



BLUEPRINT FOR A NATIONAL WATER PLAN

THE WENTWORTH GROUP
OF CONCERNED SCIENTISTS

31 July 2003

The Wentworth Group is convened by WWF Australia
Saving Life on Earth

THE WENTWORTH GROUP

A group of Australia's leading environmental scientists, who have adopted the collective name of 'The Wentworth Group', are advocating radical and fundamental reform to halt further degradation of Australia's landscapes.

Mr Peter Cosier:

Environmental Policy Specialist, WWF Australia

Prof Peter Cullen:

Freshwater Ecologist; Australian Environmentalist of the Year 2001

Prof Tim Flannery:

Paleontologist; Author; Director South Australian Museum

Assoc Prof Ronnie Harding:

Zoologist; WWF Australia Board; Director, Institute of Environmental Studies, UNSW

Dr Steve Morton:

Ecologist; Group Chair Environment and Natural Resources, CSIRO

Prof Hugh Possingham:

Mathematical Ecologist; Chair Commonwealth Biological Diversity Advisory Committee

Dr Denis Saunders:

Ecologist; Chair WWF Australia Scientific Advisory Committee

Prof Bruce Thom:

Geomorphologist; Chair 2001 Australian State of the Environment Committee

Dr John Williams:

Agricultural Scientist; Chief Land and Water, CSIRO

Prof Mike Young:

Resource Economist; Director Policy and Economic Research Unit, CSIRO and UNE

***Ms Leith Bouilly** is also a member of the Wentworth Group of Concerned Scientists, but is not an author of this report because of her position as Chair of the Murray Darling Basin Community Advisory Committee.

Acknowledgment

The Wentworth Group acknowledges the contribution made by **Dr Steve Hatfield Dodds**, Research Director, Social and Economic Integration, CSIRO Emerging Science.

First Published in 2003 by
WWF Australia
GPO Box 528
Sydney NSW 2001

©WWF Australia 2003
All rights reserved.
ISBN: 1 875 94150 9
WWF Australia
submission 03, 2004.

For copies of this report
or a full list of WWF
Australia publications on
a wide range of
conservation issues,
please contact us at
publications@wwf.org.au
or call 1800 032 551.

Cover image courtesy
CSIRO Land & Water
Photo: Willem van Aken
Inspecting vinegrowth
at Hanwood
(near Griffith) NSW

TABLE OF CONTENTS

SUMMARY	2
RIISING TO THE CHALLENGE	5
Foundations for a National Water Plan	5
PROTECTING RIVER HEALTH	7
Environmental needs to maintain river health	7
Establishing comprehensive water accounts	7
Recovering water for the environment in stressed rivers	8
Protecting unspoiled rivers	9
Investing in the science required to make better decisions	10
PROMOTING OPPORTUNITY	11
Clarifying entitlements and responsibilities	11
Removing impediments to water trading	12
ENGAGING COMMUNITIES AND ENSURING FAIRNESS	14
Engaging local communities	14
Managing environmental water	14
Improving water efficiency in towns and cities	15
Ensuring a fair transition	16
MOVING FORWARD	17

SUMMARY

Water is fundamental to life – everyone has an obligation to protect it.

Yet the drought we are experiencing has shown that urban and rural Australians all face the same dilemma. There is not enough water to keep going in the way we have done in the past.

Recent water restrictions in our cities and unprecedented shortages of water for irrigation have caused great pain and considerable costs to our economy.

We need new strategies for managing water in the 21st century because the ways of the 19th and 20th centuries are no longer appropriate. Our southern working rivers do not have enough water to sustain their health and we must not make the same mistakes in our northern rivers.

Current systems of access rights to use water lack clarity and, in many cases, are not consistent with natural processes. These are discouraging the investment and reallocation of water required to achieve river health, and to create financial security and opportunities for water users.

Australia desperately needs a national effort to restore and protect our fresh water resources. The health of our rivers, wetlands, estuaries and groundwater systems is fundamental to the future of our cities, industries, communities and agriculture across Australia.

The solutions lie in crafting new ways of working that guarantee both river health and greater security for future investors.

Our constitution leaves responsibility for land and water management with the States, while the Commonwealth is responsible for interstate trade and commerce. It is clear that repairing the mistakes of the past will require the contribution and commitment of all levels of government, as well as industry, and the broader community.

