

Environmental Requirements of the Framework

Background

The purpose of this paper is to outline national agreements on the environment that may be useful as a guide in reporting progress against the environmental requirements of the CoAG water framework.

The CoAG Framework requires the Council to assess the progress of states and territories against environmental provisions. This occurs in three specific instances in the Framework:

- the determination of water allocations or entitlements, including provision for the environment (clause 4);
- environmental constraints on new investment (clause 3d(iii)); and
- cross border trading (clause 5(c)).

Clause 4 requires jurisdictions to determine water allocations including allocations for the environment for surface and groundwater resources, as a priority for over-allocated or stressed systems. For all other systems, jurisdictions are to have in place a formal system to ensure that water allocations for non-environmental purposes are done only after provision for the environment is made.

In relation to new investments, Clause 3d(iii) of the Framework requires:

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

In relation to cross-border trading, clause 5c requires that:

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

When deciding how to assess these environmental requirements the Council is looking at, where possible, drawing upon work already agreed by States and Territories. To this end, the Council has looked at the body of work that Governments have agreed to and completed in this area as a guide to how jurisdictions might report against the environmental aspects of the framework.

The sorts of national agreements that are relevant to the NCC's considerations of these provisions are:

- Intergovernmental Agreement on the Environment (1992)
- National Principles for the Provision of Water for Ecosystems (1996)
- National Framework for Improved Groundwater Management (1996)
- National Strategy for the Conservation of Australia's Biological Diversity (1996)
- National Water Quality Management Strategy (1992)
- National Strategy for Ecologically Sustainable Development (1992)

For information on the requirements of each of these agreements see the Appendix.

How the NCC will assess Water Allocations or Entitlements

Clause 4 of the framework relates to determinations of water allocations or entitlements. In particular, clause 4c requires development of allocations for the environment. In determining allocations for the environment, regard should be had to the relevant work of ARMCANZ and ANZECC.

Clause 4a requires Governments to establish comprehensive systems of water 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.

The Tripartite Meeting of January 1999 considered 'comprehensive' required:

“Jurisdictions (to) demonstrate the establishment of a sustainable balance between the environment and other uses for both surface water and groundwater. There must be formal water provisions for surface and groundwater consistent with ARMCANZ/ANZECC “National Principles for the Provision of Water for Ecosystems”.

The key objective of the National Principles is to sustain, and where necessary restore, ecological processes and biodiversity of water dependent ecosystems. This is based on the recognition that providing adequate water flows is critical for maintaining natural ecological processes and biodiversity.

The Council has identified the following information requirements concerning each of the ARMCANZ/ANZECC principles for jurisdictions as a guide for the third tranche assessment in respect of clauses 4(b),(c),and (d). The principles apply to both surface and groundwater. Sources of definitions for terms used below such as – water dependent ecosystems, ecological values, environmental water requirements and environmental

water provisions, are to be taken from the National Principles for the Provision of Water for Ecosystems.

- *Principle 1 - River regulation and/or consumptive use should be recognised as potentially impacting on ecological values*

This key principle is considered to be the basic premise behind the ARMCANZ/ANZECC Principles. To have adequately addressed this Principle, substantial progress against all of the subsequent principles will need to be demonstrated by jurisdictions to satisfy the Council of the commitment jurisdictions have made to achieving ecologically sustainable outcomes in the use of water resources.

- *Principle 2 - Provision of water for ecosystems should be on the basis of the best scientific information available on the water regimes necessary to sustain the ecological values of water dependent ecosystems*

To address this issue, the Council seeks evidence indicating the use of 'best scientific information' in decisions leading to the provision of water for ecosystem requirements. The Council would look for information concerning how the scientific information was obtained and the level of expertise involved, and how scientific information was subsequently used in allocation planning decisions to take account of the scale, timeframe and information needs of the decision-making process. In cases where recommendations have been based on another approach the Council seeks information on the process used and justification for the approach.

