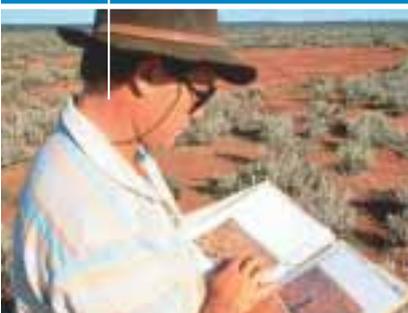




action
Salinity & Water
AUSTRALIA

a national
action plan

for salinity and water quality





FOREWORD

Protecting Australia's natural resources is a responsibility shared by individuals, communities, businesses, and governments alike. Natural resources provide the basis for many vital agricultural export industries and a habitat for Australia's unique wildlife. Natural resources also provide raw materials for the food and fibre that sustains every day life.

One of the greatest challenges facing Australia is how to manage natural resources for a healthy future, when much of the landscape has critical salinity and water quality problems that need urgent action. Initiatives such as The Decade of Landcare and the Commonwealth Government's Natural Heritage Trust show how people can all work together to improve the management of our natural resources.

The problems of salinity and water quality continue to affect everyone in Australia, across all State and Territory boundaries and local government areas. We could all benefit by being involved and contributing to a healthy future. So what is being done?

On 3 November 2000, the Council of Australian Governments endorsed the National Action Plan for Salinity and Water Quality to take action in some of Australia's worst affected areas.

The National Action Plan is a joint commitment of \$1.4 billion over seven years between the Commonwealth, State and Territory Governments, for regional solutions to salinity and water quality problems. All levels of government, community groups, individual land managers and local businesses will work together to tackle salinity and improve water quality.

Partnerships are essential to the success of this important initiative. By addressing salinity and improving water quality we will help protect our natural resources and ensure a better quality of life for all Australians. Your involvement in the National Action Plan for Salinity and Water Quality is needed to support people already working together to preserve the value and sustainability of our natural resources.

We commend to you this National Action Plan for Salinity and Water Quality and invite you to embrace this opportunity to protect and enhance Australia's future.

Council of Australian Governments

3 November 2000.

1. Purpose

This Action Plan identifies high priority, immediate actions to address salinity, particularly dryland salinity, and deteriorating water quality in key catchments and regions across Australia.

It is a plan for decisive salinity and water quality related action to ensure that our land and water management practices will sustain productive and profitable land and water uses as well as our natural environments.

2. Current Situation

Australia has critical salinity and water quality problems demanding urgent attention:

- At least 2.5 million hectares (5% of cultivated land) is currently affected by dryland salinity - this could rise to 12 million hectares (22%) at the current rate of increase;
- One third of Australian rivers are in extremely poor condition - within 20 years Adelaide's drinking water will fail World Health Organisation salinity standards in 2 days out of 5;
- Land and water degradation, excluding weeds and pests, is estimated to cost up to \$3.5 billion per year. (In addition dryland salinity has adversely affected biodiversity, eg. CSIRO estimates a resultant reduction in bird species of 50% in agricultural areas); and
- Infrastructure (buildings, roads, etc) is being severely damaged in many rural urban centres.



Although these problems are severe, they can be substantially overcome with determined and sustained leadership, the right incentives and scientifically sound interventions.

Concentrated action by Governments and communities needs to lead to land use change supported by the application of scientific advances in mapping salinity, targeted tree planting and new cropping systems to manage salinity and water quality, and selective engineering solutions. As well, as a result of landcare and the Natural Heritage Trust (NHT), the community is more informed and involved and has demonstrated a capacity to plan and focus community resources to help address these problems.

Providing the necessary leadership for tackling salinity and water quality problems will mean that the Action Plan needs to have a national focus.

The goal of this Action Plan is to motivate and enable regional communities to use coordinated and targeted action to:

- prevent, stabilise and reverse trends in dryland salinity affecting the sustainability of production, the conservation of biological diversity and the viability of our infrastructure
- improve water quality and secure reliable allocations for human uses, industry and the environment.

