

**National Competition Council**

**WATER REFORM IN QUEENSLAND**

**National Competition Policy Supplementary  
Water Reform 2002 Assessment**

March 2003

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### **The National Competition Council**

The National Competition Council was established on 6 November 1995 by the *Competition Policy Reform Act 1995* following agreement by the Commonwealth, State and Territory governments.

It is a federal statutory authority which functions as an independent advisory body for all governments on the implementation of the National Competition Policy reforms. The Council's aim is to 'improve the well being of all Australians through growth, innovation and rising productivity, and by promoting competition that is in the public interest'.

Information on the National Competition Council, its publications and its current work program can be found on the internet at [www.ncc.gov.au](http://www.ncc.gov.au) or by contacting NCC Communications on (03) 9285 7474.

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# Abbreviations

CoAG	Council of Australian Governments
Council	National Competition Council
NCP	National Competition Policy

# Introduction

Under Australia's National Competition Policy (NCP), the National Competition Council (the Council) assesses the progress of governments with implementing the reform obligations they agreed to in establishing the NCP.<sup>1</sup> Following a decision of the Council of Australian Governments (CoAG) in November 2000, there are annual assessments, with a review of the NCP before September 2005 (CoAG 2000).

Reform of Australia's water industry, aimed at creating an economically viable and ecologically sustainable water industry, is a significant element of the NCP program. A major focus is on producing better environmental outcomes through formally determining allocations or entitlements to water, including allocations for the environment. Wherever possible, environmental requirements must be determined using the best scientific information available.

Under the CoAG water reform agreements, for the 2001 assessment, States and Territories were to have in place allocations to the environment in all river systems that have been over-allocated or are deemed to be stressed. In the 2001 assessment, the Council found that Queensland had generally met environmental commitments, with the exception that the draft Condamine–Balonne water resource plan did not adequately address identified environmental problems. In the 2002 assessment, the Council expected to see a final water resource plan for the Condamine–Balonne that met CoAG water reform obligations, with the associated resource operations plan well under way.

The Council's earlier assessments,<sup>2</sup> including a standalone water reform volume on governments' progress in 2002, are available on the Council's website at [www.ncc.gov.au](http://www.ncc.gov.au).

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<sup>1</sup> The three NCP agreements are reproduced in NCC (1998). The agreements were amended by CoAG in 2000 (CoAG 2000).

<sup>2</sup> The Council considered water reform progress in the 2001 assessment (NCC 2001) and the second tranche assessment (NCC 1999). The Council also conducted supplementary assessments on water reform in December 1999, June 2000, September 2000, and February 2001.

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## Outstanding issue, 2002 assessment

**Outstanding issue:** The scientific review of environmental flow requirements in the Condamine–Balonne Basin is to be completed. Queensland is to demonstrate its commitment to implementing the outcomes of the review.

**Reference:** Water reform agreement, clause 4(b-f).

The Queensland Government had not produced a final Condamine–Balonne water resources plan at the time of the 2002 assessment. At the time, the Government was discussing ways of addressing the issues associated with the Condamine–Balonne water resource with the Commonwealth and New South Wales Governments. These included Queensland acquiring Cubbie Station, Australia’s biggest cotton producer, with the intention of retiring the station’s waterworks licences to address downstream environmental flows and address salinity concerns. The acquisition of Cubbie Station did not proceed.

The Queensland Government also announced a six-month review of the science underpinning the assessment of the current and future ecological condition of the Lower Balonne River system and committed to act on the recommendations of the review. The Commonwealth Government provided a guarantee in July 2002 that Queensland would not be penalised financially during the six months of the review for failure to complete water resource planning in the Condamine–Balonne catchment.

Because evidence emerged only in 2001 that the Condamine–Balonne basin may be stressed, and given the efforts of the Queensland Government, the Council considered it reasonable to defer the 2002 assessment to provide more time for Queensland to address environmental matters relating to the Condamine–Balonne Basin. This decision recognised the importance of the Condamine–Balonne system. A satisfactory Condamine–Balonne water resource plan is critical for setting Queensland’s diversion limits under the Murray–Darling Basin cap and for ‘end of valley’ flows for the Narran Lakes in Northern New South Wales, a wetland of international importance. The timing of the supplementary assessment enabled information from the scientific review and on the Queensland Government’s response to be available to the Council in recommending on Queensland’s compliance with CoAG water reform obligations.

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# **Independent review of the science underpinning the assessment of the ecological condition of the Lower Balonne system**

The Queensland Government established an independent review of the science underpinning the assessment of the ecological condition of the Lower Balonne system in August 2002, releasing the terms of reference on 6 August. The review was conducted by an expert panel chaired by Professor Peter Cullen, ex-Chief Executive of the Cooperative Research Centre for Freshwater Ecology. The panel included Professor Russell Mein, former chief executive of the Cooperative Research Centre for Catchment Hydrology, and Dr Richard Marchant, a senior curator in aquatic ecology from Museum Victoria. The terms of reference required the panel to:

- review the Department of Natural Resources and Mines' integrated quantity and quality model for the Condamine-Balonne Basin;
- review the current ecological condition of the Lower-Balonne River system, including its floodplains and wetlands;
- review the current relevant scientific information in order to propose an ecological definition of a healthy working river applicable to the Lower Balonne context;
- review the range of likely future ecological conditions and trends in the health of the Lower Balonne River system, including its floodplains and wetlands;
- review the reversibility or the lessening of the predicted trend in ecological condition outlined in the previous point; and
- advise on river health monitoring and risk assessment frameworks for determining the future ecological condition of the Lower Balonne River system.

