices;

  (e) the effectiveness of management systems for ensuring that sustainability measures for the management of natural resources in New South Wales are achieved;

  (f) the impact of water management arrangements on the management of salinity in NSW.

(2) That the committee consist of Ms Allan, Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

(3) That the committee have power to make visits of inspection within New South Wales and other States and Territories of Australia."

Election of Chairman

Resolved, on the motion of Mr Amery, seconded by Mr McGrane:

That Ms Allan be elected Chairman of the Committee.

Ms Allan made her acknowledgments to the committee.

Procedural Motions

Resolved, on motion (in globo) of Ms Allan, seconded by Mr Page:

(a) That arrangements for the calling of witnesses and visits of inspection be left in the hands of the Chairman and the Committee Manager to the Committee.

(b) That, unless otherwise ordered, parties appearing before the Committee shall not be represented by any member of the legal profession.

(c) That, unless otherwise ordered, when the Committee is examining witnesses, the press and public (including witnesses after examination) be admitted to the sitting of the Committee.

(d) That persons having special knowledge of the matters under consideration by the Committee may be invited to assist the Committee.

(e) That press statements on behalf of the Committee be made only by the Chairman after approval in principle by the Committee or after consultation with Committee members.

(f) That, unless otherwise ordered, access to transcripts of evidence taken by the Committee be determined by the Chairman and not otherwise made available to any person, body or organisation: provided that witnesses previously examined shall be given a copy of their evidence; and that any evidence taken in camera or treated as confidential shall be checked by the witness in the presence of the Committee Manager to the Committee or another officer of the Committee.

(g) That the Chairman and the Committee Manager to the Committee be empowered to negotiate with the Speaker through the Clerk of the Legislative Assembly for the provision of funds to meet expenses in connection with advertising, operating and approved incidental expenses of the Committee.

(h) That the Chairman be empowered to advertise and/or write to interested parties requesting written submissions.

(i) That upon the calling of a division or quorum in the House during a meeting of the Committee, the proceedings of the Committee shall be suspended until the Committee again has a quorum.

(j) That the Chairman and the Committee Manager make arrangements for visits of inspection by the committee as a whole and that individual members wishing to depart from these arrangements be required to make their own arrangements.

(k) That pursuant to Standing Order 338, evidence, submissions or other documents presented to the committee which have not been reported to the House not be disclosed or published by any Member of the Committee or by any other person.

Secretariat

The Clerk of the Legislative Assembly informed the committee on staffing arrangements and introduced the officers of the secretariat.

General Business

a. The Chairman advised of tentative arrangements for the Minister for Natural Resources to brief the committee at its next meeting.

b. The committee agreed on Wednesdays at 11am as a regular meeting time during sitting weeks.

The committee adjourned at 11.20am until Wednesday 28 May 2003 at 11.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 2)

Wednesday 28 May 2003 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Minutes

Resolved, on the motion of Mr Page, seconded by Mr McGrane:

That the minutes of the meeting held on Wednesday 21 May 2003, as amended, be confirmed.

Terms of Reference

The committee deliberated over the terms of reference and possible approaches to and sequences of conducting inquiries.

Resolved, on the motion of Mr Page, seconded by Martin:

That the committee advertise all the terms of reference together.

Briefing by Minister for Natural Resource Management

The Minister for Natural Resource Management was admitted and briefed the committee on natural resource management issues.

The committee adjourned at 12.05 pm until Wednesday 18 June 2003 at 11.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 3)

Wednesday 25 June 2003 at 11.00 am

Parliament House

Members Present

Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Apology

An apology was received from Ms Allan.

Election of Acting Chairman

Resolved, on the motion of Mr McGrane, seconded by Mr Aplin:

That, in the absence of the Chairman, Mr Amery be elected Acting Chairman of the Committee.

Minutes

Resolved, on the motion of Mr Aplin, seconded by Mr McGrane:

That the minutes of the meeting held on Wednesday 28 May 2003 be confirmed.

Briefing by Mr Peter Cosier

Mr Peter Cosier, Environmental Policy Specialist of the World Wide Fund Australia and member of the "Wentworth Group", was admitted and briefed the committee on proposals prepared by the Wentworth Group for reforms to halt the further degradation of Australia's landscapes.