- *Principle 3 - Environmental water provisions should be legally recognised*

The Council seeks evidence that environmental water allocations and the planning provisions providing for such allocations have formal legal recognition. Where legally recognised plans are not in force, the Council seeks information on how legal constraints can be placed on the extent of other uses so as to ensure protection of ecological values supported by the water resource.

- *Principle 4 - In systems where there are existing users, provision of water for ecosystems should go as far as possible to meet the water regime necessary to sustain the ecological values of aquatic ecosystems whilst recognising the existing rights of other water users*

This principle was developed to allow for the needs of existing users. The Council seeks evidence that states and territories have implemented a process which has defined the rights of existing users (including specification of volumes and timing of extraction/harvesting/water releases) and these rights are recognised.. The Council will look for evidence that water requirements needed to sustain ecological values of dependent ecosystems have guided decisions used in determining the rights of existing users.

- *Principle 5 - Where environmental water requirements cannot be met due to existing uses, action (including reallocation) should be taken to meet environmental needs*

Historically the environment's requirement for water was rarely considered in allocation decisions. Water was extracted on the basis of actual or anticipated demand. There is now growing concern to protect the environment in all future water allocation decisions to ensure that the mistakes of overallocation are not repeated. Therefore, all new developments should ensure that the needs of the environment are met.

For over-allocated or stressed surface and groundwater systems, the Council will look for evidence of progress in actions to deliver on the water needs of the environment against the individual implementation programs provided by jurisdictions and published in the second tranche assessment.

In the June 1999 assessment, the Council noted that States and Territories would have to demonstrate substantial progress in implementing their agreed and endorsed implementation program for the third tranche assessment. Progress must include at least allocations to the environment in all river systems which have been over-allocated or are deemed to be stressed. By the year 2005, allocations must be substantially completed for all river systems and groundwater resources identified in the implementation programs. The Council noted in its assessment that implementation programs could be changed over time, provided there is agreement between the jurisdiction and the Council.

Specifically the Council will be seeking information for rivers (including channels, banks and floodplains), wetlands and groundwater systems on:

- the extent to which environmental water requirements have been identified and then the extent to which these requirements have been or are being implemented through allocation or reallocation:
 - for those systems where environmental water requirements have been identified, the proportion of systems (and their identity) where environmental water requirements cannot be fully met due to existing uses;
 - mechanisms other than reallocation that are being used to provide water to meet environmental water requirements and the extent these mechanisms are in use enabling requirements to be met; and
 - the process and timeframe identified to fully meet environmental water requirements, and subsequently to determine allocations in systems where these are presently not met.

- *Principle 6 - Further allocation of water for any use should only be on the basis that natural ecological processes and biodiversity are sustained (ie ecological values are sustained)*

Once an environmental water provision has been determined it should be managed in the best possible way to ensure ecological processes are maintained or restored. To achieve appropriate management of environmental water allocations, accountability needs to be defined, and be transparent. Monitoring is required to ascertain how adequately the objectives of environmental water provisions are being met, and hence to enable adaptive management to be implemented.

Jurisdictions should have a satisfactory process for identifying key ecological processes essential for ecosystem functioning and for identifying water dependent elements of biodiversity in these systems. The Council will look for evidence that the water requirements necessary for sustaining ecological processes and biodiversity have been (or will be where allocations are yet to commence) incorporated into allocation decisions applied in these systems.

- *Principle 7 Accountabilities in all aspects of management of environmental water provisions should be transparent and clearly defined*

The techniques available for determining environmental water requirements cannot specify an environmental flow or regime that will conclusively ensure the protection of the environment. Rather the techniques highlight the risks to ecological values of pursuing particular flow strategies. Monitoring programs need to be established to ensure environmental water provisions are maintaining ecological values. Continuous or periodic review will promote assessment of where risks to ecological values are occurring. This will enable immediate remedial action to minimise risk of permanent degradation of ecological values. Where observed environmental impacts are less than anticipated, programs can be scaled down accordingly.