The Wentworth Group believes the next meeting of the Council of Australian Governments (CoAG) should commit to three urgently needed national water reforms:

1. Protect river health and the rights of all Australians to clean usable water, by:
 - ensuring that the environmental needs of our river systems have first call on the water required to keep them healthy, protecting both their environmental values and ability to meet human needs into the future;
 - establishing comprehensive water accounts and management systems that reflect the linkages between run-off, river water and groundwater systems;
 - agreeing to bring over-allocated river and groundwater systems back into balance by recovering water for the environment;
 - protecting Australia's less developed rivers by adopting an Australia-wide classification system to guide management strategies, and guarantee protection of important natural and cultural values; and
 - investing in the science required to make better management decisions in the future.
2. Establishing a new, nationally consistent water entitlement and trading system that provides security to both water users and the environment by:
 - defining water entitlements as a perpetual share of the available water resource;
 - clearly articulating ways that water can be used in each catchment to protect both the environment and other uses;
 - linking entitlements and allocations to transparent and balanced water accounts; and
 - removing impediments and simplifying temporary and permanent water trading so that water can be used to create greater social and economic wealth.

3. Engage local communities and ensure a fair transition, by

- supporting community-based catchment, river and estuary management;
- establishing Environmental Water Trusts for stressed river systems to provide active and accountable environmental management;
- reducing fresh water use in our cities and towns; and
- ensuring that steps to recover environmental water are both fair and efficient, so that no group is asked to bear an unreasonable burden in achieving these national goals.

We can save Australia's great river systems, but to do this society must choose the level of change we are prepared to invest in to ensure clean and safe water, and healthy rivers into the future.

Solutions do exist – what is needed is political courage to implement them.

We urge CoAG immediately to commit to:

1. provide funding to begin returning at least an additional 100GL each year of environmental water to the River Murray, reviewing progress every five years, until the river's health is restored;
2. establish an independent inquiry to recommend a nationally consistent system of water entitlements that will work in the 21st century for our rivers and the communities who depend on them; and
3. establish Environmental Water Trusts to manage the recovery and delivery of water for the environment to priority river systems, wetlands and estuaries.

Our future depends on wise choices about how we share water between the environment and current human use.

That is the challenge for all Australians.

Blueprint for a National Water Plan

A National Water Plan producing the following outcomes will make a substantial and long-lasting contribution to the health of Australia's rivers, wetlands, estuaries and groundwater systems:

- The environmental needs of Australia's rivers have a guaranteed first priority call on water required to keep them healthy.
- A publicly available set of water accounts is created for each river valley and groundwater system across Australia so that water users, the community and river managers can make informed decisions.
- These river and groundwater systems are brought into balance where they are currently over-allocated and financial assistance is provided to ensure nobody is unfairly affected by these reforms.
- CoAG, on behalf of all taxpayers, agrees to secure the return of at least an additional 100GL each year of environmental water to the River Murray and review progress every five years until the river's health is restored.
- Public funding is provided to secure additional environmental flows and improve management in all stressed river and groundwater systems across Australia, in ways that take account of individual and regional circumstances.
- All water users who benefit from reform make a contribution to river health. Many beneficiaries could contribute 10 per cent or more of their current water use over time without payment and still be better off.
- Australia adopts a national system for identifying and protecting Heritage and Conservation Rivers and Commonwealth funding assists in the survey and management of these rivers.

- The Prime Minister's Science, Engineering and Innovation Council commissions a review of information gaps and research needs for improving catchment management and water use.
- A Commission of Inquiry is set up to recommend to CoAG a nationally consistent system of water entitlement, licensing and trading framework that will protect environmental flows, river health and investment security for all water users.
- All major water catchments in Australia have properly resourced, statutory, community-based catchment management authorities in place by 2005. These authorities are given access to the best available scientific support.
- CoAG agrees to establish Environmental Water Trusts to acquire and deliver water for the environment in all stressed river and groundwater systems in Australia.
- A River Murray Environmental Water Trust is established immediately to secure and manage environmental water.
- Australia's cities commit to reducing fresh water use by using water more efficiently and finding innovative ways to use recycled waste water.

RIISING TO THE CHALLENGE

The Wentworth Group of Concerned Scientists last year called on Australians to start to learn to live with our country rather than continue our futile attempts to fight against it¹.

With regard to fresh water resources, we called on governments to:

- clarify water property rights and the obligations associated with those rights to give farmers some certainty and to enable water to be recovered for the environment; and
- restore environmental flows to stressed rivers, such as the River Murray and its tributaries.

We also called for a National Water Plan focusing on improving the health of our damaged rivers, protecting our remaining healthy rivers and improving water use efficiency in Australia.

This report identifies ways we believe Australia should address these issues.

Foundations for a National Water Plan

Every day, every Australian depends on water.

Our health, food, and industries rely on healthy river systems, as does much of our leisure and cultural heritage.

Yet in this dry continent, with its highly variable rainfall, Australians are now finding that water is no longer plentiful.

The drought has shown that urban and rural communities all face the same dilemma. We have had water restrictions in our cities, while unprecedented shortages of water for irrigation have caused great pain and considerable loss to our economy.

