COMMONWEALTH RESPONSE

TO

THE SENATE STANDING COMMITTEE ON ENVIRONMENT, RECREATION AND THE ARTS (SSCERA) REPORT

"WATER RESOURCES - TOXIC ALGAE" - December 1993

December 1994

COMMONWEALTH RESPONSE TO *WATER RESOURCES - TOXIC ALGAE*

Background

In December 1993 the Senate Standing Committee on Environment, Recreation and the Arts presented to the Senate a Report entitiled *Water Resouces- Toxic Algae.*

The Response has been prepared in conjunction with the Department of Primary Industries and Energy, the Department of Finance, the Department of Housing and Regional Development, the Department of Industry, Science and Technology and relevant areas of the Environment Portfolio.

While the Government generally supports the intent of the Report, many of the recommendations have significant potential budgetary and resource implications. The Government would need to consider and prioritise the recommendations within the normal budget context.

Overview

The Commonwealth sees the management of algal blooms as an issue of national significance and welcomes the Senate Committee's Report and its recommendations. The Commonwealth is actively developing, in co-operation with the States and Territories, a nationally consistent approach to algal bloom management. This approach is in line with the Commonwealth's role in water resources management of providing policy leadership and national coordination.

Policies and programs aimed at the reduction of the impacts of algal blooms are being actively pursued through the development and implementation of national, State and catchment based strategies. These strategies have adopted a multi-faceted approach and address both the impacts of blooms should they occur, and the causes of algal blooms. The strategies include the development of algal bloom contingency plans, management of streamflow, long term nutrient management and research. However, even when such strategies are in place it can be expected that blooms will be frequent at least for another decade as a result of phosphorus stored in the waterways.

In the December 1992 *Statement on the Environment* , the Prime Minister set out the Commonwealth's commitment to assist in the improvement of the water quality of Australia's river systems. The initiatives announced in that Statement are designed to address nationally significant water quality issues and to act as a catalyst for States and local community action on their most immediate water quality problems.

For example, the Government is injecting more than $70 million over four years to improve catchment management and water quality throughout the country, including efforts to address the causes of algal blooms. The Commonwealth is looking to catchment management processes to lead the development and implementation of the sustainable use of natural resources. Water quality is a particularly sensitive measure of sustainability. This is best achieved through planning and implementation processes involving consultation with, and the effective participation of, the full range of stakeholders.

A high priority will be given to addressing point sources of nutrient pollution which are an important contributor to the formation of algal blooms. Point sources arising from waste water, irrigation drainage, stormwater and effluent discharge will be targeted through better management.

While high priority is given to projects addressing point source pollution, a significant proportion of the available funding will be used to address diffuse source pollution in a whole catchment context. It is difficult to accurately assess the relative contribution of nutrients from diffuse or dispersed agricultural run-off and other potential sources. Diffuse nutrient loads enters waterways principally from run-off and soil erosion during high flow events and over a broad geographical area. Their primary control rests with land use planning, the promotion of 'best management practices and construction of catchment water quality control works such as artificial wetlands, riparian buffer strips and fencing of water course margins to prevent livestock access.

The National Water Quality Management Strategy (NWQMS), as a joint initiative of the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) and the Australian and New Zealand Environment and Conservation Council (ANZECC) is being developed in response to growing community concern about the gradual deterioration in the quality of the nation's water bodies. The Strategy will set an overall strategic direction for water quality management and is based on the principles of the National Strategy for Ecologically Sustainable Development. The objective for the NWQMS is 'to achieve sustainable use of the nation's water resources by protecting and enhancing their quality while maintaining economic and social development.'

The Government endorses the emphasis put on the NWQMS by the Senate Committee in its recommendations. There are, however, a number of recommendations referring to the NWQMS that fall outside its scope. Consequently other measures will be necessary to advance these recommendations. These are noted in the discussion of the specific recommendations.

The NWQMS provides a national framework for the protection of surface water and groundwater quality throughout Australia by the development of high

status guidelines which act as the point of reference when water quality is determined on a case-by-case basis. This approach provides a shared national objective while allowing flexibility to respond to differing regional and local circumstances.

The Strategy proposes the adoption of a package of complementary regulatory and market-based measures to take advantage of the strengths of both approaches. The adoption of 'user pays' and 'polluter pays' policies can ensure that resource users bear the costs associated with the use of water resources rather than pass them on to society as a whole. Other measures which could be adopted to maintain and protect water quality include adoption of minimum wastewater discharge guidelines or standards set on the basis of modern accepted technology or a requirement to install modern and efficient technology in new developments. Community consultation and involvement is integral to the successful implementation of the Strategy.

The first phase of the NWQMS was launched in August 1992 with the release of a series of discussion papers and draft guidelines for public comment. Three key elements of the Strategy have been finalised, namely, *Policies and Principles -A Reference Document* and *Water Quality Management - An Outline of the Policies* which address the underlying philosophy and principles of the Strategy, and *Australian Water Quality Guidelines for Fresh and Marine Waters* which provides guidance for the application of scientifically based water quality criteria as part of the process for setting water quality objectives for particular waterbodies. A current status report on the Strategy is at **Attachment 1.**

Schedule 4 of the Intergovernmental Agreement on the Environment envisages the establishment of the National Environment Protection Council (NEPC) which is a Ministerial Council between Commonwealth and participating State and Territory Ministers. The main objective of NEPC is to develop and pass national environment protection measures (NEPMs) such as standards, guidelines, goals or protocols. NEPMs are to be developed *inter alia* for ambient marine, estuarine and freshwater quality. The NEPMs will take account of natural variations of parameters under consideration. Adoption of NEPMs should help in preventing algal blooms.

Complementary Commonwealth/State legislation is needed for NEPC to be established. At the COAG meeting in February 1994, all participating jurisdictions agreed to introduce legislation to establish NEPC as soon as possible. The Commonwealth introduced its NEPC Bill in June 1994. All participating States and Territories have indicated their readiness to enact their respective NEPC Bills by the end of 1994. Thus NEPC should be operational in 1995.

The Council of Australian Governments agreed, at a meeting in February 1994, to a package of measures for water reform which include issues pertaining to water

quality and allocation and is also relevant to the Committee's recommendations. A copy of the recommendations on Water Resources Policy is at **Attachment 2.**

RESPONSES TO SPECIFIC RECOMMENDATIONS

Sewage treatment

Recommendation 1

The Committee recommends that in relation to sewage treatment works as a matter of urgency that:

- **relevant local authorities be advised by the Commonwealth and State/Territory governments of the amount of possible funding available and the realistic timeframe for the provision of government funds to upgrade sewerage systems; and**

- **current funding mechanisms be revised to ensure that local governments are encouraged to take preventative actions where it is economically and environmentally beneficial to do so.**

This recommendation is supported.

Primary responsibility for water resource management belongs to State, Territory and local government. While additional funding support was announced in the Prime Minister's December 1992 *Statement on the Environment*, this support is designed to act as a catalyst for more effective management of sewage treatment works. It is not the intention of the Commonwealth to maintain an ongoing funding program to upgrade sewage treatment works.

Priority is being given by the Commonwealth to the immediate assessment and early implementation, in consultation with State and local governments, of the most effective and efficient methods of improving the sewage treatment plants at ten centres responsible for the majority of the sewage nutrients entering the Darling River system. This initiative will receive funding until 1996-97.

The Country Towns Water Supply Improvement Program was extended to include waste water treatment for small rural communities at a cost of $16 million over a period of four years. The extension of small towns management activities to include waste water treatment will help improve water quality for the environment and other users. In 1993-94 as a result of the *Statement* the Commonwealth provided assistance of $4.5 million to 41 wastewater projects in small centres under the water services element of the National Landcare Program.

Other Commonwealth sewerage initiatives include:

- elements of sewerage and waste water treatment construction which are part of area strategies being funded under the Commonwealth's 5 year Better Cities Program - due to expire in 1995-96; and
- a range of innovative sewerage and water treatment projects funded under the One Nation initiative - due for completion in 1994-95.

The Commonwealth is concerned not to encourage the expectation that it will automatically subsidise the development of water-related infrastructure and recommends that water reform objectives form part of the criteria for consideration of future urban capital works. Guiding principles with regard to infrastructure provision generally should be the concepts of user-pays, beneficiary pays and polluter-pays.

Recommendation 2

The Committee recommends that, following receipt of the forthcoming ARMCANZ report, a review of policies at all levels of government be conducted to ensure the consideration of alternative sewage treatment options when upgrading sewerage systems.

This recommendation is supported.

The Government announced in the Prime Minister's 1992 Environment *Statement* that a major new emphasis in Commonwealth water management programs would be placed on facilitating low cost, effective wastewater treatment and disposal, utilising Australian expertise and technology. As a result the water services elements of the National Landcare Program are being reshaped to assist, wherever possible, the demonstration of alternative technologies and measures.

Further, where NLP assistance is provided, the Commonwealth seeks undertakings from State and local water authorities to the opening of tender processes to allow opportunities for Australian suppliers of alternative sewage treatment options and management approaches. This assistance helps alleviate uncertainties some water service providers may have in adopting new technologies.

The Commonwealth also provides assistance for projects that enhance awareness by water service providers of new wastewater management technologies and their application. Through the NLP, it is funding preparation of a compendium of small town management technologies for use by local government and regional sewerage authorities. It is also funding a nationwide analysis of the relative costs of delivering water services which is designed to enhance awareness of the costs and relative performance of alternative technologies and approaches. A study of economic instruments that may encourage innovative

measures for the reuse or reduction of wastewaters is also being funded. The results of these projects are expected to be available early in 1995.

Recommendation 3

The Committee recommends the implementation of policies by the relevant authorities at all levels of government stipulating achievable minimum effluent standards for point source nutrient pollution.

This recommendation is supported.

This is mainly a State and Territory responsibility. The matter will also be referred to ANZECC and ARMCANZ for their consideration in the development of the NWQMS.

The technology for stringent effluent standards or guidelines for point source nutrient levels is available. Such standards or guidelines would encourage use of best available technology. Achievement of such standards or guidelines may require significant expenditure.

Environments differ in their assimilative capacities. It would therefore be desirable if, within broad guidelines, effluent standards reflected different local and regional conditions. Mechanisms should also be available to ensure that a locality's total assimilative capacity is not exceeded over time as new sources of effluent are established.

Any discharge should not cause local ambient water concentrations to exceed guidelines such as the ANZECC *Water Quality Guidelines for Fresh and Marine Waters* or (at some future date) any national environment protection measures that NEPC may have introduced.

The factors relevant to algal bloom formation have inherently wide ranges, for example, naturally occurring phosphorus concentrations in rivers, the number and nature of other discharges nearby, flow rates of rivers and other factors such as turbidity. It is therefore preferable to assess the effluent concentration requirements on a case by case basis. This should however, be subject to general guidelines including the precautionary principle. Additionally, the ANZECC *Water Quality Guidelines for Fresh and Marine Waters* also recommend that site specific studies are needed to determine the potential for undesirable algal growth in waterbodies.

Alternatives to discharge to waterways, for example effluent irrigation of trees, are likely to require different standards or guidelines.

Recommendation 4

The Committee recommends that the development of the National Water Quality Management Strategy include an urgent review by the responsible authorities of the efficiency of existing sewerage systems to establish their performance levels relative to their capacity to remove nutrients.

This recommendation is supported.

The matter will be referred to ARMCANZ and ANZECC for their consideration in the development of the NWQMS.

Recommendation 5

The Committee recommends that the development of the National Water Quality Management Strategy include urgent attention being given by responsible authorities to situations where effluent overflows or bypasses sewage treatment plants.

This recommendation is supported.

The recommendation will be referred to ANZECC and ARMCANZ for their consideration in the development of the NWQMS guidelines on sewerage systems and rural water quality. Expansion of the sewerage documents to cover overflows and bypasses is already being planned.

Recommendation 6

The Committee recommends that the development of the National Water Quality Management Strategy include information relating to the successful use of treated sewage for irrigation being circulated to local communities who might take advantage of this approach.

This recommendation is supported.

The matter will be referred to ARMCANZ and ANZECC for their consideration in the development of the NWQMS.

The application of treated sewage to land provides water and nutrients to growing crops, trees or pastures and at the same time reduces sewage discharge to waterways. On the negative side, however, as has been raised in relation to groundwater protection in the NWQMS, application of waste water to land can result in groundwater contamination. Contaminants such as heavy metals, high organics, nutrients, faecal bacteria, viruses and protozoa can make their way into

groundwater from sewage effluent. These hazards need to be assessed to see how significant they are and how they can be addressed.

The National Health and Medical Research Council (NH&MRC), in conjunction with ANZECC and ARMCANZ, is developing guidelines on the land disposal of sewerage sludge and other uses for sludge such as for fuels. Interim guidelines are already available in a number of States.

A combined ARMCANZ/ANZECC/ NH&MRC Working Group is also currently reviewing the 1987 *Guidelines for Use of Reclaimed Water in Australia.* This revision will identify levels of treatment and acceptable water quality for a range of uses including urban, industrial, environmental enhancement, agriculture and recreational purposes. These guidelines are being developed to help local councils and communities make informed decisions on the disposal of waste from sewage treatment plants.

Recommendation 7

The Committee recommends that the development of the National Water Quality Management Strategy include provision for a full environmental impact assessment being conducted prior to establishing any land disposal site for sewage.

This recommendation is supported.