The committee adjourned at 12.20 pm until Thursday 26 June 2003 at 1.00 pm.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 4)

Thursday 26 June 2003 at 1.00 pm

Parliament House

Members Present

Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Apology

An apology was received from Ms Allan.

Election of Acting Chairman

Resolved, on the motion of Mr Page, seconded by Mr Aplin:

That, in the absence of the Chairman, Mr Amery be elected Acting Chairman of the Committee.

Minutes

Resolved, on the motion of Mr Martin, seconded by Mr Page:

That the minutes of the meeting held on Wednesday 25 June 2003 be confirmed.

Briefing by Dr David Karoly

Dr David Karoly, Williams Chair and Professor of Meteorology, University of Oklahoma, was admitted and briefed the committee on the contribution of global warming to the severity of the 2002 Australian drought.

The committee adjourned at 1.50 pm until Wednesday 2 July 2003 at 11.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 5)

Wednesday 3 September 2003 at 10.00 am

Parliament House

Members Present

Ms Allan, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Apology

An apology was received from Mr Amery.

Public Hearing

The press and public were admitted.

Mr Colin Mues, Research Development Manager - Natural Resource Economics, Australian Bureau of Agricultural and Resource Economics, sworn and examined.

Evidence concluded, the witness and public withdrew.

The committee adjourned at 11.18 am until Thursday 4 September 2003 at 10.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 6)

Thursday 4 September 2003 at 10.00 am

Parliament House

Members Present

Ms Allan, Mr Aplin, Mr Martin and Mr McGrane.

Apologies

Apologies were received from Mr Amery and Mr Page.

Public Hearing

The press and public were admitted.

Dr Chris Guest, Acting Director General, and Mr Des Cleary, General Manager – Water Management Act Implementation, of the Department of Infrastructure, Planning and Natural Resources, both affirmed and examined.

Evidence concluded, the witnesses and public withdrew.

Publication of Evidence

Resolved, on the motion of Mr Aplin, seconded by Mr McGrane:

That the committee authorises, under section 4(2) of the Parliamentary Papers (Supplementary Provisions) Act 1975, the publication of uncorrected evidence given before it on 3 and 4 September 2003.

The committee adjourned at 11.44 am until Friday 5 September 2003 at 10.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 7)

Friday 5 September 2003 at 10.00 am

Parliament House

Members Present

Ms Allan, Mr Aplin and Mr McGrane.

Apologies

Apologies were received from Mr Amery, Mr Martin and Mr Page.

Minutes

Resolved, on the motion of Mr McGrane, seconded by Mr Aplin:

That the minutes of the meeting held on 26 June and 3 and 4 September 2003 be confirmed.

Public Hearing

The press and public were admitted.

Mr Douglas Miell, Executive Director and Ms Jacqueline Knowles, Policy Analyst, NSW Irrigator's Council, both sworn and examined

Evidence concluded, the witnesses and public withdrew.

Publication of Minutes

Resolved, on the motion of Mr Aplin, seconded by Mr McGrane:

That the committee authorises, under section 4(2) of the Parliamentary Papers (Supplementary Provisions) Act 1975, the publication of the confirmed minutes of previous meetings.

Publication of Evidence

Resolved, on the motion of Mr Aplin, seconded by Mr McGrane:

That the committee authorises, under section 4(2) of the Parliamentary Papers (Supplementary Provisions) Act 1975, the publication of uncorrected evidence given before it on 3, 4 and 5 September 2003.

The committee adjourned at 11.30am until Wednesday 17 September 2003 at 10.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 8)

Wednesday 17 September 2003 at 10.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Chairman

Mr Page moved, seconded by Mr Aplin:

That Ms Allan stand aside as chairman of this committee.

Question put and negatived.

Public Hearing

Resolved, on the motion of Mr Martin, seconded by Mr Amery:

That the press and public be admitted to the hearing.

The press and public were admitted.

Mr Michael Keogh, General Manager and Mr Andrew Huckel, Senior Analyst, both of the National Farmers' Federation, both sworn and examined.

Evidence concluded, the witnesses and public withdrew.