3. The Way Forward – Summary of the Action Plan

The Action Plan builds on the work established under the NHT, the Murray-Darling Basin Commission, State/Territory strategies and the CoAG Water Agreement by implementing:

- 3.1 **targets and standards for natural resource management**, particularly for water quality and salinity, with the States and Territories, either bilaterally or multilaterally, as appropriate. The targets and standards should include salinity, water quality and associated water flows, and stream and terrestrial biodiversity based on good science and economics;
- 3.2 **integrated catchment/regional management plans** 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. The Commonwealth and States/Territories will need to agree on targets and outcomes for each integrated catchment/region management plan, in partnership with the community, and accredit each plan for its strategic content, proposed targets and outcomes, accountability, performance monitoring and reporting;
- 3.3 **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;
- 3.4 **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;
- 3.5 **clearly articulated roles for the Commonwealth, State/Territory, local government and community** to replace the current disjointed Commonwealth-State/Territory frameworks for natural resource management. This would provide an effective, integrated and coherent framework to deliver and monitor implementation of the Action Plan; and

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

All elements must be acted on to make a real difference. Each of these above steps is outlined in detail below.



4. Commonwealth- State/Territory Agreement to Targets and Standards

Good progress on addressing water quality, salinity and natural resource management issues has been made with landcare and the Natural Heritage Trust. However, the lack of agreed, specific on-the-ground outcomes and targets for water quality, salinity and other natural resource management attributes has been a major barrier to guaranteeing a return on the Commonwealth's investment.

Agreed targets and standards will need to be set between the Commonwealth and the States and Territories, either bilaterally or multilaterally, as appropriate, in consultation with the relevant community to ensure effective use of funding.

5. Integrated Catchment/Region Management Plans - Developed by the Community

Catchments/regions (including regions where salinity is not associated with river systems) are the most effective scale at which to engage the community in addressing salinity, particularly dryland salinity, and water quality. The catchment/region units will underpin broader levels of management such as the Murray Darling Basin Salinity Strategy or State/Territory salinity plans.

State, Territory and local governments will play a critical role in providing planning, capacity building and administrative support.

Integrated catchment/region management plans will need to be developed by communities within the framework of the standards and targets agreed between the Commonwealth and the States/Territories.

Plans should be based upon analysis of natural resource problems and priorities carried out at the catchment/region level by local communities assisted by governments in the context of wider regional objectives.

Community Support - communities will be supported in the development of these plans by governments and the measures outlined in the capacity building element of this Action Plan.

Targets and Outcomes - to ensure that integrated catchment/region management plans contribute to the achievement of nationally agreed outcomes, catchment/region specific targets for salt, nutrients, water flow regimes, water quality, stream and terrestrial biodiversity will be required.

Accreditation - the Commonwealth and States/Territories will jointly accredit individual plans in order to be confident that they will deliver the agreed outcomes. This will involve assessment of their quality including timetables, performance measures, accountability and reporting arrangements.

Funding - communities will be supported to implement accredited plans through block funding. This will be provided by the Commonwealth and the States/Territories on a 50:50 basis for the publicly funded element of the plan.

Plan Content - the emphasis will vary from catchment to catchment (or from region to region), but to address water quality, salinity and associated biodiversity issues, plans are likely to include specific actions to:

- map salinity hazard using “ultrasound” technology and assess catchment/region condition and issues;
- maintain and improve the condition of existing native vegetation;
- establish multiple purpose perennial vegetation (focussed on agriculture, forests, biodiversity and carbon credits) in targeted areas, identified through salinity, vegetation and hydrology mapping, and groundwater modelling;
- protect and rehabilitate priority waterways, floodplains and wetlands;
- improve environmental flows, where this is beneficial;
- improve stream water quality using engineering works in critical areas (eg salt interception devices and groundwater pumping, removal of weirs and redundant structures, fish ladders, artificial wetlands);
- install drainage in catchments/regions where agreed by affected land managers, the downstream impacts are positive, and the overall benefits of the scheme provide substantial long-term results over other approaches;
- address the harder adjustment and property amalgamation issues; and
- address rural urban infrastructure (buildings, roads, etc.) degradation issues.