The matter will be referred to ANZECC, ARMCANZ and NHMRC for their consideration in the development of the NWQMS guidelines for both effluent and sludge disposal. Long term intensive irrigation with sewage effluent or application of sewage sludge would benefit from environmental impact assessment. For lesser uses or low risk situations, existing approvals and licensing processes, supported by guidelines, and with effective monitoring, should suffice.

In order to make effective use of the environmental impact study procedure we need to have better estimates of the efficiency of nutrient removal by various plant, soil and climate combinations. This matter will also be referred to ARMCANZ and ANZECC for their consideration in setting research priorities.

Phosphates in detergents

Recommendation 8

The Committee recommends that existing and proposed campaigns to achieve lower phosphate levels in detergents through marketing strategies be continued.

This recommendation is supported. See also the comments on Recommendations 9, 10 and 11 on the development of a national approach to phosphorus in detergents.

The NSW Local Government Phosphorus Action Plan is a professional multi-disciplinary program designed to mobilise communities to act to substantially improve water quality and create a measurable and sustained reduction in the phosphorus inflow into sewage treatment works and from urban and rural run off.

A leading initiative in the NSW Local Government Phosphorus Action Plan is a pilot phosphorus awareness and reduction campaign project being trialled in the Albury area. The project is undertaking a comprehensive urban nutrient management study to achieve lower phosphate levels in waterways. The project is being supported under the National Landcare Program. The Albury campaign has the potential to provide a model for similar activities on a national basis. This pilot project has generated interest nationally as part of an overall strategy to minimise nutrients entering our waterways through the raising of public awareness of the environmental impacts of the use of phosphorus enriched products or wastes.

The generation of constructive community responses through such initiatives may impact on the level of phosphorus in detergents, as well as affecting the levels of phosphorus entering waterways from other sources. The ANZECC/ARMCANZ national approach will facilitate coordinated action to address nutrient pollution.

Recommendation 9

The Committee recommends that if a significant reduction in levels of phosphorus in detergents has not been achieved within two years then legislation be enacted to reduce levels or to ban phosphates in detergents.

Consideration of this recommendation should be deferred until the ANZECC/ARMCANZ national approach on phosphorus in detergents has been developed.

This strategy will review the relationship between phosphorus and algal blooms, sources of phosphorus in waterways and wastewater treatment options. Measures to reduce phosphorus accessions to be discussed include the effectiveness of detergent formulation changes, economic measures and enhanced sewage treatment. It should be noted that reducing or eliminating phosphorus in detergents may not be enough to have a significant impact on reducing algal blooms while there are other sources of phosphorus reaching waterways and while there is already a store of phosphates in streams and sediments.

The use of legislation is unlikely to be the most cost effective mechanism for implementing phosphorus reductions. Nor is it likely to be the most acceptable mechanism from an industry perspective. A preferable approach would be the application of an economic instrument to provide an incentive for producers to reduce phosphorus content. The level of these charges could initially be set at a rate which acknowledges the cost of implementation and adjustment and which may increase over time as costs are fully absorbed. This would provide producers with greater certainty and also serve to address timing issues raised in recommendation 10. Similarly, the acceptable level of phosphorus could be reduced over time according to a set timetable.

Recommendation 10

The Committee recommends that if the reduction in the levels of phosphorus in detergents is to be addressed through legislation then the manufacturers be given reasonable time to develop new or improve existing products.

Consideration of this recommendation should be deferred until the ANZECC/ARMCANZ national approach on phosphorus in detergents has been developed.

Recommendation 11

The Committee recommends that a national approach be adopted in relation to truth in labelling for detergent manufacturers in relation to phosphate levels.

This recommendation is supported. See also the response to Recommendations 9 and 10 relating to the development of a national approach on phosphorus in detergents.

A proposal for a strategy for national labelling is being formulated in consultation with industry and the States building on the initiative which has been introduced in New South Wales. ARMCANZ has endorsed such a strategy "in principle " and has asked officials to finalise the strategy in light of related

legislation and policies. ARMCANZ also recognised that the above mentioned action would not in itself be sufficient to deal with the problem.

Septic tanks

Recommendation 12

The Committee recommends that as part of the development of the National Water Quality Management Strategy, ARMCANZ take steps to ensure that there is a mandatory requirement to have septic tanks desludged on an annual basis as a condition of installation.

This recommendation is supported in principle. This is a State or local government responsibility.

The recommendation will be also referred to ARMCANZ for the development of technical advice on the overall impact of desludging septic tanks before such requirements are established.

Urban runoff

Recommendation 13

The Committee recommends that as part of the development of the National Water Quality Management Strategy, the provision of dual reticulation systems for the use of 'grey water' be considered in the development of new housing estates on a national basis.

This recommendation is supported in principle.

The Council of Australian Governments agreed as part of a package of reform measures for water resources policy that " ARMCANZ, ANZECC and the Ministerial Council for Planning , Housing and Local Government examine the management and ramifications of making greater use of wastewater in urban areas and strategies for handling stormwater including its use, and report to the first Council of Australian Governments' meeting in 1995 on progress".

One of the major aims of the Better Cities Program is to improve Australia's urban environments in keeping with the principles of ecologically sustainable development. State and Territory Governments have signed agreements which outline certain outcomes for each year of the program, including milestones relating to the implementation of environmental protection measures. These milestones are expressed in terms that allow State and Territory Governments to decide on the details of implementation in light of local circumstances.

The National Capital Planning Authority has conducted a series of seven technical seminars to disseminate information about the experience being gained through the Better Cities Program. To assist with this process, each technical seminar has been documented into a Report, one of which is titled *Designing Subdivisions to Save and Manage Water.*

Recommendation 14

The Committee recommends that as part of the development of the National Water Quality Management Strategy, adequate treatment of storm water runoff to prevent nutrient pollution of waterways be incorporated as an integral part of the planning of new urban developments.

This recommendation is supported in principle.

As mentioned in the comments concerning Recommendation 13, the management and ramifications of making greater use of wastewater in urban areas and strategies for handling stormwater including its use are issues which are being addressed under the COAG reforms.

Guidelines for the holistic planning and management of urban stormwater systems are being developed as part of the NWQMS. However, it may not be feasible given its diffuse nature to treat all stormwater entering waterways.

Data on nutrient levels

Recommendation 15

The Committee recommends that all data collected by government instrumentalities in relation to nutrient levels be made available to other agencies and the public.

This recommendation is supported.

This is mainly a state and territory responsibility and will be referred to ANZECC and ARMCANZ for their consideration in developing the water quality monitoring module of the NWQMS.

Data obtained under the Monitoring River Health Initiative (MRHI) (see comments under recommendation 29) will be made widely available through the Commonwealth's Environmental Resources Information Network (ERIN).

Water allocations

The Council of Australian Governments (COAG) , in its report on Water Resource Policy, made a number of recommendations in relation to water allocation for the environment as part of a package of reform measures. The report sets out a strategic framework for the future management of water (including allocations for the environment), having regard to the policy and technical diversity currently existing among States and Territories. Recommendations 16 to 20 will be followed up in the context of the COAG Water Resource Policy Report.

Recommendation 16

The Committee recommends that as part of the development of the National Water Quality Management Strategy, no further irrigation water entitlements be issued in any area until it has been established that there is adequate water available to meet the environmental requirements of the downstream sections of the waterway after existing allocations have been used.

This matter will be addressed in the context of action following the COAG Water Resource Policy Agreement, in particular Recommendations 4b to 4f. (See Attachment 2)

Unregulated flows

Recommendation 17

The Committee recommends that the Commonwealth Government use its influence to facilitate the urgent consideration of further controls on the unregulated sections of major waterways to ensure the passage of environmental flows and water for downstream users.

This matter will be addressed in the context of action following the COAG Water Resource Policy Agreement, in particular Recommendation 4a. (See Attachment 2)

Unregulated flows are recognised by Government as playing a key role in maintaining and preserving many of the natural processes and valued features of river systems. Unregulated flows provide the triggers and conditions necessary for vital environmental functions and introduce elements of variability and seasonality essential for the retention of many plants, animals and whole ecosystems. A failure to protect natural processes and aquatic ecosystems will place the river itself, the long term use of water and the irrigation industry in jeopardy.

Off-allocation flows

Recommendation 18

The committee recommends that as part of the development of the National Water Quality Management Strategy, urgent attention be given to feasibility of the continued use of off-allocation flows, and that the communities concerned be advised accordingly.

This matter will be addressed in the context of action following the COAG Water Resource Policy Agreement, in particular Recommendation 4d. (See Attachment 2)

Until recent times, there have been few, or no, restrictions put on the amount of water individual water users can take during times that off-allocation water is available. This has meant that there has been practically no formal balancing of irrigators' demands for water against environmental needs or the requirements of users in downstream valleys. The results of this form of management have been varied, with conflict occurring between upstream water users and those further downstream, and a growing concern that river health is being damaged.

Scientific research carried out under the National River Health Program will also help to address these imbalances and provide guidelines for the future use of off-allocation flows.

Recommendation 19

The committee recommends that as part of the development of the National Water Quality Management Strategy, urgent attention be given by the responsible authorities to the feasibility of meeting existing water allocations in the future, including those that have been granted but not yet used, and that the communities concerned be advised accordingly.

This matter will be addressed in the context of action following the COAG Water Resource Policy Agreement, in particular Recommendations 4d to 4f. (See Attachment 2)

Environmental flows

Recommendation 20

The Committee recommends that the Commonwealth Government use its influence where possible to facilitate the introduction of environmental allocations nationally after consideration of the legal, social and economic implications.

This matter will be addressed in the context of action following the COAG Water Resource Policy Agreement, in particular Recommendations 4d to 4f. (See Attachment 2)

Before allocating water for environmental flows, the flows that are required to sustain the ecological values of aquatic systems need to be established. As part of the Monitoring River Health Initiative, announced in the Prime Minister's 1992 *Statement on the Environment*, the Commonwealth is administering a series of research projects focused on environmental flow requirements for Australia's waterways. The projects investigate the environmental flow requirements necessary to maintain the ecological processes within aquatic systems.

Flood plains

Recommendation 21

The committee recommends that as part of the development of the National Water Quality Management Strategy, the approval of future developments be dependent on an assessment of the impact on downstream flood plains.

This recommendation is supported.

This matter will be addressed in the context of action following the COAG Water Resource Policy Agreement, in particular Recommendations 4f. (See Attachment 2)

Public concerns

Recommendation 22

The Committee recommends that contingency plans be required to outline the procedures to be carried out at local, State/Territory and Commonwealth levels in the event of algal blooms.

This recommendation is supported.

The States now have in place contingency plans which include action alert levels and are also implementing uniform monitoring and testing protocols and alternative operating practices. State and Territory agencies are also producing manuals for management of algal blooms.

The Water Resource Management Committee (WRMC) of the Standing Committee on Agriculture and Resource Management (SCARM) provides national coordination of algal management issues.

Recommendation 23

The Committee recommends that as part of the development of the National Water Quality Management Strategy, water managers and health departments be provided with sufficient information in relation to the treatment of algal blooms for them to be able to make timely decisions in relation to the management of water bodies.

This recommendation is supported.

The matter will be referred to ARMCANZ and ANZECC for their consideration in the development of the NWQMS, in particular the Water Quality Implementation Handbook, a document that outlines procedures for the implementation of the NWQMS. Another module of the NWQMS, on rural water quality, will also deal with algal blooms.

See also the response to Recommendation 22 in relation to the establishment of contingency plans and the production of manuals for the management of algal blooms.

The Commonwealth believes it is essential for Health Departments to provide accurate and timely information to the public.

Recommendation 24

The Committee recommends that communities be informed of the reasons for decisions taken by water managers and health departments to address toxic algal blooms in their areas.

This recommendation is supported.

The matter will be referred to ARMCANZ and ANZECC for their consideration in the development of the NWQMS, in particular the Water Quality Implementation Handbook.

Public warnings

Recommendation 25

The Committee recommends that:

- **a set of guidelines outlining the procedures and responsibilities of water managers and health authorities to provide adequate public warnings be developed; and**

- **a comparative study of the effectiveness of various warning mechanisms be undertaken and water managers be advised of the full range of options available.**

This recommendation is supported.

The matter will be referred to ARMCANZ for consideration by State and Territory Governments in their development of contingency action plans to address the impact of algal blooms.

In relation to the first point, the guidelines should define the responsibilities of the various authorities involved. This should reduce duplication of responsibilities and identify any gaps that may occur. Legal advice should also be provided to water managers and health authorities on public liability.

Concerning the second point, the study should be undertaken by managers in their own district as a method used in a country town may not be applicable to a large city.

Recommendation 26

The Committee recommends that it be part of the procedures for advising the public of the presence of algal blooms that notification should be given when the danger has subsided.

This recommendation is supported.

The matter will be referred to ARMCANZ for consideration by State and Territory Governments in their development of contingency action plans to address the impact of algal blooms.

Monitoring

Recommendation 27

The Committee recommends that a national set of guidelines in relation to the monitoring of algal blooms be adopted as soon as practicable.

This recommendation is supported.

The matter will be referred to ANZECC, ARMCANZ and NHMRC for their consideration in the development of the NWQMS.

Recommendation 28

The Committee recommends that the Commonwealth Government give consideration to providing the necessary resources for the collation and analysis of the available historical data on algal blooms, nutrient levels and flow rates.

Both Commonwealth and State agencies hold a large amount of historical natural resource data, including information on water quality and quantity. To assist the effective management of this information, governments through the *Intergovernmental Agreement on the Environment* (1992), agreed to a schedule on data collection and handling. The schedule identifies the Australian and New Zealand Land Information Council as responsible for facilitating the effective management of land related data held by various agencies.