The committee adjourned at 11.06 am until Thursday 18 September 2003 at 10.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 9)

Thursday 18 September 2003 at 10.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Study Tours

The committee deliberated.

Resolved, on the motion of Mr Page, seconded by Mr McGrane:

That a delegation of the committee attend the 9th National Conference of PUR$L on the prevention and rehabilitation of salinity from 29 September to 2 October 2003, Yeppoon.

Resolved, on the motion of Mr McGrane, seconded by Mr Martin:

That the chairman, Mr Page and an officer of the committee secretariat undertake an overseas study tour to Egypt as per submission to the Speaker.

Public Hearing

The press and public were admitted.

Dr Mike Young, Director – Policy and Economic Research Unit of the CSIRO, affirmed and examined.

Evidence concluded, the witness and public withdrew.

The committee adjourned at 11.10 am until Friday 19 September 2003 at 10.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 10)

Friday 19 September 2003 at 10.00 am

Parliament House

Members Present

Ms Allan, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Apology

An apology was received from Mr Amery.

Public Hearing

The press and public were admitted.

Dr Don Blackmore, Chief Executive – Murray Darling Basin Commission, affirmed and examined.

Evidence concluded.

Ms Samantha Newton, Catchment Management Officer and Ms Rachel Young, Water Policy Officer, both of the Nature Conservation Council of NSW, both affirmed and examined.

Evidence concluded, the witnesses and public withdrew.

Deliberation

The committee deliberated on a proposed visit of inspection of examples of conservation farming practices in the Central West of NSW and attendance at the STIPA Native Grasses Association conference, both to be held in November.

Minutes

Resolved, on the motion of Mr McGrane, seconded by Mr Aplin:

That the minutes of the meetings held on 5, 17 and 18 September 2003 be confirmed.

Publication of Evidence and Minutes

Resolved, on the motion of Mr Martin, seconded by Mr Page:

- That the committee authorises, under section 4(2) of the Parliamentary Papers (Supplementary Provisions) Act 1975, the publication of uncorrected evidence given before it on 17, 18 and 19 September 2003; and
- That the committee authorises, under section 4(2) of the Parliamentary Papers (Supplementary Provisions) Act 1975, the publication of the confirmed minutes of the meetings held on 5, 17 & 18 September 2003.

The committee adjourned at 11.43 am until Wednesday 15 October 2003 at 10.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 11)

Wednesday 15 October 2003 at 10.30 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Martin and Mr McGrane.

Apology

An apology was received from Mr Page.

Minutes

Resolved, on the motion of Mr Martin, seconded by Mr Aplin:

- That the minutes of the meeting held on 19 September 2003 be confirmed; and

- That the committee authorises, under section 4(2) of the Parliamentary Papers (Supplementary Provisions) Act 1975, the publication of the confirmed minutes of the meeting held on 19 September 2003.

Deliberation

- The committee decided to postpone the proposed visit of inspection of examples of conservation farming practices in the Central West of NSW until April 2004.
- The committee sought expressions of interest in attendance at the STIPA Native Grasses Association conference to be held in Cooma, 26-28 November 2003.
- Mr McGrane gave a verbal report on attendance at the 9th National Conference of PUR$L on the prevention and rehabilitation of salinity held in Yeppoon, 29 September to 2 October 2003.

The committee adjourned at 10.40 am until Friday 17 October 2003 at 10.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 12)

Friday 17 October 2003 at 10 am

Parliament House

Members Present

Mr Aplin, Mr Martin and Mr McGrane.

Apologies

Apologies were received from Ms Allan, Mr Amery and Mr Page.

Election of Acting Chairman

Resolved, on the motion of Mr McGrane, seconded by Mr Aplin:

That, in the absence of the Chairman, Mr Martin be elected Acting Chairman of the Committee.

Public Hearing

The press and public were admitted.

Mr Richard Thompson, Chairman – Murrumbidgee Irrigation and Mr George Warne, Chief Executive Officer – Murray Irrigation, both sworn and examined.

Evidence concluded, the witnesses and public withdrew.

The committee adjourned at 11.05 am until Friday 31 October 2003 at 10.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 13)

Friday 31 October 2003 at 10 am

Parliament House

Members Present

Ms Allan, Mr Aplin, Mr Martin and Mr Page.