As vast numbers of 300-year-old red gums die along the Murray floodplain due to extreme drought following a severely depleted river flow,² we must ask how much longer can we survive as a nation without changing the way we use water.

We have made understandable but profound mistakes in many areas of Australia, over-allocating water by giving away too many licenses to take water from rivers and aquifers.

Irrigation is critical to the wealth and social cohesion of much of rural Australia, generating half of the profits of our agricultural sector from less than 1% of our land area.³ But we are degrading the rivers and natural systems that underpin this wealth.

Urban Australians need to adapt to treating water as a scarce resource. With the projected growth of our major cities, water planners believe there must be a reduction of 25% in per capita water use if we are to supply our cities with water over future decades.⁴ We must reduce wastage and look for alternative water supplies by recycling treated effluents and retaining stormwater for uses such as flushing toilets and watering our lawns, sports fields and gardens.

If we continue, many rural and urban communities will not have water fit to use.

The Wentworth Group believes five guiding principles provide the foundation for a National Water Plan:

1. All Australians have a right to an adequate supply of safe water for domestic use;
2. We all have a responsibility to use water efficiently;
3. Our rivers, groundwater systems and landscapes must be managed to maintain the health of our ecosystems so they can provide for the variety of current and future human needs;
4. Those who use fresh water to create wealth need investment security and should take responsibility for their part in sustainable water management; and
5. Australians must become water literate and understand the effects that water use has on our environment and other people.

The way forward is to stop the profligate waste of water in our cities and irrigation areas, and establish institutional frameworks that encourage water to be put to its most valuable uses.

Australia needs to:

- protect river health by recovering environmental water in stressed rivers, and avoid the mistakes of the past in our undamaged rivers;
- promote opportunity by fully specifying water entitlements and responsibilities, and then removing impediments to water trading; and
- engage communities and ensure a fair transition, so no group is asked to bear an unreasonable burden.

These reforms are urgent.

PROTECTING RIVER HEALTH

Healthy rivers are essential to protect our unique and valuable natural heritage, and also provide for the needs and aspirations of water users and the Australian people.

We place significant stress on rivers when we dam them, alter the flow patterns and remove water. Over extraction of water leads to loss of native fish, an increase in the incidence of algal blooms, an increase in salinity and the loss of wetland and floodplain vegetation.

We can protect the health of Australia's river systems if we:

- help identify the environmental needs to maintain river health;
- establish comprehensive water accounts for each river valley and groundwater system;
- bring over-allocated rivers and groundwater systems back into balance and recover water for the environment from stressed rivers;
- protect our remaining unspoiled rivers; and
- invest in science to support better decisions.

Environmental needs to maintain river health

We now have available a national picture of river health as part of the National Land and Water Resources Audit⁵. This audit shows we have changed the nature of our rivers on a massive scale.

It tells us that we have gone too far, extracting too much water from many of our working rivers, particularly in southern Australia, and also from some of our groundwater sources such as those supplying cities like Perth.

We are still a young nation when it comes to understanding how our environment works. We must invest more in improving our understanding of Australia's natural systems and the different elements of the water cycle.

Historically, water use has been allocated to towns, irrigation and other human uses, and any

water left over is described as 'environmental water'.

There is an emerging view in the scientific community that if we remove more than two thirds of the natural flow we will cause obvious and significant damage to river health. Flow regimes of less than half-natural will mean that it is highly unlikely that a river will be capable of remaining healthy in the long-term.⁶

These principles are a useful guide to establishing new management practices needed to restore and protect river health, using the best available science and learning about the specific requirements and response required for each river system.

Science can also identify areas where changes risk undermining essential river functions, and the ability of a river system to sustain the web of organisms and natural processes required for river health.

If we fail to protect these essential functions, the declines in river health are likely to be irreversible.

We need a new approach that clearly accounts for environmental water and provides these environmental flows with security entitlements that are commensurate with those enjoyed by other claims on water use. This should provide for both base levels of highly reliable water and variable flows that mimic natural flow patterns.

Outcome:

The environmental needs of Australia's rivers have a guaranteed first priority call on water required to keep them healthy.

Establishing comprehensive water accounts

We need to establish and maintain comprehensive water accounts and entitlement registers that show the available water, and how much of it is allocated in each of our river valleys and groundwater systems.

These accounts should show how water has been allocated to the environment, town water supplies, irrigation and industrial uses. It should be possible to see how much water has been allocated to use, the volume allocated to maintain river health and, at any point in time, how much remains available for consumptive use.