Under the Constitution, State Governments are responsible for management of water resources, and historically have undertaken the major role of data collection and management. The Commonwealth would see any data collation and analysis exercises operating within the existing state frameworks and therefore for States to continue with the primary role of data collection and storage. Analysis of relevant water information which is found to be necessary could be undertaken by making use of State data files rather than duplicating information through the establishment of a centralised data-base.

At the Commonwealth level, agencies holding such information include the Environmental Resources Information Network, Australian Surveying and Land Information Group, National Resources Information Centre, Bureau of Statistics and the Australian Bureau of Meteorology. A number of these agencies have established data sharing arrangements between themselves and with state natural resource agencies and other institutions including universities, museums, etc. The existence of such agreements negates the need to centralise (and therefore duplicate) all existing data within a Commonwealth agency.

The Commonwealth is cautious in some respects over the value of historical data collation and analysis, given the often inconsistent nature of the historical data. The aim of this activity is to identify trends in historical water quality and quantity data and to use this data to forecast whether current conditions are likely to initiate algal blooms. The Murray River is probably the best historically monitored river system in Australia, with data on flow rates available from about the 1930's. However, it is interesting that even here, where there is the best chance of using existing historic data for trend analysis, the Inquiry's Report (para 3.41) notes that, 'the existing network of permanent monitoring sites in the Murray-Darling Basin does not provide sufficient information on the development of algal blooms'. Data available on most other river systems only goes back to the 1970's, which in terms of use for identifying trends presents some difficulties due to the relatively short time period.

The Commonwealth Environment Protection Agency has commissioned a report on Water Quality Monitoring in Australia, which is due for completion in 1994. This report is expected to include recommendations on long term monitoring and data sets. Long term monitoring will be important for State of the Environment reporting.

LWRRDC is also supporting the analysis of long term data sets for algae in the Murray River and is supervising research projects into options for managing algal blooms through the manipulation of stream flows under the National River Health Program. See also comments on Recommendation 42.

The Commonwealth is aware that ARMCANZ has the development of a national data base on its agenda and will await the outcome of any decisions in this area.

Recommendation 29

The Committee recommends that consideration be given to the establishment of a number of long-term national reference monitoring sites.

This recommendation is supported.

The matter will be referred to ANZECC and ARMCANZ for their consideration in the development of the NWQMS.

The Monitoring River Health Initiative (MRHI) is establishing, in collaboration with the States and Territories under the National River Health Program, a wide range of reference and monitoring sites for biological monitoring using mainly macro invertebrates. Some more limited work will be done at these sites on macrophytes and algae. Such MRHI sites could also serve as long term national reference sites.

The actions outlined in the recommendation may not necessarily be the optimal approach. As with the above recommendation, it is considered that the actions can already be achieved through existing monitoring programs and data sharing agreements. Given the range of Commonwealth and State river monitoring sites already in existence, it is unlikely that new sites need be established. Instead, data from existing sites could, in addition to their current functions, also contribute to the national monitoring effort. In particular, it is noted that the supporting text states that "in some situations there may only need to be selective increases in the quality of existing monitoring programs to include long term data".

Legislation

Recommendation 30

The Committee recommends that the development of new legislation or other regulatory measures be required to demonstrate that due consideration has been given to the link between the natural resource industries and the environment.

As part of the Intergovernmental Agreement on the Environment (1992) the Commonwealth is committed to ensuring that any new legislation or other regulatory measures recognise the link between natural resource industries and the environment. The Agreement establishes a series of broad principles to guide the development and implementation of environmental policies and programs. The NWQMS and the National Strategy for Ecologically Sustainable Development also emphasise the importance of links between the natural resources industries and the environment. The principles underlying these initiatives include the adoption of a precautionary approach to environmental issues and the effective integration of environmental and economic considerations in decision making.

The recent COAG Water Resource Policy Report acknowledges the importance of government water reform action taking full account of the link between natural resource industries and the environment. For instance, the Report recommends that governments, where they have not already done so, develop administrative arrangements and decision-making processes which embrace an integrated approach to natural resource management.

Regulatory mechanisms

Recommendation 31

The Committee recommends that as part of the development of the National Water Quality Management Strategy, regulatory mechanisms be reviewed to ensure that the respective responsibilities and roles of various government agencies are clearly defined.

This matter will be addressed in the context of action following the COAG Water Resource Policy Report, in particular Recommendation 6c. (See Attachment 2).

The COAG Water Resource Policy Report notes that institutional arrangements surrounding natural resource management are not as clearly defined as they might be and regulatory functions are not always separated from service delivery. This has contributed to an overlap of responsibilities in some areas in relation to the trustee for the resources, establishing and enforcing regulatory requirements and service delivery. COAG has endorsed the principle that, as far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision be separated institutionally.

Incentive schemes

Recommendation 32

The Committee recommends that as part of the development of the National Water Quality Management Strategy, consideration be given to the effectiveness of incentive schemes for improving agricultural techniques in relation to maintaining water quality.

This recommendation is supported in principle.

The NWQMS promotes the use of market based incentive measures.

Investigations into incentive schemes will need to be aware that such schemes can become de facto subsidies shielding farmers from economic and environmental signals and resulting in inefficient outcomes. Such subsidies can also lead to poor equity and economic efficiency outcomes. Government initiatives should have regard to the user pays, beneficiary pays and polluter pays principles to signal the need for farmers to move to ecologically sustainable production methods early to forestall reducing productivity levels and increasing production costs.

The Commonwealth has established a Working Group with members from DPIE (ABRE/BRS), DEST, DoF, Treasury and DIST to undertake a scoping study of

economic measures which might reduce nutrients in Australia's water bodies. This will include an assessment of the potential use and effectiveness of a range of economic measures, with the aim of identifying, if appropriate, specific economic measures which may practically and feasibly promote practices to reduce nutrients in run-off. This Group is to report to Cabinet by February 1995.

One of the objectives of the National Landcare Program is to encourage a self-help attitude and capacity in locally based community groups in planning, promoting and implementing sustainable land use practices, including activities designed to assist in maintaining water quality. This is achieved by providing incentives and a framework for groups to understand the nature, extent and relative importance of land and water use problems; and to identify and acquire the information and skills needed to develop, apply and demonstrate practical solutions.

Community awareness

Recommendation 33

The Committee recommends that as part of the development of the National Water Quality Management Strategy, the state of community awareness in relation to algal blooms be assessed so that specific problem areas can be identified.

This recommendation is supported.

The matter will be referred to ARMCANZ and ANZECC for their consideration in the development of the NWQMS, in particular the *Water Quality Implementation Handbook*, a document that outlines procedures for the implementation of the NWQMS.

Community education forms a significant component of a range of DPIE and DEST water-related programs, including aspects of the Waterwatch, Community Landcare and Natural Resource Management Strategy programs. The Commonwealth considers that while it may be appropriate to continue well-targeted extension services, the generally high levels of community awareness of resource use/environmental issues, show that there may be some scope to re-focus funding to more directly target water reform objectives.

Preventative action

Recommendation 34

The Committee recommends that as part of the National Water Quality Management Strategy, a review be conducted of government policies to establish whether there is potential to provide incentives for members of the community to undertake preventative actions in relation to maintaining water quality.

This matter-is more appropriately addressed through Commonwealth funding programs such as the National Landcare Program and the Waterwatch program.

One of the objectives of the National Landcare Program is to encourage a self-help attitude and capacity by locally based community groups in planning, promoting and implementing sustainable land use practices, including activities designed to assist in maintaining water quality. This is achieved by providing incentives and a framework for groups to understand the nature, extent and relative importance of land and water use problems; and to identify and acquire the information and skills needed to develop, apply and demonstrate practical solutions. An outline of the National Landcare Program and its components is at Attachment 3.

The Waterwatch Program and other educational and community awareness incentives already provide incentives for community members to undertake preventative actions in relation to maintaining water quality. Waterwatch, for example, is a national umbrella encompassing Streamwatch, Frog watch, Saltwatch, Rivers of Blue and other water watch type programs. A national strategy and protocols and standards for data collection and recording through Telecom Nexus storage base have been developed and will be used by over 600 community groups throughout Australia. The program provides training and expertise to community groups and runs an education and awareness program.

National Water Quality Management Strategy

Recommendation 35

The Committee recommends that the guidelines for the National Water Quality Management Strategy be based on environmental criteria as well as physio-chemical factors.

This recommendation is supported.

The matter will be referred to ANZECC and ARMCANZ for their consideration in the development of the NWQMS.

Physico-chemical data are in fact 'environmental'. The biological monitoring within the Monitoring River Health Initiative (MRHI), being developed by the Commonwealth, State and Territories, will assist development of guidelines for the NWQMS.

Recommendation 36

The Committee recommends that the guidelines for the National Water Quality Management Strategy be sufficiently flexible to accommodate the natural variability in Australian freshwater ecosystems.

This recommendation is supported.

The matter will be referred to ANZECC and ARMCANZ for their consideration in the development of the NWQMS. The NWQMS, including the *Australian Water Quality Guidelines for Fresh and Marine Waters*, has been drafted to enable adaptation to local circumstances.

Recommendation 37

The Committee recommends that the development of performance indicators to measure the effectiveness of outcomes of proposed strategies in relation to water quality be an integral part of integrated catchment management.

This recommendation is supported.

The matter should be referred to ANZECC and ARMCANZ for their consideration in the development of the NWQMS, in particular the *Guidelines on Water Quality Monitoring and Reporting*. These Guidelines will provide a framework for a nationally consistent approach to water quality monitoring and reporting and will focus on resource assessment, identification and reporting on the current status and trends in water quality. As mentioned for recommendations 29 and 35, the MRHI will provide for long term biological monitoring to assess ecosystem health.

Performance indicators are needed to gauge accurately the effectiveness of its water management strategies. DPIE and DEST in developing performance measures will ensure those measures allow an assessment of how well the programs have contributed to the Commonwealth's water reform agenda including agreed COAG water reform measures.

Evaluation of the effectiveness of measures undertaken under the umbrella of catchment management activities will be an essential requirement for support under the National Landcare Program.

Integrated catchment management

Recommendation 38

The Committee recommends that adequate funding of integrated catchment management bodies be ensured, possibly as a proportion of the total expenditure on resource management.

A high proportion of Commonwealth landcare funding is now being directed towards integrated catchment management activities. In 1993-94 the Commonwealth through the National Landcare Program provided $11.5 million for agreed Commonwealth/State integrated catchment initiatives. The Commonwealth also contributed $6.9 million towards the Murray-Darling Basin Natural Resources Management Strategy, which is heavily focused on integrated catchment management and $5.7 million towards the Murray-Darling Basin Drainage Program which augments integrated catchment management.

There would be considerable program management difficulties in guaranteeing a minimum percentage of funding for integrated catchment management. There is a range of priorities for attention in natural resource management, which are all inter-connected and whose relative priority can change quickly. A guaranteed percentage of funding for any one area of activity will reduce the flexibility available in dealing with other and related priority issues. Furthermore, such agreed minimum percentages of funding will constrain governments in responding to funding of future natural resource management contingencies.

Recommendation 39

The Committee recommends that community representatives be elected by their communities to positions on integrated catchment management committees.

This recommendation is supported.

It should be noted, however, that responsibility for implementation rests with individual States and Territories. For example, the implementation strategy of the NWQMS (*The Water Quality Implementation Handbook*), is expected to include reference to the need for effective democratic and accountable representation on catchment committees or groups.

Government policies

Recommendation 40

The Committee recommends that the relevant government agencies be required to demonstrate that due consideration has been given to the impact of individual policies on other government or community programs in accordance with a multi-objective approach to management of resources.

This recommendation is supported.

This recommendation can be progressed in the context of the COAG Water Resource Policy Report recommendations 6a and 6b. (See **Attachment 2**). The Commonwealth through the National Landcare Program is facilitating the development and implementation of integrated approaches to natural resources management.

The current revision of Commonwealth EIA processes has identified the assessment of impacts of proposals on policies and programs and cumulative and regional impacts as critical areas to be examined by the Government.

Recommendation 41

The Committee recommends that the relevant government agencies be required to demonstrate that due consideration has been given to the integrated catchment approach in the implementation of economic and regulatory measures.

This recommendation is supported.

This recommendation can be progressed in the context of the COAG Water Resource Policy Report recommendations 6a and 6b. (See Attachment 2).

The NWQMS pursues the sustainable use of the nation's water resources by protecting and enhancing their quality through the promotion of the catchment management approach, which will provide the most effective mechanism for community involvement and be the basis for strategic planning. Economic and regulatory measures are seen as important tools within this framework.

Research funding

Recommendation 42

The Committee recommends that the current level of Commonwealth Government funding for research be maintained if not increased, and that consideration be given to long-term funding security for approved research projects.

Future Commonwealth funding levels for all programs, including algal research, need to be considered in the Budget context and to take into account the Government's medium term fiscal objective of reducing the Budget deficit to around one per cent of GDP by 1996-97. However, the Government is providing secure, long-term funding to research agencies involved in algal research, such as the Land and Water Resources Research and Development Corporation (LWRRDC) and the Centres for Co-operative Research. The ongoing funding commitment for LWRRDC is $11.1 million per annum.