Apologies

Apologies were received from Mr Amery and Mr McGrane.

Public Hearing

The press and public were admitted.

Mr Ross Carter, Acting Assistant Director-General – Water and Air, and Mr James White, Chief Analyst – Economic and Environment Reporting, of the Department of Environment and Conservation, both affirmed and examined.

Evidence concluded, the witnesses and public withdrew.

Minutes

Resolved, on the motion of Mr Aplin, seconded by Mr Martin:

That the minutes of the meetings held on 15 and 17 October 2003 be confirmed.

Publication of Evidence and Minutes

Resolved, on the motion of Mr Page, seconded by Mr Aplin:

- That the committee authorises, under section 4(2) of the Parliamentary Papers (Supplementary Provisions) Act 1975, the publication of uncorrected evidence given before it on 17 and 31 October 2003; and
- That the committee authorises, under section 4(2) of the Parliamentary Papers (Supplementary Provisions) Act 1975, the publication of the confirmed minutes of the meetings held on 19 September 2003 and 15 & 17 October 2003.

Native Grasses Association

Resolved, on the motion of Mr Martin, seconded by Mr Page:

That Mr McGrane and an officer of the secretariat attend the STIPA Native Grasses Association conference to be held in Cooma, 26-28 November 2003.

Briefing – Carefree Water Conditioners

Dr David Stone, Project Leader – Groundwater Mass Spectrometry Environment of ANSTO, and Dr John Bradd, National Co-ordinator – Australian Salinity Action Network, were admitted and briefed the committee on preliminary findings of trials being undertaken on the use of Carefree water conditioners in rehabilitating saline soils at Wagga Wagga.

The committee adjourned at 11.10 am, sine die.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 14)

Wednesday 19 November 2003 at 4.00 pm

Parliament House

Members Present

Ms Allan, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Apology

An apology was received from Mr Amery.

Minutes

Resolved, on the motion of Mr Page, seconded by Mr Aplin:

- That the minutes of the meeting held on 31 October 2003 be confirmed; and

- That the committee authorises, under section 4(2) of the Parliamentary Papers (Supplementary Provisions) Act 1975, the publication of the confirmed minutes of the meeting held on 31 October 2003.

Project Officer

The committee was informed of the resignation of its Project Officer Ms Christina Thomas.

Resolved, on the motion of Mr Page, seconded by Mr McGrane:

- That the committee place on record its appreciation of the work of Ms Thomas for the committee and of her work for the former Select Committee on Salinity.
- That the committee convey this resolution in writing to Ms Thomas.

The proposed recruitment action was outlined.

The committee agreed to invite Ms Thomas to its next meeting for a briefing on the current inquiry.

Deliberation

The committee agreed to seek expressions of interest from members for:

- "The Power of Water" conference of Commonwealth Royal Agricultural Societies, in Albury - March 2004; and
- The 13th conference of the International Soil Conservation Organisation, in Brisbane – July 2004.

The committee adjourned at 4.20 pm until Wednesday 3 November 2003 at 4.00 pm.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 15)

Wednesday 3 December 2003 at 4.00 pm

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Minutes

Resolved, on the motion of Mr Aplin, seconded by Mr Amery:

That the minutes of the meeting held on 19 November 2003 be confirmed.

Briefing

The former Project Officer, Ms Christina Thomas, briefed the committee on the research she had undertaken, possible approaches for a draft report on the current inquiry and the next inquiry the committee may wish to undertake.

Central West Study Tour

Resolved, on the motion of Mr Martin, seconded by Mr McGrane:

That the committee undertake a study tour of members of the Central Western Conservation Farms Association from 28 – 30 April 2004.

Deliberation

- The committee agreed to advertise terms of reference (c) and (d) together as its next inquiry;
- The committee was updated on recruitment action for the Project Officer position; and

- The committee agreed to invite staff of the Audit Office and the Productivity Commission for a briefing on their "environmental" work with a view to possible suggestions for conducting environmental audits.

The committee adjourned at 4.45 pm until Wednesday 18 February 2004 at 11 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 16)

Wednesday 18 February 2004 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr McGrane and Mr Page.