The accounts should be brought into balance within the next decade. These accounts must add up and there can be no double counting. If more urban water is needed, then urban water managers should be required to fund improvements in water efficiency or buy entitlements or allocations from irrigators. If one use consumes more water, another must consume less.

The accounts must reflect the natural process of water movement across land, into dams, through aquifers, in vegetation, down rivers, through wetlands and into estuaries. While this seems an obvious requirement for effective water management, no Australian jurisdiction maintains a system that passes this test.

Most of our southern rivers are stressed due to inadequate attention to the need to maintain environmental flows. This has arisen in part from a tradition of specifying water entitlements as a volume of water, rather than a share of the water available. This approach works poorly in Australia's highly variable climate.

Changing land use in a catchment can change the amount of overland flow and seepage of water into rivers, groundwater and surface storages depending on the nature and amount of rainfall, vegetation, its management and the biophysical characteristics of the catchment. The comprehensive water accounts must accurately reflect the impacts of such changes on water availability including different combinations of grazing, cropping, forestry enterprises and other forms of revegetation, which reduces the volume of water reaching rivers and recharging groundwater systems⁷. Increasing groundwater extraction also often impacts on river flow patterns.

These water accounts also need to take into account the effects of water use efficiency on the volumes of water available to others; pumping water from creeks and streams in rural residential sub-divisions in coastal catchments⁸; and the interconnected nature of groundwater and surface water systems.

Extracting water from rivers also creates stress on estuarine systems. Tasmanian oyster farmers, for example, fear extraction of water through a multiplicity of small dams and ponds in coastal catchments. These impacts should be reflected in the water accounts so that estuarine businesses have just as much opportunity to protect their interests as those who are building the dams.

Controlling the extraction of water from rivers encourages people to trap water before it enters the rivers and becomes regulated, or to substitute groundwater for surface water.

Entitlements to access water must therefore address run-off, land use, river water and groundwater.

Water accounts should track changes in water quality. For example, where changes in flow volumes dilute or increase salt concentrations, these changes need to be accounted for.

In the 20th century we tried unsuccessfully to manage each in isolation. In the 21st century we will need systems that recognise hydrological connections.

Outcome:

A publicly available set of water accounts is created for each river valley and groundwater system across Australia so that all water users, the community and river managers can make informed decisions.

Recovering water for the environment in stressed rivers

We have over-allocated water in many of our river and groundwater systems.

This has caused a significant decline in the health of these rivers and the surrounding landscapes. These over-allocations are the result of a long history of government decisions, many of which were made in periods of higher average rainfall than we expect today or in future years. There is likely to be a continuing trend reduction in average rainfall over the next 50 years, with higher year-to-year variability.⁹

We are only now beginning to fully understand the nature of our continent, and the extreme variability of our climate.

Restoring river health in stressed river systems will involve changing land use practices and recovering water from existing uses and returning it to the environment.

Yet despite these challenges, we believe we can halve the water taken from our stressed rivers and still grow rural economies by using water more effectively.

Much recent public attention on water reform has focused on the declining health of the River Murray. The Murray can never be returned to its natural state, but maintaining current patterns of water use will result in increasing damage to the river's health. This would be an unacceptable outcome for all Australians.

As a nation, we have not tackled a river restoration task on this scale before and cannot predict what might be achieved for any particular flow volume. But many of Australia's icon sites such as the Coorong wetlands at the mouth of the River Murray and the River Murray red gum forests require water urgently if they are to survive.

The best available science suggests that achieving a healthy River Murray system will require between 2000GL and 4000GL of new environmental flows, and profound changes in river management, to have a moderate-to-high chance of achieving success¹⁰.

Outcomes:

River and groundwater systems are brought into balance where they are currently over-allocated and financial assistance is provided to those who are unfairly affected by these reforms.

CoAG, on behalf of all taxpayers, agrees to secure the return of at least an additional 100GL each year of environmental water to the River Murray and review progress every five years until the river's health is restored.

Public funding is provided to secure additional environmental flows and improve management in all other stressed river systems across Australia.

Protecting unspoiled rivers

Preventing environmental damage is vastly cheaper than trying to repair it.¹¹ We need to identify the rivers and groundwater systems that have not been degraded and develop management strategies to protect them.

This would have little impact on existing water use, such as normal stock and domestic use, while preventing inappropriate development and changes in water use.

Benefits will include: giving future generations the opportunity to enjoy healthy Australian rivers; supporting recreation, tourism and other compatible uses; providing a baseline for assessing working rivers with altered flow regimes; and protecting native plants and wildlife that can be reintroduced elsewhere to improve the health of other rivers.

Australia needs a national river classification system comparable to our national reserve system. As a general guide:

- rivers with less than 5% of their water diverted for human use should be classified as Heritage Rivers; and
- rivers with 5% to 15% water use should be classified as Conservation Rivers.