In addition the Government has also provided $10 million over four years under the 1992 *Statement on the Environment* to carry out scientific water quality monitoring projects. This money has been combined with additional funds from LWRRDC under the National River Health Program which has a focus on scientific water monitoring and environmental flow requirements including R&D and management options for blue green algae blooms.

The length of funding for research projects is a matter for the managers of the agency to decide. In practice, the bulk of approved projects for algal research appear to enjoy a commitment to three years funding. Projects which show potential for greater benefits can, of course, be extended beyond three years.

ATTACHMENT 1

NATIONAL WATER QUALITY MANAGEMENT STRATEGY

Documents released to date have addressed the underlying philosophy and principles of the Strategy and priority water quality issues and include:

- *Policies and Principles - A Reference Document*

  Water Quality Management - An Outline of the Policies

  - these documents have been finalised after public comment and cleared by ANZECC and ARMCANZ and released in April 1994.

  . *Australian Water Quality Guidelines for Fresh and Marine Waters*

  - which provide guidance for the application of scientifically-based water quality criteria as part of the process for setting water quality objectives for particular waterbodies

  - this document was released by ANZECC in November 1992. Plans are in hand to revise the document.

- *Draft Guidelines for Sewerage Systems which to date address Effluent Management and Acceptance of Trade Wastes*

  - the draft Acceptance of Trade Wastes guidelines have been considered by ANZECC and ARMCANZ and are expected to be released in 1995. The effluent management guidelines are progressing well and are expected to be released in 1995.

  - work has also commenced on the development of related draft guidelines for sludge management, the use of reclaimed water and sewer overflows.

- *Draft Guidelines Urban Stormwater Management*

- *Draft Groundwater Protection Guidelines* (expected to be released as a final document in 1994)

- *Draft Guidelines for Water Quality Management in the Rural Environment*

  - draft guidelines are being developed to address the potential impacts on water quality of a range of activities in the rural environment, including dryland agriculture, irrigation, recreation, urban development, forestry, management of water quantity and mining and extractive industries

  - effluent management guidelines are being developed for a number of industries located in both rural and urban areas, viz: tanning and related industries, wool scouring, piggeries, farm dairies and

dairy processing plants and wineries and distilleries. The Environment Protection Agency is coordinating the development of these guidelines.

- *Draft Water Quality Monitoring and Reporting Guidelines*

  - this module will provide a framework and guidelines for a nationally consistent approach to water quality monitoring and reporting

  - a CEPA consultancy into the state of water quality monitoring and reporting in Australia and the NSW EPA's draft 'Preferred Methods for Sampling and Analysis' will provide inputs to this module

  - Community based water quality monitoring activities such as Waterwatch would also be included in this module.

- *Draft Implementation Guidelines*

  - A guideline to the implementation of the NWQMS which will give a sharper focus to the policies and principles underlying the Strategy and allow the community to understand the whole package and how community stakeholders can best contribute to enhancing water quality and its management through, for example, participation in the development of Water and Land Management Plans and catchment management approaches. This document is expected to be available for public comment early in 1995.

- *Draft Australian Drinking Water Guidelines*

REPORT OF
THE WORKING GROUP ON WATER RESOURCE POLICY
TO
THE COUNCIL OF AUSTRALIAN GOVERNMENTS

February 1994

Members of the Working Group on Water Resource Policy

Chairman –	Sir Eric Neal, AC CVO
Secretary –	Ron Perry
Dr Alison McCusker/ Barry Reville	Commonwealth Department of Environment, Sport and Territories
Bernard Wonder	Commonwealth Department of Primary Industries and Energy
Graham Cook	Department of the Prime Minister & Cabinet
Roger Wilkins	NSW Cabinet Office
Jan Eberhardt	NSW Dept of Water Resources
Frank Greathead	NSW Cabinet Office
Glenn Maguire	VIC Premier & Cabinet
Mark Anderson	VIC Department of Conservation & Natural Resources
Kerry Jones	QLD Department of Primary Industries
Ian Shears	QLD Cabinet Office
Brian Martin	Water Authority of WA
Mike Smith	EWS Department SA
Anne Harvey	SA Dept of the Premier & Cabinet
John Pauley	TAS Department of the Premier & Cabinet
Glenn Bellchambers	ACT Chief Minister's Department
Norm Watson	Power & Water Authority NT
Lisa Florian	Australian Local Government Association

REPORT OF THE WORKING GROUP ON WATER RESOURCE POLICY TO THE COUNCIL OF AUSTRALIAN GOVERNMENTS

EXECUTIVE SUMMARY

E.1 At its meeting on 8–9 June 1993 the Council of Australian Governments asked that a Working Group of officials, under an independent chair, prepare a report for its next meeting containing a strategic framework for the efficient and sustainable reform of the water industry, having regard to the technical and policy diversity that currently exists across the States and Territories.

E.2 The water industry in Australia has over $90 billion invested in it in replacement cost terms. The bulk of this investment, some $50 billion, is in urban areas whereas most water is consumed in the agricultural sector. It is estimated that over 70 per cent of Australia's currently harvested water resources are used for irrigated agriculture and stock watering. In turn, irrigated agriculture accounts for around 25 per cent of the value of the nation's agricultural output.

E.3 Progress is being made on a number of fronts to reform the water industry and to minimise unsustainable natural resource use. Nonetheless there currently exists within the water industry:

- approaches to pricing that often pay little regard to differential patterns of consumption among users and involve cross-subsidies which, in turn, can disadvantage industrial and commercial users of water services;

- the impact of past investment decisions that are now proving to be sub-optimal both from an economic and environmental perspective;

- major asset refurbishment needs in rural areas for which, in general, adequate financial provision has not been made. This presents governments with a number of challenging decisions in a period of fiscal restraint including whether to increase prices, reduce costs and/or reduce standards of service delivery;

- limitations on water being employed in higher value uses. At this time there are only limited opportunities to trade water entitlements which contribute to disincentives to water being employed in higher value uses; and

- institutional arrangements that are in a number of instances less than optimal in that the roles and responsibilities for some bodies in the water industry have not been clearly defined.

E.4 Numerous policy documents and public reports have also identified a number of issues and deficiencies involving water and the wider natural resource base that require the attention of governments. These include:

- widespread natural resource degradation which has an impact on the quality and/or quantity of the nation's water resources;

- while policy and program frameworks are in place to address the natural resource management challenges that exist at present, these policies, practices and levels of private and public investment are not, however, going to halt the process of natural resource degradation, particularly in the Murray–Darling Basin; and

- whether it is in the Basin, the south west of Western Australia or parts of Tasmania the position has reached the stage where an intensive management effort is required on the part of all jurisdictions to arrest the process of degradation.

E.5 In the light of all of this, it is recommended that Heads of Government in implementing a strategic framework for the water industry have regard to the following principles:

- water resource policy being seen as delivering on the agenda for ecologically sustainable development;

- an integrated catchment management approach to water resource management;

- pricing that reflects all the costs of supply and service (including environmental costs) with all government subsidies or community service obligation payments made transparent;

- water being employed in higher value uses, within the social, physical and ecological constraints of catchments;

- consistent approaches to pricing, property rights/entitlements, trading and environmental allocations across jurisdictions;

- institutional arrangements and responsibilities that are clearly defined;

- measures to address the structural and social impact of reform; and

- community involvement in the water reform process.

E.6 The report recommends that Heads of Government adopt a strategic framework for reform that involves:

– <u>For metropolitan and town water services</u>

. a re-structuring of pricing regimes with an emphasis on pay for service/pay for use;

. the reduction and desirably elimination of cross-subsidies, where cross-subsidies continue to exist they be made fully transparent;

. the identification of community service obligations and payment for these;

. achievement, where practicable, of positive economic rates of return on investment;

. less costly and more efficient service delivery based on international best practice;

. clarification of institutional roles and responsibilities, including a strong emphasis in service delivery on meeting customer needs and the separation of service provision and regulatory functions;

. community involvement in developing catchment management strategies; and

. environmentally sustainable management of wastewater and stormwater.

– <u>For rural water services</u>

. changing pricing regimes to ensure that in time charges fully recoup operating costs and contain a component to enable supply systems to be maintained and refurbished or replaced as appropriate;

. ensuring that future investment in new schemes, replacement or extensions to existing schemes be only undertaken after rigorous assessment indicates that they are economically viable and ecologically sustainable;

. formalising water entitlement systems, including allocations for the environment;

. the introduction of more widespread trading in water entitlements within the social, physical and ecological constraints of catchments;

. greater efficiency in service delivery;

- changed institutional roles and responsibilities, including devolution, where appropriate, of operational responsibility and control for irrigation schemes;

- community consultation and public education mechanisms concerning the impact of water use on the wider natural resource base; and

- where appropriate, the deployment of a range of measures during the transitional phase to facilitate whatever structural adjustment is required.

E.7 The report notes that the speed and extent of water industry reform and the adjustment process will be dependent on the availability of financial resources to facilitate structural adjustment and asset refurbishment. A preparedness on the part of the Commonwealth to address the taxation issues involved could facilitate this process.

E.8 Apart from improved environmental outcomes, the strategic framework is expected to result in a restructuring of water tariffs and reduced or eliminated cross-subsidies for metropolitan and town water services with the impact on domestic consumers of water services being offset by cost reductions and more efficient, customer-driven, service provision. Financial assistance for particular consumers may be necessary where cost reductions are not available to offset price increases. In the case of rural water services the framework is intended to generate the financial resources to maintain supply systems should users desire this, allow water to flow to higher value uses subject to certain social, physical and environmental constraints, provide irrigators with a tradeable asset (which could also serve as a useful structural adjustment instrument in some cases) and devolve, where appropriate, operational responsibility for irrigation schemes to local areas.

E.9 While the need for reform is recognised, the legacy of past investment and policy decisions, particularly in relation to irrigation schemes, means that there are very real constraints on the extent and pace of reform in some areas. Because the changes flowing from the framework are extensive and far-reaching in their implications, particularly in rural areas, it is considered that a five to eight year implementation period will be required. Some aspects of the reform packages outlined in the report will require governments to consult widely with the community more generally and private interest groups.

E.10 It is recommended that further reports be prepared for the Council of Australian Governments annually on progress in implementing the framework over the next five years, with a final report on progress to be prepared for the Council's first meeting in 2001.

1. INTRODUCTION

1.1 At its meeting on 8–9 June 1993 the Council of Australian Governments (COAG) received a report from officials on the current state of play in both urban and rural water use. The report noted that, while progress had been made in reforming pricing, allocation and other aspects of the industry, there were still significant economic and environmental benefits to be derived from further reform.

1.2 In the light of this the Council asked that a Working Group of officials, under an independent chair, prepare a report for its next meeting containing a strategic framework for the efficient and sustainable reform of the water industry, having regard to the technical and policy diversity that currently exists across the States and Territories. The report is also to address the future roles of the Council of Australian Governments and Ministerial Councils in the reform process, other mechanisms and contain a proposed timetable for implementation. Jurisdictions subsequently agreed to the appointment of Sir Eric Neal AC CVO to the position of independent chair.

1.3 This report seeks to place before Heads of Government a brief assessment of the nation's current management of its water resources[1] and the impact of water use on the wider natural resource base. It also outlines the economic, financial and environmental challenges that the nation's exploitation of the resource at present poses.

1.4 A strategic framework for the future management of water is set out, having regard to the policy and technical diversity currently existing among States and Territories. In developing the strategic framework the Working Group has considered the time required to implement the framework. It considers that much of what is proposed can be achieved by the year 2001, although recognising that some elements will require more time to be implemented in full.

2. CURRENT STATE OF PLAY

Brief Overview

2.1 Currently the Australian water industry has over $90 billion invested in it in replacement cost terms. The bulk of this investment, some $50 billion, is in urban areas whereas most water is consumed in the agricultural sector. It is estimated that around 70 per cent of Australia's currently harvested water resources are used for irrigated agriculture. In turn, irrigated agriculture accounts for around 25 per cent of the nation's agricultural output.

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[1] In this report, 'water resources' is used generically and includes all types of water ie surface, ground, storm and waste water except where the context implies a reference to one particular water type.

2.2 Since the June 1993 report to COAG on water resource policy, further reform has been pursued by jurisdictions and other bodies responsible for the management of the nation's water resources and/or the delivery of water and wastewater services. This, in part, builds on work generated by the development of the National Water Quality Management Strategy, the Murray-Darling Basin Natural Resources Management and Irrigation Management Strategies and initiatives taken under the National Landcare Program. Major reform has also been driven by the wider micro-economic reform agenda and the pursuit of increased efficiency within government business enterprises and authorities.

Pricing and Asset Provision and Management

2.3 All jurisdictions, except the Australian Capital Territory and the Northern Territory, at least in part, use property valuations as a basis for water and wastewater charges in urban areas. Some jurisdictions provide a free allocation. In addition, there are often significant cross-subsidies from commercial and industrial customers to domestic users. In the past, this cross-subsidy has been as high as $300 million per annum in a single jurisdiction. Moves are being made to eliminate urban cross-subsidies by phasing-out the valuation approach to charging and, in some jurisdictions, to ensure that sewerage and wastewater charges reflect the costs of provision. In some jurisdictions there are also cross-subsidies from urban to rural users and between high and low volume water users.

2.4 All the major metropolitan suppliers of water services are currently generating real returns on their assets. In contrast, in rural areas, governments have tended not to charge prices for water sufficient to maintain irrigation systems. No State currently has in place arrangements to provide fully for asset maintenance (including headworks), and refurbishment needs.