To enable community understanding and acceptance of the processes and decisions which lead to reserving allocations of water for environmental needs, jurisdictions need to be able to demonstrate the existence of a strong capacity for community involvement through consultation and participation. The Council will be seeking to examine the allocations process including the information requirements leading to the establishment of allocations where they were not previously established or action under an existing plan, how all the stakeholders are involved and kept informed throughout the decision process, and the public availability of reports and key documents that inform the decision process.

- *Principle 8 Environmental water provisions should be responsive to monitoring and improvements in understanding of environmental water requirements*

To be effective in ascertaining if goals of water provisions are being achieved, water allocation/management plans should specify appropriate performance criteria. If monitoring revealed these criteria are not being

achieved then a prescribed action process should be followed. If further research revealed deficiencies in current water provisions then a process to redress these should be followed. In undertaking its assessment, the Council will be seeking evidence of the extent to which water allocation management plans allow for and require ongoing monitoring and adjustment to new information. This would include:

- a comprehensive monitoring program that in its funding provisions and design is capable of assessing the temporal and spatial performance of the prescribed environmental allocations to determine if environmental objectives are being met;
- the process (community/stakeholder consultation, revision to plans) to incorporate findings from the monitoring program into necessary changes in environmental water provisions; and
- the capacity of managers to put into effect changes to environmental water provisions.

- *Principle 9 - All water uses should be managed in a manner which recognises ecological values.*

The intent of this criteria is to encourage water authorities and other users to take on board environmental objectives where possible. The impact of other water uses on the environment can be lessened if those uses are as efficient as possible. Ways to encourage the efficient use of water include demand management and appropriate pricing mechanisms which reflect the true costs of supplying water.

To put this principle into effect requires that ecological values have been identified where possible for systems where water allocations have occurred. However, the Council acknowledges the slow rate of progress in determining ecological values for many systems and therefore seeks evidence that, consistent with the timetables published in the second tranche assessment, by 2005 all water uses will be achieved in a way which recognises ecological values. Jurisdictions should provide information on the process to define appropriate water use and ecological values.

- *Principle 10 - Appropriate demand management and water pricing strategies should be used to assist in sustaining ecological values of water resources*

The Council believes there will be opportunities for increased environmental outcomes through adopting approaches that lead to more efficient use of water and which will provide water at the true cost of supply. Accordingly, the Council will examine the approaches taken to pricing, trading and demand management, the level of implementation and uptake, and the type and quantum of government initiatives to promote these activities.

- *Principle 11 - Strategic and applied research to improve understanding of environmental water requirements is essential*

In seeking to address this principle in its assessment, the Council notes the requirement in relation to research of the CoAG framework (Clause 9a). The Council also notes the requirement of ARMCANZ/ANZECC Principle 2 and Clause 4d of the CoAG framework for the use of the best scientific information. Accordingly compliance requires the totality of research to be looked at as an important step in attaining the best scientific information upon which to base decisions concerning water allocations. In its assessment, the Council will look for evidence of ongoing research activities and outcomes in areas encompassing the different aspects of water dependent ecosystems.

- *Principle 12 - All relevant environmental, social and economic stakeholders will be involved in water allocation planning and decision-making on environmental water provisions*

For each category of stakeholder, the Council would look for evidence on how stakeholders have been involved in water allocation planning and decision-making. Jurisdictions will need to provide evidence of consultation with stakeholders where this is appropriate and evidence that stakeholder views have been given relevant and appropriate consideration.

Environmental Constraints on New Investment & Trading

Clause 3d(iii) and 5c of the Framework require the Council to assess the water reforms against considerations of ecological sustainability.

In particular, the Council needs to assess whether Governments have made new investments in rural water infrastructure after appraisal indicates it is economically viable and ecologically sustainable. Similarly, where cross-border trading is possible, trading arrangements are to be consistent and facilitate cross-border sales where this is socially, physically and ecologically sustainable.

These clauses require that water resource developments which meet the economic and social needs of society today and in the future are achieved in a way that maintains the ecological processes dependent on the water resource.