Catchment plans may indicate substantial land and water use change is required to address salinity, particularly dryland salinity, and deteriorating water quality, potentially affecting the viability of regional communities. The States and Territories have prime responsibility in this area. However, given the national significance of these issues and the potential for substantial costs, the Commonwealth is prepared to consider a contribution towards appropriate compensation to promote adjustment.



Catchments/Regions - It is proposed that highly affected catchments/regions be addressed. Analysis suggests there are approximately 20 such catchments/regions. Final details on catchments/regions to be included will be discussed with the States/Territories.

Catchments/regions that are ready to commence detailed action planning or where investments now will avoid costly degradation would be the most effective starting point. The pace of specific activity may vary between catchments/regions.

The indicative list of catchments/regions for action is: Burdekin-Fitzroy (Qld); Lockyer-Burnett-Mary (Qld); Condamine-Balonne-Maranoa (Qld-NSW); Border Rivers (Qld-NSW); Namoi-Gwydir (NSW); Macquarie-Castlereagh (NSW); Lachlan-Murrumbidgee (NSW); Murray (NSW); Goulburn-Broken (Vic); Avoca-Loddon-Campaspe (Vic); Glenelg-Corangamite (Vic); Midlands (Tas); Lower Murray (SA-Vic); Mt Lofty Ranges-Northern Agricultural Districts (SA); South East (SA); Avon (WA); South Coast (WA); Northern Agricultural Region (WA); South West (WA); Ord (WA-NT); and Darwin-Katherine (NT).

6. Capacity Building

New scientific developments allow localised salt to be identified and investment to be targeted. Capturing this knowledge, developing community capacity, and ensuring adequate financial resources to use the knowledge and technologies underpin this Action Plan. Capacity building in communities requires:

- **reorienting the facilitator and coordinator support** network, to support integrated catchment/region management planning and implementation;
- **developing management and technical skills of land managers and other stakeholders** to ensure wider adoption of sustainable land and water use and to enhance the capacity of communities to prepare, evaluate and monitor the progress of integrated catchment/region management plans.



(Note - skills development is already supported through Agriculture Advancing Australia including FarmBis, but could be focussed on the priority catchments/regions);

- **extending information** to communities, including National Land and Water Resources Audit data, so that they can effectively develop and implement their plans; and
- **developing** (where they do not exist) **appropriate catchment/regional delivery bodies/arrangements** to implement the plans.

Application of new scientific, technical and engineering knowledge requires:

- **'ultrasound' salinity mapping** and related technologies in priority catchments/regions. A nationally coordinated effort to identify salinity deposits and flows as a basis for focused catchment/region management action using "ultrasound" salinity mapping and related technology is required. To address water quality and salinity issues, this will include groundwater modelling, and completion of vegetation and land use mapping;
- **salinity response teams** to be established, to provide specific technical expertise to assist communities to develop integrated catchment/region management plans;
- **development of production systems** attuned to Australian conditions that facilitate sustainable production in rural and regional Australia. This should also include new commercial opportunities in saline environments (such as brine shrimp and the development of new salt-tolerant crop and pasture species), and the sustainable use of native plants and animals; and
- **salt interception/engineering schemes** in areas that are exporting salt into waterways, and where resulting downstream impacts are positive.

7. Improved Governance for Land and Water Management

Reform of pricing, property rights and regulatory instruments for land and water use is needed to protect the long-term profitability and sustainability of the resource base.

Governments will need to evaluate the social impacts of such reforms on regional communities and recognise that compensation and adjustment assistance may be required. Without adjustment assistance, reform may be divisive, not supported by affected communities and possibly unachievable.

Over-allocated and stressed surface and ground water systems require attention as they currently generate unreliable allocations for domestic and commercial uses and environment requirements.