We need to work hard to restore the remainder of our rivers to the status of healthy Working Rivers.

In Heritage and Conservation Rivers, the classification and management system should ensure that public and private land and water use is consistent with maintaining the values of each river's environmental assets.

There should be no increase in diversion of water for human use, and timing and patterns of water use should take account of environmental impacts and requirements. States already have designated such rivers in their water planning but we need a national designation to provide protection beyond the five-year framework used in State water planning.

The Commonwealth Government should provide funding to assist with the survey and assessment of Heritage and Conservation Rivers, and assist the States with management to ensure these rivers are not degraded.

Outcome:

Australia adopts a national system for identifying and protecting Heritage and Conservation Rivers and Commonwealth funding assists in the survey and management of these rivers.

Investing in the science required to make better decisions

To avoid repeating the mistakes of the past, we must invest in improving our understanding of our natural systems and the different elements of the water cycle.

Decisions must be based on sound science, rather than hope and folklore.

Priorities include:

- investing in information and analysis of the interactions between river health, flow patterns and catchment land use in both working and natural rivers, guiding river and land use management actions and helping improve the effectiveness of flow deliveries;
- committing to a decade of knowledge for our northern rivers, to ensure we understand how these rivers, floodplains and estuaries interact, so that future management decisions can be made without causing the destruction we have caused in southern rivers;
- boosting strategic research into efficient rural and urban water use, including greater use of treated effluent and stormwater to replace potable water for appropriate uses; and
- benchmarking the performance of irrigation water suppliers and industry users to encourage improved water use, and compare the performance of catchment authorities in implementing integrated catchment management.

Outcome:

The Prime Minister's Science, Engineering and Innovation Council commissions a review of information gaps and research needs for improving catchment management and water use.

Repairing the damage caused to our stressed rivers and protecting river health will require:

- clarifying entitlements and responsibilities to give farmers and irrigators certainty and to enable water to be recovered for the environment; and
- removing impediments to water trading to create new opportunities for increasing production.

When we developed much of the irrigation areas in southern Australia water use was tied to land title.

The 1994 CoAG water reforms separated land and water titles, enabling water to be moved from existing uses to areas where it could create greater wealth and cause less environmental damage. This has provided some environmental and economic benefits. It has also created new problems and further work is required to capture the full gains available.

Clarifying entitlements and responsibilities

Our present water licensing systems are like the railways of 100 years ago; they do not connect effectively at State borders, and stand in the way of national environmental and economic progress.

There are around two dozen different forms of surface water entitlements in the Murray Darling Basin alone. Some entitlements are in perpetuity, while others are for set periods and then subject to review. Many users do not have a formal entitlement to the water they rely on for their livelihood. This results in confusion, uncertainty and legitimate concern over the potential impacts of reform. It is a major impediment to the improved use of water and also restricts interstate trade of water among irrigation districts.

The community is presently locked in exhaustive consultation about the flows that need to be returned to the Murray Darling to give us some chance of healthy rivers. No-one can be expected to agree to a target without knowing how the water will be obtained and who will share the costs. In this situation, all people will do is challenge the science and challenge the need to do anything about the health of our rivers.

Separation of land and water titles, poorly specified water entitlements and uncertainty over future government policy are causing concern in the banking industry. Most existing water licences limit security for loan finance. This restricts borrowing and investment capacity, reducing the viability and options open to many water users.

Moving forward will require the development of a nationally consistent system for specifying water access entitlements, water use conditions and trading. This system needs to work within the realities of our highly variable water supply and the natural connections between land, surface water and groundwater systems.

Many of our current systems for allocating and managing water use do not reflect the realities of our natural systems. They ignore that whenever someone uses more water, someone else must use less. For example, a recent study has estimated that substantial volumes of environmental flows will be lost from the River Murray because some water users are allowed to keep water savings from improving water efficiency without accounting for the amount that no longer returns to the river or groundwater from leakage¹²

Adopting a common well-designed system will not only assist restoration of river health but will reduce the social and economic impact of urgent water reforms.

Cobbling together the disparate state systems will only add further complexity.

The Wentworth Group advocate a new system which will:

- recognise the extreme variability of our rainfall and water supply;
- account for the effects of land use change, drainage and recharge on the quantity of water available for use;
- provide investment security and meet the needs of water entitlement holders and other investors in water-related assets;

- protect environmental flows by framing entitlements and allocations in terms of ‘real’ or net water use (which exclude surface run-off and groundwater flows back to the river); and
- provide a flexible and robust way for addressing the social and economic impacts of trading water among regions and between systems.