Apology

Mr Martin.

Minutes

Resolved, on the motion of Mr Page, seconded by Mr Aplin:

That the minutes of the meeting held on 3 December 2003 be confirmed.

Business Arising from the Minutes

- The committee requested a draft itinerary of the proposed Central West study tour for consideration at the next meeting.
- The committee agreed to invite officers of the Productivity Commission and the Audit Office to brief the committee at its next two meetings on results of environmental audit work in relation to the effectiveness and value of the vast sums of money spent on various environmental programmes and to suggest areas for conducting further audits.

Project Officer

The newly appointed Project Officer Ms Louise Armstrong was introduced.

Deliberation

- The committee discussed completing a report on water management and requested the secretariat to prepare possible directions for the report, including a salinity update;
- The committee requested a proposed work plan for the year.

The committee adjourned at 11.50 am until Wednesday 25 February 2004 at 11 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 17)

Wednesday 25 February 2004 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Briefing

Dr Neil Byron, Commissioner, Productivity Commission, was admitted and briefed the committee on the work of the Productivity Commission and some of its research reports on environmental matters and discussed potential indicators of environmental health.

Minutes

Resolved, on the motion of Mr Amery, seconded by Mr Page:

That the minutes of the meeting held on 18 February 2004 be confirmed.

Deliberation

- The committee discussed details for the proposed study tour of certain Central West farms and revised the dates to 28 and 29 April 2004;
- The committee was circulated a suggested work plan for the year and a brief on matters for inclusion on the proposed report on water management.

The committee adjourned at 12.25 pm until Wednesday 10 March 2004 at 11 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 18)

Wednesday 10 March 2004 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Briefing

Mr Bob Sendt, Auditor General, and Mr Tony Whitfield, Deputy Auditor General, briefed the committee with regard to the scope of the work of the Audit Office generally and specifically in regard to environmental programs.

Discussion then followed on data concerning natural resource management issues and possible exchange of information between the committee and the Audit Office.

Minutes

Resolved, on the motion of Mr Aplin, seconded by Mr Page:

That the minutes of the meeting held on 25 February 2004 be confirmed.

Youth Committee Debate

The committee noted an invitation for the committee members to participate in a Special Youth Committee debate on "Sustaining the Darling River" sponsored by the Global Rivers Environmental Education Network on 18 May 2004 as a part of Law Week.

Commonwealth Agriculture Conference

Resolved, on the motion of Mr Aplin, seconded by Mr McGrane:

That Mr Aplin, Mr Martin, McGrane and a staff member attend the 21st Commonwealth Agriculture Conference called "The Power of Water" in Albury, 24 – 27 March 2004.

Central West Study Tour

Resolved, on the motion of Mr Martin, seconded by Mr McGrane:

That the Committee undertake a study tour of certain Central West farms on 28 and 29 April 2004.

The committee adjourned at 12.05 pm until Wednesday 17 March 2004 at 11 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 19)

Wednesday 17 March 2004 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin and Mr McGrane.

Apologies

Mr Martin and Mr Page.

Minutes

Resolved, on the motion of Mr McGrane, seconded by Mr Aplin:

That the minutes of the meeting held on 10 March 2004 be confirmed.

Deliberation

- The committee noted a report on the work plan for the preparation of a draft report on March 31, as to a revised version of the report on the impacts of water management arrangements and salinity, which will incorporate recent developments. The committee also agreed on the taking of further evidence from the Department of Environment and Conservation, the Department of Infrastructure, Planning and Natural Resources, certain Catchment Management Authorities and the World Wildlife Fund during May 2004.
- The committee agreed to advertise the next inquiry into the terms of references (c) and (d).
- The Chairman sought expressions of interest from members for attendance at the 13th International Soil Conservation Organisation [ISCO] Conference to be held in Brisbane in 4 –9 July 2004.

The committee adjourned at 11.20 am until Wednesday 31 March 2004 at 11 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 20)

Wednesday 31 March 2004 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Martin and Mr Page.

Apology

Mr McGrane.

Minutes

Resolved, on the motion of Mr Page, seconded by Mr Aplin:

That the minutes of the meeting held on 17 March 2004 be confirmed.