Property Rights and Pricing

Clarification of property rights and appropriate pricing of water is fundamental in the management and remediation of water quality and salinity. (Despite Council of Australian Governments (COAG) water reform requirements, some jurisdictions need to make much greater progress). Governments need to ensure:

- **rigorous assessment for the 3rd tranche National Competition Policy payments** to ensure COAG water reforms are implemented;
- completion of State and Territory actions to **separate property rights for water resources from property rights for land title**. This would then enable trading systems for water resources to be pursued so that higher value uses are achieved as well as facilitate provision of water for the environment;
- **caps to be set for all surface and groundwater systems** identified as over-allocated or approaching full allocation;
- **buying-back or “clawing back” ground and surface water allocations** with compensation to promote adjustment to affected individuals where appropriate (another

approach would be to **invest in projects that result in more efficient delivery, use and recycling of water** to allow more water to be made available for allocation to rural landholders and the environment; and

- introduction of a new approach to groundwater and surface water administration that recognises their interdependency and the need for their joint management for salinity and water quality outcomes.

Land Clearing in Salinity Risk Areas

Recognising the fact that land clearing in salinity risk areas is a primary cause of dryland salinity, effective controls on land clearing are required in each jurisdiction:

- any Commonwealth investment in catchment/region plans will be contingent upon **land clearing being prohibited in areas where it would lead to unacceptable land or water degradation**; and
- the Commonwealth will require agreement from relevant States/Territories (particularly Queensland, New South Wales and Tasmania) that their vegetation management regulations are effectively used or, where necessary, amended to combat salinity and water quality issues.

Market Based Systems

Some market-based measures will be an important stimulus for achieving water quality and salinity outcomes. The most promising measures that could be developed include:

- working with industry to identify and apply market based measures that accelerate uptake of best practice environmental management systems; and
- a natural resource management trading “trust” piloted in two areas. The “trust” would be the market intermediary between private and public investors with interests in improved environmental management outcomes for salinity, carbon, biodiversity etc (such as lowered water tables, reduced stream salinity, cleaner water and air, nature conservation) and landholders who would provide those outcomes (for example





through tree planting and habitat protection) in selected salinity/water quality impacted catchments/regions. These “credits” and unit shares would be tradeable on private markets; and

- In two other pilot areas test a scheme in which private intermediaries such as forestry companies are encouraged to bid jointly with landowners and community groups for salinity and biodiversity funds to supplement their return from forestry and carbon credits. Government funds would only be available for areas identified through catchment/regional plans. Benefit and cost sharing between intermediaries, landowners and community groups would be negotiated prior to the bids.

Accountability

To measure and manage these investments and to provide proper accountability:

- **Commonwealth funding will only be made available to those States/Territories prepared to implement the Action Plan as a package**, that is including the governance and capacity building initiatives as well as the support for the development of integrated catchment/region management plans which address salinity and water quality and other related natural resource management issues in an integrated way;
- implementation of the **Action Plan will require a timetable jointly agreed** by the Commonwealth and the States/Territories;
- **joint Commonwealth and State/Territory accreditation** of integrated catchment/region management plans should occur prior to block funding being made available to communities;
- **regional communities will need to be organised into appropriate catchment/regional based bodies, and be accountable for the expenditure of public funds including block funding and for reporting against well defined delivery requirements;**
- **ongoing monitoring, measuring and reporting arrangements** for the Action Plan building on the work of the National Land and Water Resources Audit undertaken under the NHT and State of the Environment reporting.

8. Commonwealth, State, Territory, Local Government and Community Roles

Effective institutional arrangements are essential to successful implementation of the Action Plan. The Prime Minister and Premiers and Chief Ministers will need to be confident that the roles played by the Commonwealth, States, Territories, local governments and communities are transparent and widely understood by all stakeholders.

The Commonwealth is prepared to make a major financial contribution to implement the Action Plan. The States and Territories will be expected to match this contribution.

The participating communities will also be expected to make appropriate contributions.

The Action Plan is expected to enable significant progress over a six to eight year period. In some regions, however, the work required will take 10 years or more.