2.5 Approaches to licensing and charging for groundwater use differ around the country.

2.6 In the past, investment in dams, channels and irrigation reticulation systems has not necessarily been subject to rigorous economic appraisal. In the next 25 years most jurisdictions will need additional supplies of water to meet growing demand. In some cases, further investment in headworks may be required. However, with the development of appropriate demand management strategies the opportunity exists not only to reduce the demand for future water industry infrastructure, but also to increase the productivity of those industries using water.

Water Allocations/Entitlements and Trading

2.7 Control of water resources in Australia since late last century has been vested in the Crown and, therefore, entitlements to use water in rural areas have been conferred by the Crown. In some areas, these rights have been over allocated. One jurisdiction is currently determining bulk entitlements to its storages as a means of converting existing imprecise water rights to explicit tradeable entitlements. This will allow the separation of water entitlements from the ownership of land, a necessary precursor to the introduction of more widespread trading in water.

2.8 To date, there has been only limited trade in, and transferability of, water allocations or entitlements across Australia. In some quarters trading has been opposed even though it would allow water to be used in a manner which is more economically and ecologically sustainable. For example, local government concerns over the impact of water trading on the current pattern of regional economic activity has led to such opposition in some areas.

2.9 Until now, availability of water specifically for environmental needs has not generally be made. At its most recent meeting the Murray–Darling Basin Ministerial Council agreed to the allocation of a quantity of water to enhance the Barmah–Millewa forest. Elsewhere in the Murray valley there is evidence that the highly regulated nature of the river and the overallocation of water to off–river uses has led to a deterioration in the riparian ecosystem not to mention the decline in aquatic life in the river itself.

2.10 Where jurisdictions do not currently have in place a policy of providing water for the environment they are working towards this end. That said, there is a number of stressed river systems around the country. In some areas the problem is compounded by the construction of large on–farm storages although in other areas on–farm storages can be used to relieve pressures on river systems.

Institutional Arrangements

2.11 All urban water authorities are currently in the throes of change, be it structural reform, adoption of progressively more commercial foci, having their roles more clearly defined, or a combination of these. In some jurisdictions the roles of resource owner, standard setter and regulator and service provider, however, overlap, opening up the possibility for conflicts of interest.

2.12 At this time, the bulk of the assets accounted for by the rural water sector are in the hands of government entities, although at least two jurisdictions are in the process of either privatising these assets or passing them to producer–controlled entities.

2.13 Arrangements for the treatment of sewage and wastewater vary around the country. Several jurisdictions are at present considering whether existing treatment and discharge policies should continue, given their often adverse impact on estuarine and coastal environments.

2.14 Sustainable management of stormwater is acknowledged as an increasing challenge by all jurisdictions. Local government is usually responsible for managing stormwater run-off. These challenges are likely to require new approaches to urban planning, water re-use and further investment in handling and treatment facilities.

Water and the Wider Natural Resource Base

2.15 Inappropriate water use has a major impact on other components of the natural resource base. For example, inappropriate irrigation of some lands in the Murray-Darling Basin has resulted in a rising watertable and increased salinity.

2.16 Wide-scale land clearance and the introduction of exotic plant species have also compromised the natural resource base. For instance, due to land clearance in the south and south west of Western Australia up to 50 per cent of the region's potential freshwater resources have been lost to salinity.

2.17 Parts of the Murray-Darling Basin have been seriously degraded through these and other inappropriate practices. Many effective initiatives have been taken but there are no short-term solutions. In fact, the problems have generated a major management task. Were the situation to go on unchecked there would be dire consequences for water quality in the lower Murray, for example, on which Adelaide and other major areas of South Australia rely for almost 90 per cent of their freshwater requirements in a dry year.

2.18 Faced with an ever growing body of evidence of the interdependency of the different natural resource components, a number of jurisdictions has begun to restructure their administrative arrangements. The Murray-Darling Basin Ministerial Council (Natural Resources Management Strategy, August 1990) stated, inter alia, that:

> Today, there is greater understanding of the interrelationship between soil, water and vegetation. There is a realisation that it is almost impossible to isolate the management of one resource, or one part of the Basin, from others. The problems associated with natural resources management are often too complex to be tackled by any one Government.

2.19 Across Australia, approaches to the management of water storage catchment areas by agencies supplying major population centres differ. In some jurisdictions, areas are closed to the public, while in others they are open. In open areas a number of issues have to be addressed including the co-ordination of land use planning, the nutrification of the water and possible algal blooms in storages. Even in closed areas there may be a need for water treatment.

Overall Assessment

2.20 Much of a positive nature is currently occurring in the Australian water industry. Progress is being made on a number of fronts. Nonetheless, to provide greater focus to the process and to deal with a number of issues that are cross-jurisdictional in their implications there is a need for a strategic framework.

3. A STRATEGIC FRAMEWORK FOR THE AUSTRALIAN WATER INDUSTRY

3.1 The Working Group considers that, between now and the year 2001, in implementing a strategic framework governments should be guided by, or have regard to, the following principles:

The Natural Resource Base and the Environment

Water resource policy should be seen as an integral part of the wider micro-economic reform and natural resource and environmental agendas.

3.2 The complex interrelationships between the various components of the nation's natural resource base and the environment have already been noted. In many parts of Australia, unless action is taken, further significant losses in our natural resource base are likely. That said, the use and disposal of water can also have major implications for agriculture, industry and the economy as a whole. It then becomes a question of balancing the potentially conflicting ends to which water can be put, noting though that a number of river systems are under stress from extensive harvesting and this will need to be addressed by both government and the affected communities.

Integrated Catchment Management

Adoption of an integrated catchment management approach to water resource management.

3.3 Land use decisions in one part of a river valley or area can have impacts on the rest of the valley, the wider catchment area and in the whole of a river basin or region. Given these linkages it is important that individual groups do not pull in opposite directions on, say, land use planning matters. If improved outcomes are to be achieved mechanisms need to be put in place by government to ensure that

all the affected stake-holders are involved in catchment management. Furthermore, the importance of whole-of-catchment issues needs to be taken into account in the institutional arrangements for the water industry.

Pricing and Investment

Agreement to pricing that reflects all the costs of supply and service.

3.4 From an economic perspective, consumers of water services should pay the full cost of their provision, including environmental costs where these can be quantified. (For the purposes of this report, for urban water services, metropolitan bulk water suppliers and all new investment, full cost is defined as operational, maintenance and administration costs, an allowance for asset refurbishment, the servicing of debt/rates of return (see following paragraph).) In most cases, efficient pricing aimed at full-cost recovery might involve the imposition of an access or connection charge together with a usage charge. If governments choose not to charge certain consumers the full cost this might be explicitly accounted for and paid as a community service obligation. In the case of many existing rural water and irrigation schemes application of the full cost definition will need to take account of operational and maintenance costs, any river delivery costs, the refurbishment costs of supply and reticulation assets, including headworks, and the extent to which investments were intended to meet social as well as economic objectives. The degree to which full cost recovery is pursued might be determined by each jurisdiction, noting the need for consistency in pricing approaches where cross-border trading is possible (see paragraph 3.8 below), but any departure from full-cost recovery should be based on transparent subsidies or community service obligations.

3.5 In the future there will be an increasing need for the water industry as a whole to pay its way, not only in terms of new investment but in providing for the ongoing maintenance and refurbishment of existing water infrastructure. Views differ on what an appropriate hurdle rate of return might be on new investment and refurbishment in the water industry. Based on its estimates of the real cost of capital to the water industry, the Agricultural and Resource Ministers Council of Australia and New Zealand (ARMCANZ) has adopted a figure of 4 per cent in preparing industry performance reviews. Each jurisdiction will need to determine the most appropriate rate having regard to its circumstances.

Tradeable Water Entitlements

Willingness to allow water to be used in higher value uses within the social, physical and ecological constraints of catchments.

3.6 If the nation is to derive the maximum sustainable benefit from its natural resources it needs to be able to employ them in their highest value ends,

consistent with any social, physical and ecological constraints that might apply. Water is no exception in this regard. It has many uses all of which have different returns attaching to them. Without appropriate charging and trading mechanisms involving transferable water allocations or entitlements, water could be used in sub–optimal ways. A preparedness on the part of jurisdictions to allow water to flow to higher uses, subject to the above constraints, would enable the nation to generate greater returns from the resource than is currently the case.

3.7 In order to facilitate trading, governments will need to ensure that property rights to water are clearly defined and specified in terms of ownership, volume, reliability, environmental flows and tenure. Conversion factors will also need to be specified between different areas of surface and groundwater systems and where catchments cross jurisdictional boundaries.

Consistency

Agreement to consistent approaches to pricing, property rights/entitlements, trading and environmental allocations across jurisdictions.

3.8 In situations where it is possible to trade water across jurisdictional boundaries there will be a requirement to ensure that there is consistency in approaches to cost recovery, property rights/entitlements and environmental considerations. Otherwise there is the potential for outcomes that are not only sub–optimal from an economic and environmental perspective but at the same time inequitable.

Institutional Change

Clarification of institutional arrangements and responsibilities.

3.9 While some jurisdictions are moving to change the institutional arrangements surrounding their water industries and to delineate more clearly the roles and responsibilities of the various players, there is still a deal of overlap in some areas in relation to the trustee for the resource, establishing and enforcing regulatory requirements and service delivery. In a first best or ideal world it would be desirable for each of these functions to be undertaken by separate entities. The alignment of organisational structures with objectives means separated bodies can be provided with clear and non–conflicting objectives and more transparent accountability mechanisms. This would enable organisations to focus more on their 'core business' and lead, particularly in the case of service deliverers, to improved customer service and greater efficiency.

3.10 Having established such a framework, services might be delivered in as commercial a manner as possible with responsible organisations having a strong customer focus. The extent of corporatisation and/or privatisation could be a matter for each government to decide, having regard to the circumstances it

faces. The benefits of greater commercialisation, and in particular corporatisation, is that organisations are able to operate at 'arms length' from direct government control. Corporations can be given a clear set of commercial objectives and left to operate much like a private sector company which, like other businesses, are subject to taxation (or taxation equivalents), the disciplines of the law and market forces. Under these circumstances organisations become more clearly accountable for their financial and operational performance and less likely to be able to sustain the inefficiencies often found in less accountable organisations.

Structural Adjustment in Irrigated Agriculture

Recognition of the structural adjustment consequences and social impact of reform.

3.11 Reform and change in the water industry will bring with it structural adjustment consequences and social impacts. In pursuing reform, governments need to be mindful of these implications and, where necessary, put in place policies and arrangements to assist individuals and industries to adjust to changed circumstances.

Involvement of the Community and Public Education

Involvement of the community in the water reform process.

3.12 All of the forgoing principles cannot be implemented unless representatives from affected constituencies are involved in decisions influencing the use and disposal of water resources in their local area. The constituencies include irrigation farmers, local government, conservationists and local residents. Such community involvement is seen as important in gaining public recognition of the challenges facing the nation in the proper management and use of our water resources and in securing community support for the solutions proposed.

Proposed Reform Packages

3.13 Drawing the threads together, it is proposed that the Heads of Government commit themselves to packages of reform that involve:

<u>For metropolitan and town water services</u>

- a re-structuring of pricing regimes with an emphasis on pay for service/pay for use;

- the identification and reduction and desirably elimination of cross-subsidies where such subsidies are not consistent with efficient and effective service provision or efficient use of the service;

- the identification of community service obligations and payment for these;

- achievement, where practicable, of positive economic rates of return on investment;

- less costly and more efficient service provision based on international best practice;

- clarification of institutional roles and responsibilities including a strong emphasis in service delivery on meeting customer needs and the separation of service provision and regulatory functions;

- community involvement in developing integrated catchment management strategies; and

- environmentally sustainable management of waste water and storm water.

For rural water services

- changing pricing regimes to ensure that in time charges fully recoup operating costs and contain a component to enable supply systems to be maintained and refurbished or replaced as appropriate;

- ensuring that future investment in new schemes, replacement or extensions to existing schemes be only undertaken after rigorous assessment indicates that they are economically viable and ecologically sustainable;

- formalising water entitlement systems, including allocations for the environment;

- the introduction of more widespread trading in water entitlements subject to the social, physical and ecological constraints of catchments;

- greater efficiency in service delivery;

- changed institutional roles and responsibilities, including the separation of operational and regulatory responsibilities;

- community consultation and public education mechanisms concerning the impact of water use on the wider natural resource base; and

where appropriate, the deployment of a range of measures to facilitate whatever structural adjustment is required during the transitional period.

4. IMPLICATIONS OF THE STRATEGIC FRAMEWORK

The Natural Resource Base and the Environment

4.1 The framework outlined in Section 3 has a number of implications for the natural resource base and the environment. First there is a number of water resource systems which are currently either overallocated or overharvested. In the former case this may not be a problem if entitlements are not fully used. Trading in these circumstances could, however, have a deleterious impact on the riverine environment, if dormant rights are sold and used. In the latter case, there is a need to strike a new and sustainable balance between the environment and the other uses of the water. Dormant rights should be substantially reviewed before the creation of a system of tradeable water entitlements.

4.2 Throughout the Murray-Darling Basin stream flow data and other relevant information is readily available and could be used to develop changed harvesting patterns. Elsewhere around the country flow data is not nearly as comprehensive. In fact, a deal of research will be required to obtain robust data on flow and water quality on a number of river systems subject to major competing demands.