To meet these requirements, a nationally consistent system is needed, comprising three central components:

- *access entitlements* to use water into the future (a capital asset similar to a unit share in a company);
- *seasonal water allocations* which specify the volume of water available to entitlement holders in the current season (similar to the dividend on a company share), on the basis of the total water identified as available in the river valley and groundwater accounts; and
- *locally-based licences* governing water use, associated works and impact on water quality.

Entitlements would be specified as a perpetual share of the available water resource in any season, rather than a specific volume.

We need a consistent system for registering water entitlements which provides the same guarantees and investment certainty as registers for land title.

Entitlements and allocations should be fully tradable, subject to relevant exchange rates and system constraints, with trades reflected in the relevant water accounts.

Obligations to contribute to the costs of infrastructure maintenance must be honoured.

Removing impediments to water trading

Water trading is central to getting the greatest possible value from our increasingly scarce water resources.

Water trading is a key way for new or expanding enterprises to gain access to water. Selling water can fund investment in water efficiency, or allow entitlement holders with degraded land to realise a return on their assets and change their business.

We seek a water market that will assist the transition to new ways of doing business, and enable water to move quickly between uses to take advantage of changing seasons, water availability and market conditions into the future.

Efficient water market structures allow two interdependent types of trade:

- ‘permanent’ trades involving the sale of an access entitlement (to receive a specified share of any future allocations); and
- ‘temporary’ trades involving the sale of a water allocation for a season (a specific volume that is available for use in a specific location).

It is particularly important that temporary trades can be made quickly and efficiently.

Markets make good servants, but poor masters. There is a need for Governments to establish clear rules that reflect our economic and environmental realities.

Current all-or-nothing regulatory approaches need to be replaced with more flexible market-based approaches that recognise legitimate regional interests without prohibiting trading. The environmental allocations can and should be part of the trading regime.

These new entitlement and allocation systems should deal with the different environmental impacts of water use in different locations. It would help motivate environmentally beneficial trade by encouraging water to trade away from areas where use causes environmental damage.

It is important that water markets are subject to normal regulatory oversight to ensure they operate effectively and are not able to be manipulated or distorted.

Australia needs a nationally consistent framework for the definition of water entitlements, for allocating water and for managing land use, coupled with a set of simple trading protocols.

The details of this national framework are complex and need to be developed by an expert Commission of Inquiry. It should report to the next meeting of CoAG, recommending the structure for a nationally consistent system of water entitlements and trading rules for progressive implementation beginning in August 2004.

Outcome:

A Commission of Inquiry is set up to recommend to CoAG a nationally consistent system of water entitlement, licensing and trading framework that will protect environmental flows, river health and investment security for all water users.

ENGAGING COMMUNITIES AND ENSURING FAIRNESS

The third foundation for reform is needed to:

- engage local communities in determining management priorities and strategies;
- establish active and accountable environmental management;
- improve water efficiency in our towns and cities; and
- ensure that the transition to more sustainable water use is fair and equitable.

Engaging local communities

We cannot fix our rivers without changes to land use in the catchment areas that feed water to the rivers. Land use is a crucial variable in determining the volume and quality of water in our rivers.

Recent years have seen a shift towards regional catchment planning, driven by new delivery arrangements for funding under the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust.

The devolution of decision making must be genuine, with national and state interests and requirements clearly articulated early in the process.

Management must be local, because social and environmental conditions vary and state level structures are not sufficiently connected to the farmers and irrigators who must implement the strategy through their actions. Distant authorities do not have access to the local knowledge required to develop and deliver effective and innovative strategies.

Solutions must be managed by the bush in the bush, informed by experts.

It is the role of the states to set broad standards and leave communities to get on with the job of delivering them. Local groups involved must have access to the best available scientific advice.

Local input requires two-way accountability. In over-allocated river systems, people who are required to give up water should be told what environmental assets are being protected, and the volumes of environmental water needed to protect them. The focus of debate needs to be on the outcomes to be achieved.

Outcome:

All major water catchments in Australia have properly resourced, statutory, community-based catchment management authorities in place by 2005. These authorities are given access to the best available scientific support.

Managing environmental water

The changes in water use required for restoration of environmental health to many of our river and groundwater systems will involve considerable social adjustment.

These changes will be acceptable only if the communities concerned are confident that the environmental water recovered will be used in the best possible way.

Environmental Water Trusts should be established for specific stressed rivers and groundwater systems. Each should be charged with holding environmental water entitlements, acquiring additional water for the environment, and managing the delivery and use of this water to achieve specified environmental outcomes.

Trusts would work with local catchment management authorities, who would be responsible for identifying environmental assets to be protected.

These Environmental Water Trusts should be independent and accountable non-profit bodies, with a skills base that includes expertise in freshwater ecology, water resource management, and markets, rather than being a representational Board.