Deliberation

- Committee members were reminded of their invitation to participate in a Special Youth Committee debate on "Sustaining the Darling River" on 18 May 2004 at Parliament House sponsored by the Global Rivers Environmental Education Network.
- Arrangements for the visit of inspection to certain Central West farms on 28 and 29 April 2004 were finalised and the itinerary distributed.
- The committee noted correspondence from Wendy Murray dated 24 March 2004 and an enclosed article from *The Northern Daily Leader* of 8 March 2004.
- Expression of interests was received from Mr Aplin and Mr Martin for attendance at the 13th ISCO Conference to be held in Brisbane in 4 –9 July 2004.
- The committee noted correspondence from Jenny Lindell, MP, Chair of the Environment and Natural Resources Committee of the Victorian Parliament inviting the committee to attend the 2004 National Conference of Parliamentary Environment and Public Works Committees in Victoria from 11 – 14 July 2004. The Chairman then invited expressions of interest from members for attendance at the conference.

General Business

Mr Aplin and the Project Officer reported on their attendance at the 21st Commonwealth Agriculture Conference "The Power of Water" in Albury, 24 – 27 March 2004. The Project Officer also circulated a briefing note on the various papers presented and the issues raised during the conference.

The committee adjourned at 11.35 am until Wednesday 28 April 2004 at 9.20 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 21)

Wednesday 5 May 2004 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Public Hearing

The press and public were admitted.

Mr Ross Carter, Director – Environment and Conservation Policy, on former affirmation and Mr Michael Wright, Acting Director – Reserves and Wildlife Conservation, affirmed, both of the Department of Environment and Conservation examined.

Evidence concluded, the witnesses and public withdrew.

Deliberation

The committee deliberated on expressions of interest for the attendance of members at: the ISCO conference in Brisbane, 4 – 9 July 2004; National Conference of Parliamentary Environment and Public Works Committees in Victoria, 11 – 14 July 2004; and the Local Government Association Water Management Conference in Moama, 10 – 12 August 2004.

The committee adjourned at 12 noon until Wednesday 12 May 2004 at 11.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 22)

Wednesday 12 May 2004 at 11.00 am

Parliament House

Members Present

Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Apologies

Apologies were received from Ms Allan and Mr Amery.

Election of Acting Chairman

Resolved, on the motion of Mr McGrane, seconded by Mr Aplin:

That, in the absence of the Chairman, Mr Martin be elected Acting Chairman of the Committee.

Briefing

The Hon. Craig Knowles, MP, Minister for Infrastructure and Planning, and Minister for Natural Resources and Ms Jennifer Westacott, Director-General of the Department of Infrastructure and Planning, and Minister for Natural Resources, were admitted and briefed the committee on the priority issues of the portfolio.

Public Hearing

The press and public were admitted.

Mr Kelvin Baxter, Farmer and Chairman – Murray Catchment Authority, sworn; Mr Lee O'Brien, Farmer and Chairman – Murrumbidgee Catchment Authority, affirmed; Mr James McDonald Farmer and Chairman – Namoi Catchment Authority, sworn; Dr John Searson, General Manager - Murrumbidgee Catchment Authority, affirmed; and Mr Anthony Page, Landscape Manager Namoi, Barwon Region of the Department of Infrastructure and Planning, and Minister for Natural Resources, sworn and all examined.

Evidence concluded, the witnesses and public withdrew.

Minutes

Resolved, on the motion of Mr McGrane, seconded by Mr Aplin:

That the minutes of the meetings held on 31 March and 5 May 2004 be confirmed.

Publication of Evidence and Minutes

Resolved, on the motion of Mr Aplin, seconded by Mr McGrane:

- That the committee authorises, under section 4(2) of the Parliamentary Papers (Supplementary Provisions) Act 1975, the publication of uncorrected evidence given before it on 5 and 12 May 2004; and

- That the committee authorises, under section 4(2) of the Parliamentary Papers (Supplementary Provisions) Act 1975, the publication of the confirmed minutes of the meetings held on 31 March and 5 May 2004.

The committee adjourned at 12.58 pm until Thursday 13 May 2004 at 11.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 23)

Thursday 13 May 2004 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin and Mr Martin.