4.3 In regions where comprehensive information on water flows and environmental requirements is available, it will be possible to establish the impact of within-valley and cross-valley trading in water and other environmental interactions. In other areas, judgements will, in the first instance, have to be made as to the environmental sustainability of trading. With the opportunity to undertake more research, it should be easier to determine adequate flows from a sustainability perspective.

4.4 Where new water schemes or irrigation developments are contemplated, water to meet environmental requirements should be determined in conjunction with other demands. In appropriate circumstances, environmental requirements could also be tradeable or variable within limits.

4.5 Extensive water harvesting and flood control measures have had an impact on riparian environments. In a number of areas the riparian environment has been placed under stress due to the absence nowadays of regular flooding. In the Barmah-Millewa forest this problem is being addressed by improved forest water management including an allocation of a quantity of water to flood the area periodically.

4.6 Grazing along river banks and cultivation up to the stream edge can not only have an adverse impact on the riparian environment but can also compromise water quality, as can town wastewater and sewage disposal. Riparian zones can act as filters to runoff in some situations and an important part of water quality management will be to encourage the adoption of best land management practices throughout a catchment to reduce the sources of pollution. Landcare initiatives can play an important role in this area. Other options could include agreed grazing management plans with adjacent land holders, controlled access to the water and the establishment of reserves. On-land wastewater and sewage disposal strategies can lead to an improvement in water quality and these are currently being considered in many parts of the nation.

4.7 Groundwater resources are important and need to be monitored to ensure that the level of use is sustainable and that their indiscriminate use does not have deleterious effects on the wider natural resource base.

4.8 In all cases, but particularly in urban areas, a range of measures including planning and building regulations and land management approaches could be used in the future to require sustainable use and management of storm water and waste water thereby minimising environmental damage and wastage of valuable resources. These consequences would, of course, need to be assessed in consultation with local governments when developing local planning regulations.

4.9 The process of institutional and economic reform underway in the water industry, has the objective of improving the economic efficiency of water use and ensuring that the costs of water related services are funded by relevant beneficiaries. It must also ensure that the outcomes will bring environmental benefits, particularly through the formal allocation of water to environmental demands along with other uses.

4.10 Implementing this framework is expected to lead to an improvement in water quality. Currently a National Water Quality Management Strategy (NWQMS) is being developed jointly by the Australian and New Zealand Environment and Conservation Council (ANZECC) and ARMCANZ. The National Environment Protection Authority (NEPA) to be established under the Intergovernmental Agreement on the Environment (IGAE) will develop national environment protection measures for ambient waters drawing on the high status guidelines of the NWQMS. Governments are required under the IGAE to prepare annual reporting on the way they attain the measures established by NEPA.

Integrated Catchment Management

4.11 Integrated catchment management across river systems is a valuable approach to water resource management. It enables a system-wide and coordinated approach to water resource issues to be taken often resulting in significant

benefits in terms of the sustainability of water supplies to users and the ecological sustainability of river systems and the wider natural resource base.

4.12 In some parts of the nation, integrated catchment management has not been introduced to the extent that it has elsewhere. If natural resource management is to be pursued, in an integrated manner across river systems, there is a requirement for those jurisdictions where institutional arrangements of this nature have not yet been put fully in place to consider doing so.

Pricing and Investment

4.13 In the area of metropolitan water services the pricing regimes of most jurisdictions are currently based to a greater or lesser extent on the local government rating base. The implementation of the approach to urban pricing outlined above will require the re-basing of tariff structures to include access and volumetric components. It will also require the installation of water metering devices in cities or parts of cities, such as Brisbane and Hobart, where they do not currently exist.

4.14 In most areas domestic users are subsidised. The subsidies are significant and represent a cost impost on commercial and industrial users. Time will, however, be required to unwind the subsidies and to effect offsetting cost savings, which, based on an analysis undertaken for ARMCANZ, are available in most jurisdictions, based on current levels of service. (It is noted that the impact of these savings may, however, be reduced by increased costs occasioned by the introduction of improved levels of service.) Trade waste charges in some jurisdictions are also inappropriate having regard to the costs incurred in treating and safe disposal of the waste. These charges might be adjusted over the same period to reflect the costs involved.

4.15 In jurisdictions where certain classes of consumers of water are subsidised by other users it is suggested that if State, Territory or local governments wish to continue these practices the extent of the subsidies be made transparent. Overall, the proposed charging reforms are expected to lead to reduced water consumption in urban areas with beneficial spin-offs in terms of the level of future investment in additional storage capacity and reticulation systems. For example, the introduction of a per kilolitre charging structure in the Hunter Water Board region resulted in a significant reduction in water consumption thereby delaying future investment in water storage capacity.

4.16 While metropolitan charging arrangements generate positive returns, the same is unable to be said about rural water prices. No jurisdiction currently has in place charging arrangements to provide fully for the ongoing maintenance of its irrigation infrastructure, including the headworks.

4.17 In these circumstances, the Working Group recognises that it is not possible to increase prices overnight. It is, however, considered possible if it were done over a period of years and accompanied by a range of supporting measures including the achievement of water delivery cost savings and more efficient demand management practices by users.

4.18 At present, water is not always being used in the most efficient manner and this often has untoward environmental consequences. In Western Australia the South West Irrigation Study has highlighted that economic welfare would be improved if water were diverted from grazing uses and employed more in horticultural industries and to a somewhat reduced extent in dairy farming. Were this to occur, there is also likely to be a beneficial impact on the environment as water is applied to soils with greater retentive capacities rather than in areas with high water tables and salinity problems.

4.19 Water prices which more fully reflect costs could also be expected to result in water being used more effectively in rural areas, especially when accompanied by appropriate education campaigns. There is evidence that due to the cheapness of the resource, on-farm irrigation practices lead to waste and inappropriate use. Higher prices could be expected to moderate such practices and lead to less water being used.

4.20 As mentioned, over the next 25 years, a number of jurisdictions will have to find alternative sources of supply to meet growing urban demand. In some instances, this demand might be met by rural-urban transfers at relatively little cost in terms of infrastructure investment. In other cases, more extensive investment may be required. Whatever the situation, the prices charged for the water should recover the full cost.

4.21 There are indications in some jurisdictions that the private sector may in the future play a greater role in the provision of water services. This raises a number of issues associated with the taxation treatment of these entities, and their ability to raise funds for investment. Among these issues is the possibility that infrastructure bonds could be a future source of funding for investment in the water industry. However, the coverage of these bonds does not at present extend to water supply, sewerage, irrigation, pipeline and other water projects. It has also been suggested that the existing 10 year term for infrastructure bonds may need to be lengthened in view of the long life of many water resource projects.

4.22 In the rural sector at this time there would appear to be only limited opportunities for new irrigation schemes. Again it is considered that such investment should not proceed unless it can be demonstrated by the proponent that the proposal will generate a positive real rate of return, that it will be ecologically sustainable and that the consequences for the environment have been properly weighed. These

tests are a good deal more stringent than has generally applied in the past, but the costs of past deficiencies are increasingly manifest in terms of the prices that would now need to be paid for water to maintain the schemes and the measures that are required to address the environmental consequences of some irrigation practices.

Tradeable Water Entitlements

4.23 Consistent with the principle that water should be employed in its highest value uses within the social, physical and ecological constraints of catchments, means need to be put in place to achieve this. The concept of tradeable water rights or entitlements, given that it would operate within a market framework, is generally considered to be the best way to secure the maximum benefit from the use of the resource.

4.24 All jurisdictions currently allocate water rights or entitlements to groups of rural users. For trading arrangements to be instituted these rights or entitlements need to be vested, where this is not already the case, in those who are deemed to be eligible to trade. In at least one jurisdiction, however, entitlements already exist which exceed the capacity of the river systems involved to satisfy. Means will need to be found to solve this problem. One approach might be to determine the environmental needs of the river systems involved and to allocate the residual water on a pro rata basis, having regard to previous entitlements and patterns of use. Having done this, entitlements might be traded either within or across catchment areas within the social, physical and ecological constraints of the catchments concerned.

4.25 Against this background, there would appear to be scope to offset the impact of rising water prices by allowing farmers to sell, in part or in whole, their water entitlements and use the proceeds to re-structure their properties or to leave the land altogether. To the extent that water use were to decline overall, the impact on the environment in the Murray-Darling Basin is likely, in the longer term, to be positive.

Consistency

4.26 If resources are to be allocated efficiently and trading in water to be fair and equitable it is essential that, where cross-border trading is possible, the basis of charging, including asset valuations, and entitlement arrangements are consistent. The work that the Australian Bureau of Agricultural Research Economics (ABARE) has undertaken on the impact of higher water prices on irrigated agriculture in the southern Murray-Darling Basin (see below) has highlighted a number of differences between jurisdictions in relation to asset valuation and cost recovery. It would seem that these differences are already having some influence on resource allocation and locational choices resulting in

negative regional and national economic effects. All other things being equal, this would be magnified in a trading situation and has to be addressed before widespread trading in the Murray-Darling Basin, in particular, could be introduced.

Institutional Change

4.27 As noted, the institutional arrangements surrounding natural resource management are not as clearly defined as they might be nor are regulatory functions always separated from service delivery in the water industry. If they have not already done so, it is suggested that jurisdictions consider developing administrative arrangements where policy responsibility and stewardship of the natural resource base are closely coordinated so that management responsibility for the resource base is not fragmented, as has often been the case in the past. Where such a framework is instituted, there will need to be links established with local government and other bodies at a local level to ensure that land use planning decisions and administration do not compromise sustainable natural resource use.

4.28 In the water area, apart from settling and administering the natural resource policy framework, there is the need to determine and monitor adherence to water quality standards or guidelines. Jurisdictions will need to consider the most appropriate institutional structure to perform these duties although some jurisdictions already have environmental protection agencies to fulfil these roles.

4.29 Once the natural resource policy and regulatory frameworks have been defined and established, the main requirement is that water services are delivered an efficient and commercial manner. Views differ as to what is the best model to follow and each jurisdiction will need to determine which approach is best suited to its circumstances and customer needs. New South Wales has, for example, established the Hunter Water Corporation, while both New South Wales and Victoria have engaged in significant contracting-out of service provision in the water industry and privatised components of their water service delivery chains.

4.30 The situation is somewhat different in the rural sector. Here responsibility for the operation of irrigation schemes, where it is not already the case, could be devolved to local communities who are in the best position to determine their future service requirements. As noted earlier, for the most part, irrigation schemes have hitherto been developed and operated without proper financial provision being made from revenue, for their maintenance and refurbishment. A number has outstanding debt attaching to them. Should governments be attracted to the notion of local control, this might be facilitated by governments writing-off debt, where appropriate, and/or making some financial contribution to the costs of refurbishment on the condition that future charges not only cover all

the costs of delivery but provide for future maintenance and refurbishment as well.

4.31 Provisions that have been made in the past for future refurbishment have been treated by some governments as discretionary while in other cases funds have at times been looked upon as a convenient source of revenue. The consequences of this approach has been underlined more recently in the case of the Torrumbarry Weir where there is no stock of financial resources to draw upon to undertake any re-construction work that might be approved. It is considered that the Murray-Darling Basin Ministerial Council should consider the establishment of financial arrangements to ensure that future operating, maintenance, administration and refurbishment costs of headworks and structures under its control are collected from water users.

Structural Adjustment in Irrigated Agriculture

4.32 ABARE in analysing the impact of higher water prices on agricultural production in the southern part of the Murray-Darling Basin obtained estimates from the relevant State water agencies on the per megalitre prices that would need to be charged to users to maintain the existing irrigation infrastructure, including the headworks, in this part of the Basin. ABARE found that the price rises flowing from the introduction of full cost recovery would reduce income in the regions modelled by about $66 million per year or about 6 per cent of total regional income derived from agriculture.

4.33 This estimation of losses, however, is likely to be overstated for a number of reasons. The model used did not allow for adjustments in water supply infrastructure, technology, drainage systems and farm capital and demand management, among other things. In the long run adjustments in these areas would be expected to enable more efficient water supply and demand and, other things being equal, result in lower water costs. Furthermore, the prices used in the model were derived using asset valuations based on current water supply systems and the maintenance of these systems in perpetuity. More appropriate asset valuation methods, for example, the adoption of the Guidelines on Accounting Policy for Current Valuation of Assets (for National Performance Monitoring of Government Trading Enterprises), could result in asset values on which full cost recovery charges were based being lower, with a subsequent lowering of water prices.

4.34 In the same study ABARE found that the introduction of tradeable water entitlements would generate gains from trade between regions in the model of around $48 million per year. However, it was also emphasised that this figure is expected to be an underestimate of the gains for two reasons. First, long-term gains (which the model does not capture) are expected to be greater and second,

the model only took account of inter-regional trades, not intra-regional trade from which additional gains could be expected.

4.35 In summary, ABARE has concluded that the national economic and environmental gains from the implementation of these particular reforms would be significant. While the financial impacts of the package of reforms result in gains and losses, it is important to note that the limitations of the model led ABARE to emphasise that the losses are likely to be overestimated, while the gains underestimated. Furthermore, the study only focuses on the impact of these reforms from the point of view of irrigated water users. While the reforms result in both gains and losses to this sector, from an economy-wide perspective the losses quantified above constitute a transfer from one sector of the economy to the other, not a loss to the economy as a whole. On the other hand, the gains represent a net addition to the economy which after multiplier effects would be significantly larger than the initial $48 million identified.

4.36 This said, the ABARE work and studies commissioned by the Murray-Darling Basin Commission indicate that in some areas an increase in water prices to the levels required to maintain irrigation infrastructure will put pressure on some segments of irrigated agriculture. Farm amalgamations and restructuring may be appropriate in these circumstances.