Trusts should be able to trade water between environment and consumptive uses and co-invest with irrigators and other water users to maximise environment outcomes over time.

time. Co-investment could be used to improve on farm water efficiency, with the entitlements for the water saved permanently reverting to the Trust for environmental flows.

In the case of the River Murray, an Environmental Water Trust is needed to prioritise and manage environmental water use across the catchment.

Outcome:

CoAG agrees to establish Environmental Water Trusts to acquire and deliver water for the environment in all stressed river and groundwater systems in Australia.

A River Murray Environmental Water Trust is established immediately to secure and manage environmental water.

Improving water efficiency in towns and cities

We have had water restrictions in Gladstone, the Gold Coast, Canberra, Melbourne, Adelaide and Perth. Urban Australians may understand that water is scarce, but often lack meaningful options for making more efficient use of water.

The 1994 CoAG water reforms have been effective in urban Australia in developing a competitive and efficient water industry. We need to stimulate a more innovative water industry to encourage the efficient use of potable water. The replacement of potable water with treated water for appropriate uses should be brought within the CoAG reform process.

Australia's urban and industrial water supply systems are over 100 years old, and were designed with little attention to re-use opportunities and stormwater capture and storage.

To meet projected population growth, many urban centres must reduce net per capita water use by 25% or more over the next 30 to 50 years. Canberra, Melbourne and Perth have already set 20% water recycling targets to be achieved in the next decade. Sydney has set a mandated target of 35%. This will involve a mix of measures, including higher water prices, more efficient appliances, changes to watering practices, reduced wastage, and creation of

alternative water supplies such as stormwater and recycled waste water for uses such as flushing toilets and watering our lawns, sports fields and gardens.

Australians need to become water literate as consumers. We should be benchmarking the water efficiency of irrigation industries and districts, and showing on packaging the water efficiency of the milk, fruit, vegetables or rice we buy in our supermarkets. One option is to introduce a labelling system to let consumers choose in favour of environmentally friendly products that don't guzzle excessive amounts of water. This would also help address the current back-to-front price incentives, which make it cheaper to cause problems than to avoid them. The people who are part of the solution to Australia's water problems need to be rewarded, not penalised.

The move to more sustainable water use will also impact on prices, so that consumers naturally pay more of the real cost of agricultural products as current hidden environmental subsidies are removed.

In the same way that it makes sense to define irrigation entitlements, it also makes sense to allocate formal entitlements to urban and commercial water supply authorities. Similarly, it also makes sense to make urban water supplies fully tradeable and to use the one system to manage entitlements and seasonal allocations for all types of water use.

Outcome:

Australia's cities commit to reducing fresh water use by using water more efficiently and finding innovative ways to use recycled waste water.

Ensuring a fair transition

Recovering environmental water and changing management practices is going to involve costs and benefits for different groups, with significant impacts on some rural industries and communities.

Everyone benefits from healthier rivers. It is not fair therefore for any one group to bear the entire cost.

Restoring river health protects the productivity of our water dependent industries and the value of water assets. Increasing environmental flows in stressed rivers will reduce water allocations for consumptive use but improve water quality and the reliability of the remaining allocations.

Not all water users will gain from the reforms, particularly where historical use is not protected by secure entitlements.

Governments have a responsibility to repair the mistakes of the past and should therefore provide funding to recover environmental water and support the transition to sustainable water use. Public funding should not however, be used to provide windfall gains to existing entitlement holders who are not genuine water users, such as people holding onto ‘sleeper licences’. These people have no history of water use and a much weaker case for financial assistance than those who have invested to create wealth.

It is also fair to ask those who stand to gain from these reforms to contribute. Many irrigators have, for example, benefited financially from recent changes and stand to benefit further from the increased security and trading opportunities outlined in this Blueprint. If these reforms are implemented, many could contribute a significant proportion of their current total water use towards environmental flows and still be better off.

The cost of these reforms will vary with individual and regional circumstances. Additional environmental flows and changes to management practices should therefore be secured through a mix of public funding and market-based mechanisms.

Outcome:

Public funding is provided to ensure nobody is unfairly treated in achieving these reforms.

Public funding is also used to secure additional environmental flows and improve management in all stressed river and groundwater systems across Australia, in ways that take account of individual and regional circumstances.

All water users who benefit from reform make a contribution to river health. Many beneficiaries could contribute 10 percent or more of their current water use over time without payment and still be better off.

MOVING FORWARD

We have a constitution that gives responsibility for land and water to the States, but repairing the mistakes of the past is beyond them. It needs a national effort with the Commonwealth providing funds and coordination to work with the resources and the knowledge that exists in the states to sort out this mess.