As previously stated, when deciding how to assess these clauses the Council is looking at, where possible, drawing on work already agreed by States and Territories. To this end, the Council is looking to interpret references to ecological sustainability in the water agreements against the objectives and subsequent work of the *National Strategy for Ecological Sustainable Development* (NSES) agreed between jurisdictions in 1992.

The core objectives of NSESD are:

- to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations and provides for equity within and between generations; and
- to protect biological diversity and maintain essential ecological processes and life-support systems.

In relying on agreed work, the Council will draw on the core objectives of NSESD concerning intergenerational equity and biodiversity protection.

Intergenerational Equity

The adoption of the principle of intergenerational equity allows consideration to be given to the wellbeing of future generations, in particular, their ability to inherit an environment where the natural, industrial and social capital maintains or improves upon current conditions. The Council holds the view that jurisdictions would be capable of meeting this core objective by demonstrating that they have followed a path of economic development that safeguards the welfare of future generations and have taken action to protect biological diversity and maintain essential ecological processes and life-support systems.

Biodiversity and Ecological Processes

The Council recognises that individual jurisdictions are responsible for managing their respective water resources. However, for such management approaches to be considered ecologically sustainable they should be consistent with the objectives and principles of the NSESD and the nationally agreed policy principles, as outlined below.

The NSESD has a number of guiding principles relevant to the implementation of sustainable development for water resources. These principles include:

- the need to integrate long and short-term economic, environmental, social and equity considerations in decision making processes;
- to ensure that, where there are threats of serious or irreversible environmental damage, the lack of full scientific certainty should not be a reason for postponing measures to prevent environmental degradation; and
- that decisions and actions should provide for broad community involvement on issues which affect them.

The requirements of the NSESD need to be considered as a package and no objective or principle should predominate over the others. Rather, a balanced approach is required that takes into account all of these principles to meet the goal of ecologically sustainable development.

To meet this challenge the NSESD provided the following objectives:

- to develop water management policies which are based on an integrated approach to the development and management of water resources; and
- to develop and implement the most effective mix of water resource management mechanisms. Included under this last objective was the requirement that “governments give thorough consideration to the range of technological, economic, environmental, and social factors when upgrading or providing new infrastructure”.

An Assessment Approach

Jurisdictions will need to conduct robust independent appraisal processes to determine economic viability and ecological sustainability prior to investment in new rural schemes, existing schemes and dam construction. Jurisdictions will also need to assess the impact on the environment of river systems before harvesting water.

Policies and procedures must be in place to robustly demonstrate the ecological sustainability of new investments in rural schemes prior to development, and that these assessments provide for appropriate public consultation and scrutiny. The practicalities of assessing the ecological sustainability of new investments in water infrastructure are discussed in the background paper “New Investment in Rural Infrastructure”.

For groundwater, the Council will look for evidence from jurisdictions of integration of surface and groundwater management which considers the protection of biodiversity and maintenance of ecosystem processes in determining sustainable yields before allowing new developments or further expansion of existing infrastructure to occur.

Where water resource use involves scope for cross border trading, the CoAG water reform framework specifies that where the policies, programs, projects, legislation or regulations of one jurisdiction affects the environment of another, they must consult the affected jurisdiction. Also where significant adverse external effects on another jurisdiction are expected or identified, the relevant jurisdictions are required to use their best endeavours to establish appropriate mechanisms for ensuring co-operative management.

The Council holds the view that the importance given to protecting biodiversity is indicated by its specific mention in the core objectives of the NSESD. Therefore in meeting the commitments in the framework, jurisdictions should have commenced actions and made substantial progress to address the key principles and objectives of the *National Strategy for the Conservation of Australia’s Biological Diversity* (see Appendix) when approving investments of water resource infrastructure developments.

For its third tranche assessment, the Council will look for evidence of effective co-operation among jurisdictions leading to water resource management practices that apply the precautionary principle, principles

related to intergenerational equity, and conservation of biological diversity and ecological integrity, when developing and managing infrastructure development and use of a shared resource.