4.37 Shifts in production patterns in an environment of increased water prices and transferability of water entitlements will not be costless and are likely to bring changes to regional economies. In this context the governments may need to consider the financial implications of structural adjustment through programs like the Rural Adjustment Scheme and those carried out by the Office of Labour Market Adjustment. For example, governments may need to consider making structural adjustment assistance available on a regional basis, rather than as occurs at present, on an individual basis.

4.38 It is, however, important to note in this context that water prices generally only represent a small proportion of the total farm costs. Furthermore, the modelling exercise undertaken by ABARE assumes that water prices are immediately increased to the higher levels demanded by full cost recovery. However, the reforms recommended in this report would be phased in over a longer time period. For example, if water costs represented 10 per cent of total farm costs and prices increased by 10 per cent per annum, total farm costs would, all other things being equal, only rise by 1 per cent per annum. Thus, the proposed phasing mechanism would be expected to reduce significantly the impact of structural adjustment.

4.39 Structural adjustment in an environment of tradeable water entitlements also raises a number of potential taxation issues including the capital gains tax treatment of the proceeds from the sale of water entitlements. The Working

Group noted the potential significance of tax related issues but in the time available was not able to address these matters in any detail. It is proposed that a sub–committee of Commonwealth and State officials established by the Working Group on Micro–economic Reform meet to discuss taxation issues of relevance to the water industry with a view to reporting, through the Working Group, to COAG within 12 months. It is also expected that the proposed Industry Commission Inquiry into Private Sector Infrastructure Funding will examine and report on, inter alia, the implications for private sector funding, management and control of government, institutional, taxation and regulatory arrangements. Relevant water related taxation issues could be examined in this context.

4.40 It is also noted that the Premier of New South Wales has written to the Prime Minister indicating that the corporatisation/privatisation of irrigation schemes may raise issues of tax compensation. The Prime Minister's response indicated that future consideration of tax compensation payments should be dealt with through the Commonwealth/State Working Group established at the July 1993 financial Premiers' Conference.

Community Involvement and Public Education

4.41 There is a growing recognition around the country that water and water services are not free goods. There are numerous examples of public education initiatives and the seeking of community input into finding solutions to shared challenges, be they meeting future supply needs, improving water quality or reducing pollution from waste water and storm water discharges.

4.42 A number of these issues is local in their implications and arrangements might be put in place in the local community to address them. For example, cooperation in community monitoring through national programs such as "Waterwatch", and the establishment of a local catchment body or a landcare group where these do not already exist. In other areas, jurisdictions could co–operate in the production of material for public education campaigns as New South Wales and Queensland have done in the "Waterwise" campaign. Some jurisdictions are targeting schoolchildren in their education campaigns. Jurisdictions already involved in these activities could share their experience with those who are not and to work with the relevant education authorities to develop appropriate curricula and resource materials.

4.43 In the rural sector there is an increasing recognition that some past and present practices place at risk the future of a great deal of agricultural activity and the wider environment. Generally, farmers, once faced with the longer term consequences of these practices, have been prepared to effect changes, for example, in some instances even buying out fellow farmers to ensure that agriculture in salinity–prone areas continues to be sustainable. Further evidence of community preparedness to become actively involved is the establishment of

over 1600 Landcare groups, "Streamwatch" groups and, in South Australia, the proposed establishment of community self management groups to look after local water systems. It is considered vital in implementing the other aspects of the strategic framework outlined in this report that governments and other bodies such as the Murray-Darling Basin Commission continue to tap the current willingness and preparedness within the community to find shared solutions to common problems and challenges.

4.44 It is also important that programs be put in place for the on-going exchange of information with the general public and interest groups on the cause and effect relationships between infrastructure performance, standards of service and related costs. The derivation of sustainable standards of service will be achieved in a far more effective manner, if longer term implications are recognised by all parties during the establishment process. Failure to take the necessary steps is likely to result in the initial formalisation of unsustainable service standards, with significant adverse cost implications.

4.45 The results of water research should feed into public consultation and education processes. While a good deal of water and water-related research is currently being undertaken there is a need to ensure that this research buttresses the strategic framework canvassed in this report. Greater co-ordination and liaison between research agencies to utilise more effectively the expertise of bodies such as the Land and Water Research and Development Corporation, the Murray-Darling Basin Commission and other Commonwealth and State organisations would be beneficial in this regard.

5. IMPLEMENTATION AND TIMING

5.1 A number of the changes that have been canvassed in this report are already in train in some jurisdictions. Other changes outlined are more far-reaching in their implications and so are incapable of being introduced overnight. In some instances, there is a deal of conceptual analysis yet to be done. In other cases, time will be needed for consultation and adjustment to occur. This is certainly the position where pricing matters are concerned.

5.2 The speed and extent of water industry reform and the adjustment process will also be dependent on the availability of financial resources to facilitate structural adjustment and asset refurbishment. A preparedness on the part of the Commonwealth to address the taxation issues involved could facilitate this process.

5.3 The widespread need to re-base pricing arrangements, and at the same time remove cross-subsidies for particular classes of urban consumers of water services, will require a period of adjustment. This notwithstanding, the Working Group considers it to be achievable by the end of 1998. The first step in the

process is, however, for agreement to be reached on cost recovery definitions. It is suggested that an expert group, on which all jurisdictions might be represented, be requested to do this and report to COAG at its first meeting in 1995. Moreover, where a State, Territory or local government authority decides that a particular class of consumer should not bear the full cost of services provided, this cost, at the earliest time, should not only be fully disclosed but, where possible, the service deliverer be reimbursed for any shortfall in revenue.

5.4 As far as rural water pricing is concerned, it is considered that more time will be required to effect changes. It is therefore suggested that jurisdictions work towards achieving full cost recovery (as defined in Section 3.4) no later than 2001. As with urban water pricing, there will be a need, particularly among jurisdictions involved in the Murray-Darling Basin, to agree on cost-recovery definitions as well as a common approach to asset valuation. The expert group mentioned in paragraph 5.2 might undertake this work and report to COAG at its first meeting in 1995.

5.5 Attention will also need to be given to settling an approach to meeting the costs of water required to be stored for subsequent release for environmental and recreational purposes. In the case of water stored for environmental purposes one approach could be to treat such costs as part of the production costs of total water supply of that particular system and spread the costs across all relevant water consumers. Similarly, in the case of water stored and subsequently released simply to maintain flows for recreational and/or tourist activities a charge against the community as a whole might be appropriate. It is suggested that ARMCANZ, with the assistance of the Murray-Darling Basin Ministerial Council, work towards determining, for inclusion in the first annual report to COAG, the charging principles to cover the financial implications of environmental allocations and recreational uses of water bodies and courses.

5.6 In addition, ARMCANZ by early 1995 might also consider the licensing/charging arrangements surrounding groundwater use given the importance of this resource and the adverse impact its indiscriminate use can have on the wider natural resource base. Advice could then be provided to individual jurisdictions to be used by them in their development of appropriate groundwater arrangements with the details of this advice to be contained in the report to COAG at the appropriate time.

5.7 In relation to establishing formal systems of water allocations or entitlements, jurisdictions where they have not already done so, should begin to do so as soon as possible with a view to having arrangements in place to allow more widespread trading in water to commence no later than 1998. For the Murray-Darling Basin jurisdictions, where it is essential that consistent entitlement systems be put in place to facilitate cross-Basin trading, the Murray-Darling Basin Ministerial Council, in conjunction with ARMCANZ, should settle the form

of the arrangements by the end of 1994. The arrangements should address such matters as ownership, environmental allocations, water quality, volume and tenure.

5.8 The States would also need to submit guidelines for water trading to the Murray-Darling Basin Commission to ensure sustainability and compliance with the Murray-Darling Agreement. This said, it is considered that there should be no impediment to private sector brokers participating in the trading process.

5.9 Where it is found that more water should be made available for the environment or that river systems have been overallocated, it is a matter for individual jurisdictions, in the first instance, to decide how these challenges might be overcome. For example, overallocation of water could be addressed by determining the environmental needs of the (river, groundwater) system involved and then allocating the residual water on a pro-rata basis, having regard to previous entitlements and usage. Having done this, entitlements might then be traded. In the event that there are cross-border implications, as in the case of the Murray-Darling Basin, jurisdictions should, however, co-operate in finding solutions. In the case of the Basin, it is considered that the Murray-Darling Basin Commission and Ministerial Council should be involved in this.

5.10 The pricing reforms for rural water users, together with the introduction of formal entitlement and trading arrangements, will require consultation with those affected. It is suggested that this occur at an early time to enable governments to gauge what, if any, structural adjustment assistance will be required to bring about the resource allocation and production changes that are expected to flow from the initiatives proposed.

5.11 It is a matter for individual jurisdictions to progress institutional change, particularly that involving local government in integrated catchment management. Nevertheless, it is considered that jurisdictions should have as a goal to effect the institutional change discussed elsewhere in this report as soon as practicable, and preferably no later than 1998.

5.12 As noted in Section 4 of the report, there is scope for the costs of delivering water services to be reduced. Indeed, such cost reductions would assist in cushioning, for example, the impact of removing cross-subsidies in urban areas. It is therefore suggested that ARMCANZ, in conjunction with the Steering Committee on National Performance Monitoring of Government Trading Enterprises, further develop by June 1995 its inter-agency comparisons of performance as a spur to improved efficiency in service delivery in the water industry. It is further suggested, in this context, that service providers be required to achieve international best practice.

5.13 Where public education is concerned, it is suggested that the initiatives that have been taken individually and jointly by jurisdictions be built upon. These could include programs on water use and the benefits to be derived from reform. In addition, water and education authorities might further collaborate in developing resource materials on water resources for use in schools.

5.14 At various points in this report mention has been made of wastewater use and strategies for handling stormwater. There is a number of ramifications attaching to this. It is therefore suggested that ARMCANZ, ANZECC and the Ministerial Council for Planning, Housing and Local Government examine the possibilities for making greater use of these sources of water with a view to reporting progress to COAG at its first meeting in 1995.

5.15 As observed at the outset of this section of the report, the proposed reforms are extensive and far-reaching in their implications. It is considered that in view of the whole-of-government nature of the matters traversed COAG should monitor closely progress in implementing the framework and sanctioning changes where these are thought necessary. To this end, it is suggested that the Working Group on Water Resource Policy coordinate the preparation of a report to the Council for its first meeting in 1995. In the succeeding four years ARMCANZ, ANZECC and, where appropriate, the Murray-Darling Basin Ministerial Council and the Ministerial Council for Planning, Housing and Local Government might report annually on progress with a final report being prepared for the Council's consideration at its first meeting in 2001.

6. RECOMMENDATIONS

The Working Group recommends that COAG:

1. agree that action needs to be taken to arrest widespread natural resource degradation in all jurisdictions occasioned, in part, by water use and that a package of measures is required to address the economic, environmental and social implications of future water reform;

2. endorse implementation of a strategic framework to achieve an efficient and sustainable water industry comprising the elements set out below in recommendations (3) through (8);

3. in relation to pricing:-

   (a) in general -

   (i) endorse the adoption of pricing regimes based on the principles of consumption-based pricing, full-cost recovery and desirably the removal of cross-subsidies which are not consistent with efficient and effective

service, use and provision. Where cross-subsidies continue to exist, they be made transparent,

(ii) where service deliverers are required to provide water services to classes of customer at less than full cost, accept that the cost of this be fully disclosed and ideally be paid to the service deliverer as a community service obligation,

(b) urban water services –

(i) endorse the adoption by no later than 1998 of charging arrangements for water services comprising an access or connection component together with an additional component or components to reflect usage where this is cost-effective,

(ii) in order to assist jurisdictions to adopt the aforementioned pricing arrangements, an expert group, on which all jurisdictions are represented, report to COAG at its first meeting in 1995 on asset valuation methods and cost recovery definitions, and

(iii) support supplying organisations, where they are publicly owned, aiming to earn a real rate of return on the written-down replacement cost of their assets, commensurate with the equity arrangements of their public ownership,

(c) metropolitan bulk-water suppliers –

(i) support charging on a volumetric basis to recover all costs and earn a positive real rate of return on the written-down replacement cost of their assets,

(d) rural water supply –

(i) where charges do not currently fully cover the costs of supplying water to users, agree that charges and costs be progressively reviewed so that no later than 2001 they comply with the principle of full cost recovery with any subsidies made transparent consistent with recommendation 3(a)(ii),

(ii) endorse the achievement of a positive real rate of return on the written-down replacement costs of assets in rural water supply by 2001 wherever practicable,

(iii) agree that future investment in new schemes or extensions to existing schemes be undertaken only after appraisal indicates it is economically viable and ecologically sustainable,

(iv) agree, where trading in water could occur across State borders, that pricing and asset valuation arrangements be consistent,

(v) where it is not currently the case, support the setting aside of funds for future asset refurbishment and/or upgrading of government-supplied water infrastructure, and

(vi) in the case of the Murray-Darling Basin Commission, agree to the Murray-Darling Basin Ministerial Council putting in place arrangements so that out of charges for water funds for the future maintenance, refurbishment and/or upgrading of the headworks and other structures under the Commission's control be provided,

(e) groundwater

(i) agree that management arrangements relating to groundwater be considered by ARMCANZ by early 1995 and advice from such considerations be provided to individual jurisdictions and the report be provided to COAG;