Apologies

Apologies were received from Mr McGrane and Mr Page.

Minutes

Resolved, on the motion of Mr Martin, seconded by Mr Aplin:

That the minutes of the meeting held on 12 May 2004 be confirmed.

Public Hearing

The press and public were admitted.

Dr Helen Foard, Fresh Water Manager, affirmed; Dr Stuart Blanch, Fresh Water Manager, sworn; Dr Warwick Moss, Economic Policy Officer, affirmed; all of the World Wide Fund for Nature examined.

Evidence concluded, the witnesses and public withdrew.

Attendance at Conferences

Resolved, on the motion of Mr Amery, seconded by Mr Martin:

- A delegation of one committee member and an officer of the secretariat attend the 13th International Soil Conservation Organisation Conference to be held from 4 to 9 July 2004 in Brisbane; and

- A delegation of three committee members and an officer of the secretariat attend the National Conference of Parliamentary Environment and Public Works Committees to be held from 11 to 14 July 2004 in Melbourne and Lorne.

The committee adjourned at 12.25 pm until Wednesday 2 June 2004 at 11.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 24)

Wednesday 2 June 2004 at 11.00 am

Parliament House

Members Present

Mr Amery, Mr Aplin, Mr Martin, Mr McGrane and Mr Page.

Apology

An apology was received from Ms Allan.

Election of Acting Chairman

Resolved, on the motion of Mr Amery, seconded by Mr McGrane:

That, in the absence of the Chairman, Mr Martin be elected Acting Chairman of the meeting.

Minutes

Resolved, on the motion of Mr McGrane, seconded by Mr Aplin:

That the minutes of the meeting held on 13 May 2004 be confirmed.

Deliberation

- The Project Officer briefed the committee on a proposed outline of the draft report on water management arrangements;
- The committee discussed the next inquiry and agreed to advertise a call for submissions on terms of reference (c) and (d) with a closing date for submissions of 26 July 2004.
- Resolved, on the motion of Mr Aplin, seconded by Mr McGrane:
- That the committee and an officer of the secretariat attend the Water Management Conference to be held from 10 to 12 August 2004 in Moama; and
- Resolved, on the motion of Mr Page, seconded by Mr McGrane:
- That the committee and an officer of the secretariat undertake a visit of inspection to the Fitzroy River Basin (Queensland) to examine the model of the Fitzroy River Catchment Association and the community consultation processes in managing salinity in the catchment.

Briefing

Dr Tom Parry, Natural Resources Commissioner, accompanied by Alex McMillan, Executive Director, and Liz Livingstone, Policy Manager, of the Natural Resources Commission were admitted and briefed the committee on the priority issues for the Murray-Darling Basin Commission.

The committee adjourned at 12.10 pm until Wednesday 23 June 2004 at 11.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 25)

Wednesday 23 June 2004 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Martin and Mr McGrane.

Apologies

Apologies were received from Mr Aplin and Mr Page.

Minutes

Resolved, on the motion of Mr Martin, seconded by Mr McGrane:

That the minutes of the meeting held on 2 June 2004 be confirmed.

Consideration of Draft Report on Visit of Inspection to Central Western New South Wales

Resolved, on the motion of Mr McGrane, seconded by Mr Martin:

That a draft report on the visit of inspection to Central Western New South Wales be adopted subject to circulation to members and including any amendments members may propose in writing to the Chairman.

Consideration of Draft Report on Attendance at Conferences

Resolved, on the motion of Mr McGrane, seconded by Mr Martin:

That a draft report on attendance at the 9th PUR$L conference and the 21st Commonwealth Agricultural Conference be adopted subject to circulation to members and including any amendments members may propose in writing to the Chairman.

Briefing on the Draft Report on the Impact of Water Management Arrangements on the Management of Salinity

The committee deliberated on the issues proposed for inclusion in the draft report.

Resolved, on the motion of Mr McGrane, seconded by Mr Amery:

That the committee endorse and authorise the Chairman to forward the circulated draft letter to the Minster for Infrastructure and Planning and Minister for Natural Resources to advise of the issues proposed to be canvassed in the draft report.