It needs to be recognised that the issues being dealt with under this Action Plan are long term, with increased understanding being acquired as issues are addressed. It is important that there is sustained commitment by the Commonwealth, States, Territories and the community to Action Plan implementation and the development of markets, and that this be emphasised from the outset.

It would be prudent to revisit the level of investment in the Action Plan towards the conclusion of the program of investment.

It should also be noted that costs of implementation for individual catchments/regions will vary considerably depending on the nature of the issues to be addressed. Costs will be lowest in those catchments/regions where early preventive action can be taken. Conversely, costs will be highest in those catchments/regions that have been extensively cleared with significantly degraded waterways.

Community Role

The regional community role in the framework of the Action Plan is crucial and lies principally in the **development of integrated management plans** and the delivery of desired outcomes, including the negotiation of trade-offs needed to give effect to the plan.



The requirements themselves will need to be agreed by the Commonwealth and States and Territories in consultation with the community. The requirement will include targets for salt and nutrient levels, water quality and biodiversity that the community can pursue in their integrated plans.

The Commonwealth and States and Territories will ensure that appropriate community bodies are in place to implement the Action Plan. These arrangements may vary from jurisdiction to jurisdiction.

Commonwealth – State and Territories

The Commonwealth and States and Territories will need a **single Natural Resource Management Council** that can sign off on the targets and standards, and establish arrangements for monitoring progress in achieving them. The proposed Council may want to vary the Action Plan to incorporate feedback from reporting systems and thereby ensure the Action Plan is dynamic, responsive to new information and remains on course to achieving its objectives. A COAG agreement should ensure that the Council has the necessary powers to undertake this role with rigour, transparency and decisiveness. Arrangements for the provision of **independent expert advice to the Council** should also be agreed with the States and Territories.

The proposed natural resource management council would replace existing Commonwealth/State/Territory councils on issues currently concerned with elements of salinity, water quality, biodiversity and other natural resource management and related environmental issues. (Two Ministerial Councils, ANZECC and ARMCANZ have both discussed the need for change). It would also be appropriate to **review the workings of the Murray-Darling Basin Ministerial Council** in the context of achieving integrated natural resource management outcomes and effective implementation of the Action Plan.

9. Public Communication

Successful implementation of the Action Plan requires broad community awareness and support. **A major public communication** program is required to support the Action Plan.

10. Beyond the Action Plan

It is important that the Action Plan be seen as an initial step. The Action Plan will lead to major systemic improvements in land and water management. The catchments/regions would address the areas highly affected, or causing high salinity risk and water quality problems.

In addition to this Action Plan, attention in future will need to be given to other high priority natural resource management issues such as the broader conservation of biological diversity and preventing productivity decline (including soil structure decline, acid sulphate soils etc) in other catchments/regions. Agreement by the Commonwealth to a subsequent commitment will be conditional on agreement by the States and Territories to the Action Plan.

11. Conclusions

This Action Plan builds on NHT action and recent initiatives proposed by State/Territory Governments (in particular Western Australia, New South Wales, Victoria and South Australia) and the Murray Darling Basin Ministerial Council. The Action Plan brings new integrated approaches to improve the future management of salinity and water quality. In particular, the Action Plan:

- provides the basis for a national approach to salinity and water quality solutions by engaging the Commonwealth, States, Territories and community;
- provides a total package with catchment/region funding accompanied by State and Territory action to establish property rights and protect environmental quality;
- requires accountability for the use of public funds through accreditation of plans and stringent requirements for monitoring, reporting and decision making at the Ministerial and community levels; and
- shifts the focus to proactive outcome driven community plans with performance monitoring and supported by a better regulatory environment, application of scientific knowledge and expertise for community benefit and more efficient use of limited funds.



Further information

The National Action Plan for Salinity and Water Quality is a strategy for tackling salinity and for improving water quality in Australia.

Agriculture, Fisheries and Forestry – Australia (AFFA) and Environment Australia (EA) are working in partnership with State/Territory governments and regional communities.

If you would like more information:

www.affa.gov.au/actionsalinityandwater

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