Farmers and conservationists agree that action is needed, and there is much common ground as to what must be done. Australians want our governments to tackle this problem.

It is going to take substantial funding and governments, on behalf of all Australian taxpayers, are in a position to provide the funds to sort this out.

It is going to take leadership: leadership from the scientific community, leadership from the many professionals that work in the water industry, and most of all political leadership and courage from Commonwealth and State politicians.

This Blueprint lays out a clear and equitable way forward, with all Australians contributing to maintain the health of our rivers, wetlands, estuaries and groundwater systems.

We can make a start even before we have agreed upon the endpoint, since it will take us decades to repair the mess.

The Wentworth Group believes the next meeting of the Council of Australian Governments should commit to three groups of urgently needed national water reforms:

1. Protect river health and the rights of all Australians to clean usable water, by:
 - ensuring that the environmental needs of our river systems have first call on the water required to keep them healthy, protecting both their environmental values and their ability to meet human needs into the future;
 - establishing comprehensive water accounts and management systems that reflect the linkages between run-off, river water and groundwater systems;
 - agreeing to bring over-allocated river and groundwater systems back into balance by recovering water for the environment;

- protecting Australia's less developed rivers by adopting an Australia-wide classification system to guide management strategies and guarantee protection of important natural and cultural values; and
 - investing in the science required to make better management decisions in the future.
2. Establishing a new, nationally consistent water entitlement and trading system that provides security to both water users and the environment by:
 - defining water entitlements as a perpetual share of the available water resource;
 - clearly articulating ways that water can be used in each catchment to protect both the environment and other uses;
 - linking entitlements and allocations to transparent and balanced water accounts; and
 - removing impediments and simplifying temporary and permanent water trading so that water can be used to create greater social and economic value.
 3. Engage local communities and ensure a fair transition, by
 - supporting community-based catchment, river and estuary management;
 - establishing Environmental Water Trusts for stressed river systems to provide active and accountable environmental management;
 - reducing fresh water use in our cities and towns; and
 - ensuring steps to recover environmental water are both fair and efficient, so that no group is asked to bear an unreasonable burden in achieving these national goals.

Our future depends on wise choices about how we share water with the environment and between ourselves.

That is the challenge for our society.

We must save water before it costs us the earth.

Footnotes

- ¹ Wentworth Group of Concerned Scientists (2002): *Blueprint for a Living Continent*, WWF Australia.
- ² Murray Darling Basin Commission (2003): *Preliminary investigations into observed River Red Gum decline along the Murray River below Euston*, Technical Report 03/03.
- ³ National Land and Water Resources Audit (2002): *Australians and Natural Resource Management*, Canberra.
- ⁴ Water Resources Strategy (2002): *21st Century Melbourne: A Water Smart City, Final Report Water Resources Strategy for Melbourne*, October 2002.
- ⁵ National Land and Water Resources Audit (2002): *Australian Catchment, River and Estuarine Assessment 2002*, Canberra.
- ⁶ Gary Jones (2002): "Setting environmental flows to sustain a healthy working river", *Watershed*, February 2002. CRC for Freshwater Ecology.
- ⁷ Vertessy, Zhang and Dawes (2003): "Plantations, river flows and river salinity", *Australian Forestry*, 66(1):55-61.
- ⁸ Reports of the Healthy Rivers Commission of NSW on Clarence River (1999), Bega River (2000) and *Securing Healthy Coastal Rivers: A Strategic Perspective* (2000).
- ⁹ CSIRO Atmospheric Research: *Climate Change Predictions for Australia* found at www.dar.csiro.au/publications/projections2001.pdf.
- ¹⁰ Jones et al (2002): *Expert Panel Report to the Murray Darling Basin Ministerial Council on the Environmental Flow requirements for the River Murray System*.
- ¹¹ Bamford, et al (2002): "Economic Reasons for Conserving Wild Nature" *Science* 297: 95-953; and PMSEIC (2002): "Sustaining our Natural Systems and Biodiversity", Canberra
- ¹² Young and McColl (2003): "Robust Reform: The case for a New Water Entitlement System for Australia." *The Australian Economic Review* 36(2): 225-34.

For more information, contact:

WWF Australia

GPO Box 528

Sydney NSW 2001

Toll Free: 1800 032 551

www.wwf.org.au

enquiries@wwf.org.au

WWF Australia has been working with local communities and farmers for over 25 years.

WWF is one of the world's largest and most experienced independent conservation organisations, with almost 5 million supporters and a global network active in more than 90 countries.

WWF Australia's mission is to conserve biodiversity in Australia and the Oceania region. We have 180 active projects focusing on five priority areas that address current conservation challenges.

For in depth information on all our work, go on-line at www.wwf.org.au or call our toll free number 1800 032 551.