4. in relation to water allocations or entitlements agree that:-

(a) the State Government members of the Council, will implement comprehensive systems of water allocations or entitlements backed by separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality,

(b) where they have not already done so, States, will give priority to formally determining allocations or entitlements to water, including allocations for the environment as a legitimate user of water,

(c) in allocating water to the environment, member governments have regard to the work undertaken by ARMCANZ and ANZECC in this area,

(d) the environmental requirements, wherever possible, will be determined on the best scientific information available and will have regard to the inter-temporal and inter-spatial water needs required to maintain the health and viability of river systems and groundwater basins. In cases where river systems have been overallocated, or are deemed to be stressed, arrangements should be instituted and substantial progress made by 1998 to provide a better balance in water resource use including appropriate allocations to the environment in order to enhance/restore the health of river systems,

(e) In undertaking this work, jurisdictions might consider establishing environmental contingency allocations which provide for a review of the allocations five years after they have been determined, and

(f) where significant future irrigation activity or dam construction is contemplated, an appropriate assessment be undertaken to, inter alia, allow natural resource managers to satisfy themselves that the environmental requirements of the river system will be adequately met before any harvesting of the water resource occurs;

5. in relation to trading in water allocations or entitlements:-

(a) endorse the principle that water be used to maximise its contribution to national income and welfare, within the social, physical and ecological constraints of catchments,

(b) where it is not already the case, agree that trading arrangements in water allocations or entitlements be instituted once the entitlement arrangements have been settled. This should occur no later than 1998,

(c) where cross-border trading is possible, agree that the trading arrangements be consistent and facilitate cross-border sales where this is socially, physically and ecologically sustainable, and

(d) accept that individual jurisdictions will develop, where they do not already exist, the necessary institutional arrangements, from a natural resource management perspective, to facilitate trade in water, with the proviso that in the Murray-Darling Basin the Murray-Darling Basin Commission be satisfied as to the sustainability of proposed trading transactions;

6. in relation to institutional reform:-

(a) where they have not already done so, governments develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management,

(b) support the adoption, where this is not already practised, of an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments,

(c) endorse the principle that, as far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision be separated institutionally,

(d) agree that this occur, where appropriate, as soon as practicable, but certainly no later than 1998,

(e) accept the need for water services to be delivered as efficiently as possible and that ARMCANZ, in conjunction with the Steering Committee on National Performance Monitoring of Government Trading Enterprises, further develop its comparisons of inter-agency performance, with service providers seeking to achieve international best practice,

(f) agree that the arrangements in respect of service delivery organisations in metropolitan areas in particular should have a commercial focus, and whether achieved by contracting-out, corporatised entities or privatised bodies this be a matter for each jurisdiction to determine in the light of its own circumstances, and

(g) support the principle that constituents be given a greater degree of responsibility in the management of irrigation areas, for example, through operational responsibility being devolved to local bodies, subject to appropriate regulatory frameworks being established;

7. in relation to consultation and public education:-

(a) endorse the principle of public consultation by government agencies and service deliverers where change and/or new initiatives are contemplated involving water resources,

(b) where public consultation processes are not already in train in relation to recommendations (3)(b), (3)(d), (4) and (5) in particular, agree that such processes will be embarked upon,

(c) agree that jurisdictions individually and jointly develop public education programs in relation to water use and the need for, and benefits from, reform,

(d) agree that responsible water agencies work with education authorities to develop a more extensive range of resource materials on water resources for use in schools, and

(e) encourage water agencies to develop, individually and jointly public education programs illustrating the cause and effect relationship between infrastructure performance, standards of service and related costs, with a view to promoting levels of service that represent the best value for money to the community;

8. in relation to the environment:-

   (a) support ARMCANZ, ANZECC and the Ministerial Council for Planning, Housing and Local Government examining the management and ramifications of making greater use of wastewater in urban areas and strategies for handling stormwater, including its use, and report to the first meeting of COAG in 1995 on progress,

   (b) support ARMCANZ and ANZECC in their development of the National Water Quality Management Strategy, through the adoption of a package of market-based and regulatory measures, including the establishment of appropriate water quality monitoring and catchment management policies and community consultation and awareness,

   (c) support consideration being given to establishment of landcare practices that protect areas of river which have a high environmental value or are sensitive for other reasons, and

   (d) request ARMCANZ and ANZECC, in their development of the National Water Quality Management Strategy, to undertake an early review of current approaches to town wastewater and sewage disposal to sensitive environments, noting that action is underway to reduce accessions to water courses from key centres on the Darling River system (It is noted that the National Water Quality Management Strategy is yet to be finalised and endorsed by governments.);

9. in relation to water and related research, agree that member governments will ensure:

   (a) higher priority is given to research necessary to progress implementation of the strategic framework, including consistent methodologies for determining environmental flow requirements, and

   (b) greater coordination and liaison between research agencies to more effectively utilise the expertise of bodies such as the Land and Water Research and Development Corporation, the Murray-Darling Basin Commission and other State and Commonwealth organisations;

10. in relation to taxation: -

   (a) support a sub-committee of Commonwealth and State officials established by the Working Group on Micro-economic Reform meeting to discuss taxation issues of relevance to the water industry with a view to reporting, through the Working Group, to COAG within 12 months,

(b) support water-related taxation issues being examined in the proposed Industry Commission inquiry into Private Sector Infrastructure Funding, and

(c) accept any future consideration of tax compensation payments involving the water industry being dealt with through the Commonwealth-State Working Group established at the July 1993 financial Premiers' Conference; and

11. in relation to recommendations (3) through (8):-

(a) agree that the Working Group on Water Resource Policy co-ordinate a report to COAG for its first meeting in 1995 on progress achieved in implementing this framework including reductions in cross-subsidies, movement towards full-cost recovery pricing in urban and rural areas and the establishment of transferable water entitlements, and

(b) agree that as part of the monitoring and review process, ARMCANZ, ANZECC and, where appropriate, the Murray-Darling Basin Ministerial Council and the Ministerial Council for Planning, Housing and Local Government, report annually over the succeeding four years, and again at its first meeting in 2001, to COAG on progress in implementing the various initiatives and reforms covered in this strategic framework.

ATTACHMENT 3

NATIONAL LANDCARE PROGRAM

In 1992 a major review of Primary Industries and Energy portfolio natural resource management programs was completed. These programs, which included the former Federal Water Resources Assistance Program (FWRAP) and the National Soil Conservation Program (NSCP), were assessed to ensure that they reflected current objectives in natural resource management and to facilitate desirable program outcomes. The review was undertaken against a background of the evolution of the Commonwealth ecologically sustainable development process and an increased emphasis on the whole systems approach pursued through integrated catchment management.

The review recommended increased emphasis on facilitation and catalytic projects rather than capital works projects. It also recommended a more explicit focus on ecologically sustainable development objectives and improved resource management and efficiency. It further recommended that funding for the land and water programs should form part of a comprehensive policy which draws on Commonwealth, State and individual responsibilities and resources to address natural resource management problems.

Following the Government's endorsement of the review's broad findings, the *Natural Resources Management (Financial Assistance) Act 1992* was enacted, repealing the former water and soil conservation program Acts resulting in the establishment of the National Landcare Program (NLP).

The National Strategy for Ecologically Sustainable Development is a major basis for the NLP. The Program requires complementary institutional reforms and economic measures to be implemented in concert with Commonwealth funded activities, in accordance with terms outlined in Commonwealth-State partnership agreements currently under negotiation with State Governments.

Through the NLP the Commonwealth is pursuing a range of objectives to achieve sustainable resource management and use. Under the partnership arrangements, the States will be required to incorporate a broad package of measures designed to achieve sustainable resource use and viable industries. Under both the NLP and the Murray-Darling Basin Initiative, an integrated package of land, water and related vegetation measures are being advanced to achieve the Commonwealth's objectives for efficient and sustainable resource use. The Murray-Darling Basin Commission released its Algal Management Strategy for the Basin in October 1994. Other key elements include: education; training; resource, property and catchment planning; the self-help Landcare movement; and infrastructure development, together with economic, policy and institutional reform. Linkages between rural development and resource management programs are being improved with

the objective of fostering self-reliant, competitive and sustainable rural industries and regions.

The long term aim of the NLP is to foster sustainable resource use through integrated approaches to resource management. Community landcare, integrated catchment planning and improved land use management as well as water supply and management activities can all contribute to achieving the sustainable resource management goal. Natural resource problems are complex, often requiring approaches that are region or catchment specific. While resource allocation and pricing are important, other issues must also be addressed. This broad based approach provides for comprehensive scope and strategic focus while successfully providing for leverage to be applied to achieve complementary reforms which are beyond the reach of Commonwealth expenditure programs.

The NLP recognises the need to integrate more closely approaches to land, water and vegetation issues and to achieve better coordination between levels of government and with the community in order to progress the Government's ESD and micro-economic reform agendas. By providing a basis for sustainable natural resource use, the NLP underpins the Government's strategies for maximising the contribution of rural industries and regions to the economic and social well-being of the Australian community.

The objective of the NLP is to enhance the efficient, sustainable and equitable management of the nation's natural resources for the benefit of the overall community by:

- enhancing the long term productivity of Australia's natural resources;
- promoting community, industry and government partnerships in the management of natural resources;
- establishing institutional arrangements which will encourage sustainable resource use;
- developing approaches which help resolve conflict over access to resources; and
- assisting in establishment of global resource management strategies which meet Australia's responsibilities and needs.

The new program has three components:

- a Community Landcare Component encompassing policies and relevant funding for community landcare action which acknowledges the community as a key stakeholder and critical in the development of a landcare ethos
- a Commonwealth/State component encompassing policies and programs which the Commonwealth and States may undertake together; and

- a National component encompassing those activities which the Commonwealth may undertake in its own right such as research and development

State and local governments and community organisations are intimately involved in delivery of the National Landcare Program, both through the community landcare component and Commonwealth-State partnership component. In the case of community landcare, State agencies act as agents for the Commonwealth. Community landcare in particular is considered to be a critical element in galvanising broad awareness and support for institutional and policy reform in resource management.

Programs from other Commonwealth agencies supporting community based resource and environmental management activities are also part of the NLP, in particular, the Save the Bush, One Billion Trees and River Murray Corridor of Green programs administered by the Australian Nature Conservation Agency and the community component of the Natural Resources Management Strategy for the Murray-Darling Basin administered by the Murray-Darling Basin Commission.

Work has also commenced on the implementation papers (Policies and Process for Water Quality Management) of the National Water Quality Management Strategy which will give a sharper focus to the policies and principles underlying the Strategy and allow the community to understand the whole package and how community stakeholders can best contribute to enhancing water quality and its management through, for example, participation in the development of Water and Land Management Plans and catchment management approaches. This document is expected to be available for public comment in the near future.

Catchment Management under the NLP

Lower level principles include:

- support for projects that act to catalyse a range of complementary actions to address catchment-wide water quality issues in a coordinated and integrated manner (eg reform of institutional arrangements such as water pricing and allocation decisions and process, legislation and regulations impacting on landuse)

- support for 'catalytic' projects which address sensitive water quality or resource management issues in areas of major national or international significance (eg to catalyse moves to the management of nutrients such as phosphates, or to assist in the development of catchment management regimes to prevent land based damage to nationally significant marine environments such as the Great Barrier Reef)

- support for projects with the clear potential to act as demonstration projects for innovative approaches to catchment planning and management (eg innovative approaches to planning, community

involvement and participation, land and water management technologies)

- a preference for funding projects which, in addition to meeting one or more of the principles above, are based on adequate information and research, linked to achieving outcomes or milestones articulated in regional or catchment management plans and consider socio-economic factors.

Programs Administered by the Australian Nature Conservation Agency (ANCA)

Three NLP programs administered by ANCA provide financial assistance for the conservation and re-establishment of native vegetation.

The One Billion Trees program aims to empower the community to strategically re-establish and maintain Australia's cover of trees and associated vegetation in the interests of sustainability and biodiversity. Funds are provided for the establishment of native vegetation for land degradation control and prevention, wildlife habitats and corridors, shelter belts and livestock havens, dune care and stream bank stabilisation.

The Save the Bush program's objective is to encourage, facilitate and support activities associated with the protection, management and investigation of remnant native vegetation, particularly outside national parks and other reserves, which directly or indirectly contribute to the conservation of biological diversity in Australia.

Under the River Murray Corridor of Green program, a network of vegetation corridors is being developed along the 2,500 kms of the River Murray within a band 50 kms either side, helping to address the various land degradation, water quality and nature conservation problems along the River.

The Murray-Darling Basin Natural Resources Management Strategy

The objectives of the NRMS are to:

- control or prevent land degradation and rehabilitate land resources
- maintain or improve water quality and ensure adequate supply
- conserve the natural environment
- conserve cultural heritage

The NRMS addresses these objectives through two funding programs. The Investigations and Education Program assists organisations such as State agencies, CSIRO, universities and private bodies to carry out knowledge-

based activities such as research, investigations, monitoring and community education. These activities have a Basin-wide application.

The Integrated Catchment Management program assists local and regional communities in the Basin to develop and implement integrated catchment management plans directed at meeting NRMS objectives. It aims to promote an understanding of the relationship between the impact of single-issue projects and what is needed for the catchment as a whole. Under the NRMS projects are considered in the context of their relationship to Action Plans (for regions or sub-catchments), broader strategic integrated catchment Management plans and Basin-wide priorities and initiatives such as the MDBC Algal Management Strategy.