The committee adjourned at 11.30 pm until Wednesday 1 September 2004 at 11.00 am.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 26)

Wednesday 1 September 2004 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Martin and Mr Page.

Apology

An apology was received from Mr McGrane.

Minutes

Resolved, on the motion of Mr Martin, seconded by Mr Amery:

That minutes of the meeting held on 23 June 2004 be confirmed.

Consideration of Draft Report

The draft report on terms of reference (f) ('the impact of water management arrangements on the management of salinity in NSW') having been previously circulated.

The Project Officer briefed the committee in relation to the key issues and proposed recommendations to the draft report.

The committee considered and discussed the draft report.

Discussion concluded and further consideration of the draft report deferred to the next meeting.

Terms of Reference (c) & (d)

The Chairman updated the committee on the next inquiry on terms of reference (c) and (d) ('approaches to land use management on farms which both reduce salinity and mitigate the effects of drought' and 'ways of increasing the up-take of such use management practices') by circulating the submissions.

Visit of Inspection – Albury district

The committee considered a visit of inspection to the Albury district, similar to the visit of inspection previously undertaken to the Central West of New South Wales, to further inform it in considering terms of reference (c) and (d).

Resolved on the motion of Mr Aplin, seconded by Mr Martin:

That the committee undertake a visit of inspection of approaches to land use management practices in Albury and district.

The committee adjourned at 11.30 am until 11.00 am Wednesday 15 September 2004.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 27)

Wednesday 15 September 2004 at 11.00 am

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Armstrong and Mr Martin.

Apology

An apology was received from Mr McGrane.

Minutes

Resolved, on the motion of Mr Martin, seconded by Mr Amery:

That the minutes of the meeting held on 1 September 2004 be confirmed.

Change in Committee Membership

The Committee Officer reported that the House on 1 September 2004 resolved the Hon Ian Morton Armstrong be appointed in the place of Mr Donald Loftus Page, discharged.

The committee agreed that Mr Page be permitted to attend the committee meetings during the consideration of the Draft Report on Terms of Reference (f).

Further Consideration of Draft Report

The committee further considered the draft report on terms of reference (f) ('the impact of water management arrangements on the management of salinity in NSW').

The committee agreed to remove most of the acronyms used in the report.

The committee considered recommendations 1 to 15 and suggested amendments.

Further consideration of the draft report deferred to the next meeting.

Visit of Inspection – Albury district

The committee agreed on 3 and 4 November 2004 as the dates for the proposed visit of inspection to the Albury district.

The committee adjourned at 11.55 am until 11.00 am on Wednesday 22 September 2004.

Minutes of Proceedings of the Standing Committee on Natural Resource Management (No. 28)

Wednesday 22 September 2004 at 3:00 pm

Parliament House

Members Present

Ms Allan, Mr Amery, Mr Aplin, Mr Armstrong and Mr Martin.

With the consent of the committee Mr Page, MP was also in attendance.

Death of Tony McGrane

The committee noted with sadness the of death of follow committee member Tony McGrane.

Minutes

Resolved, on the motion of Mr Amery, seconded by Mr Armstrong:

That the minutes of the meeting held on 15 September 2004 be confirmed.

Further Consideration of Draft Report

The committee further considered the draft report on terms of reference (f) ('the impact of water management arrangements on the management of salinity in NSW') with revised recommendations.

Recommendations 1 to 7, amended, put and agreed to.

Recommendation 8, put and agreed to.

Recommendation 9, put and omitted.

Recommendation 10, amended, put and agreed to.

Recommendation 11, put and omitted.

Paragraphs 1.1 to 9.12, put and agreed to.

Resolved, on the motion of Mr Amery, seconded by Mr Amery:

1. That the draft report be adopted.

2. That the draft report be the report of the committee and it be signed by the Chairman and tabled; and

3. That the Chairman and Committee Manager/Project Officer be permitted to correct stylistic, typographical and grammatical errors in consultation with committee members

Visit of Inspection – Albury district

The committee was briefed and updated on arrangements for the proposed visit of inspection to the Albury district on 3 and 4 November 2004.

The committee adjourned at 3.50 pm until 11.00 am on Wednesday 20 October 2004.