Appendix: Environmental Agreements Relevant to the Council's Assessments

Since the release of the NSESD, jurisdictions have agreed to a number of additional environmental policies applicable to water resource use. In reaching these agreements jurisdictions have indicated their acceptance of the national importance of the objectives, principles and actions contained within these national policy principles. The relevant agreements are:

- The Intergovernmental Agreement on the Environment.

This Agreement provides the basis for a co-operative approach to the management of environmental issues in Australia. Under the Agreement, parties committed to integrate environmental considerations into government decision-making processes, and to adopt principles, such as, the precautionary principle, intergenerational equity, and conservation of biological diversity and ecological integrity, in policy making and implementation.

- The National Principles for the Provision of Water for Ecosystems.

This provides policy direction on how environmental water requirements should be dealt with in the context of water allocation decision making.

- National Framework for Improved Groundwater Management.

This ARMCANZ paper, "Allocation and Use of Groundwater: A National Framework for Improved Groundwater Management in Australia", provides advice to jurisdictions on how the general CoAG water reform principles might apply to groundwater management in Australia. The paper recommends a number of approaches for improved groundwater management including:

- employing the principles of ecologically sustainable development in groundwater management;
- better integration of groundwater and surface water resource management;
- ensuring that the efficient utilisation of groundwater is not compromised by the protection of existing users with inefficiently designed or constructed wells, particularly domestic and stock wells;
- basing groundwater management plans on a sound understanding of the resource; and
- ensuring groundwater management plans identify the sustainable yield and levels of allocation and use, including provisions for the environment. Where allocations exceed sustainable yields, agencies should develop strategies to reduce extractions to sustainable levels

within time frames that minimise permanent damage to the resource.

- The National Strategy for the Conservation of Australia's Biological Diversity (NSCABD)

The NSCABD has the goal to protect biological diversity and maintain ecological processes and systems. Actions in the Strategy seek to strengthen the conservation of biological diversity across Australia, integrate biological diversity conservation and natural resource management, manage threatening processes, improve our knowledge of biological diversity, and involve the community in biological diversity conservation.

There are four key principles of the strategy relevant to water resource development that serve as a basis to guide implementation. These are:

- ◆ it is vital to anticipate, prevent and attack at the source the causes of significant reductions or losses of biological diversity;
- ◆ processes for and decisions about the allocation and use of Australia's resources should be efficient, equitable and transparent;
- ◆ lack of full knowledge should not be used as an excuse for postponing action to conserve biological diversity; and
- ◆ central to the conservation of Australia's biological diversity is the establishment of a comprehensive, representative and adequate system for ecologically viable protected areas integrated with sympathetic management of all other areas, including agricultural and other resource production systems.

The objectives for water resource management are set out in the Strategy which states that water resources should be managed in accordance with biological objectives to satisfy economic, social and community needs. Actions called for by the Strategy include:

- improving the knowledge about the biological diversity of aquatic and associated systems;
- protecting aquatic ecosystems by introducing effective legislative and policy frameworks; and
- ensuring that the activities of water management agencies are consistent with the conservation of biological diversity.

Action plans should take into account:

- the importance of natural flow regimes and habitat complexity for aquatic and riparian ecosystems and the need to minimise the impacts of habitat alteration in river improvement projects;
- the need to improve management of water allocations to ensure the maintenance of instream and floodplain biological diversity;

- the need to minimise the effect that barriers to water flow have on the migration and reproduction of aquatic fauna and dependent floodplain ecosystems; and
- the impacts large water storages have on artificial river flows and lowered water temperatures downstream and consequently, on the breeding of aquatic species.

➤ The National Water Quality Management Strategy (NWQMS)

The objective of this policy is “to achieve sustainable uses of the nation’s water resources by protecting and enhancing their quality while maintaining economic and social development”. The Strategy contains a number of principles essential to ecological sustainability. For more detailed information