The review was undertaken in consultation with a community reference group. The group comprised representatives from a range of interests including: irrigators, environmental groups, industry, graziers, indigenous communities and local government. The terms of reference for the community reference group were to:

- provide comment to the Queensland Government on the composition of the scientific review panel, its terms of reference and the review process;
- provide information and opinion to the panel on the key issues outlined in the panel's terms of reference;

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- ensure information available within the community, relevant to the review, is gathered and presented to the panel;
  - identify the key issues and concerns of the Lower Balonne community and stakeholders with regard to the ecological condition and trend of the Lower Balonne River system;
  - provide advice on the communication requirements necessary to increase the knowledge and understanding of the review process and the review outcomes in the Lower Balonne community;
  - provide comment and opinion to the panel on the preliminary conclusions of the review;
  - provide more detailed feedback to the panel about the clarity of the available science and the panel's findings; and
  - provide the Queensland Government with comments on the next steps that may be taken following the review.

The panel invited submissions to the review, undertook a field inspection of the Lower Balonne River system and convened several workshops and meetings. It received feedback from the community reference group at various stages during the review, including on a draft report.

The panel completed its final report in January 2003 (Independent Scientific Review Panel 2003). The report was publicly released on 23 January 2003. The main findings and recommendations of the panel are summarised below.

- Four important ecological assets were identified as being relevant to current and future water management in the Lower Balonne River system: the biota of the rivers, distributary channels and wetlands of the Lower Balonne; the internationally recognised Narran Lakes; the National Parks of the Culgoa floodplain; and the biota of the Darling River. The panel stated that the challenge for the Government was to use the best available science to ensure management provides a wetting regime appropriate to protect these ecological assets.
- The panel found that the water gauging and flow modelling capacity of the Department of Natural Resources and Mines accords with accepted industry standards and is appropriate for the regional water planning being undertaken. However, the panel recommended that the department improve the documentation of its model and ensure community access to up-to-date documentation. It also supported the involvement of stakeholders in verification of the information used by the model.
- The panel found that the rivers and wetlands of the Lower Balonne system are currently in a reasonable ecological condition, but that this condition is expected to deteriorate if the present capacity to extract water from the system is exercised. The panel noted that the river has not experienced a flow regime that will result from extraction with the current



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levels of infrastructure development. The panel therefore considered it likely that the present health of the Lower Balonne River system reflects extraction patterns from some period in the past. The panel considered that, on the evidence available, the Narran Lakes are not yet showing signs of degradation. It accepted that the Darling River is significantly degraded.

- The panel found that the department's more recent sampling and analysis had not supported the preliminary interpretations made in the June 2000 draft water resource plan that the invertebrate fauna in the Lower Balonne, downstream of the bifurcation, were in a generally degraded state. The panel accepted there is evidence that the composition of fish communities changes in a downstream direction, but found that there were insufficient data to show whether this change is ecologically significant or whether it is caused by water development.
- Anecdotal evidence was noted from several landholders that the reduced frequency of flooding of parts of the Lower Balonne floodplain has resulted in a reduction in agricultural productivity. The panel considered that no further losses of floodplain to agricultural development should be allowed pending scientific studies demonstrating there would be no impact on the health of the Lower Balonne River system.
- Human activities were found to have impacted on the ecology of the Lower Balonne since the bifurcation weirs were constructed to divert water from the Culgoa River to the various distributary channels to spread floodwaters across the floodplain. These diversions have seen the Culgoa River change from what was reported to be an almost permanent flowing stream to one that is now a flood pulse river like the distributary channels. This restricts available fish habitat and refuges during dry periods.
- The panel considered that the situation would worsen when the current infrastructure is fully used to harvest water in the Lower Balonne. This would remove small floods from the system and reduce medium floods to small floods. However, extractions from larger floods, occurring on average every 10 years or so, would not have much impact.
- In response to the expected flow changes, the panel considered that the health of the Lower Balonne river and distributary channels is likely to decrease. In particular, the downstream pools that provide refuges for fish and other biota may become more restricted and water quality may deteriorate.
- The panel noted that the possible level of water extraction in the Lower Balonne puts further flow related stress onto the already degraded upper Darling, but that these flow changes are mitigated downstream and will be minor in the Lower Darling and the Murray.
- The panel was of the view that salinity is a potential problem for parts of the Lower Balonne and that the department and other agencies need to

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investigate and manage it, as is understood to be occurring under the National Action Plan.

- The panel supported the contention of the Cooperative Research Centre for Freshwater Ecology that there will be significant degradation of the Lower Balonne floodplain, and of the Narran Lakes in particular, once the system experiences the water extraction that is possible with the current infrastructure. At this level of extraction, the Narran Lakes would be expected to fill on average once in about seven years rather than once every two under predevelopment conditions. The panel considered that this will lead to significant degradation of the Narran Lakes (over the next 40 years), as has been evidenced in other terminal wetland systems when their water supply has been markedly reduced.
- The reduced flooding frequency was considered likely to lead to further changes in the vegetation of the Lower Balonne floodplain, with a loss of vigour and eventual replacement of these plant communities with grassland species. The panel found that the Culgoa National Parks, established to protect these vegetation communities, would be at risk. The panel therefore considered it important that further scientific work be commenced immediately to assess the wetting needs of the various wetland systems, including Narran Lakes and the Culgoa National Parks.
- The panel considered that an ecological study of the Narran Lakes should be undertaken without delay. As an interim target (to be reviewed once the ecological study is completed), the lakes need to be flooded on average once every 3.5 years if their ecological values are to be maintained. (This estimate is based on the New South Wales National Parks and Wildlife Service submission that degradation would occur if the volume and frequency of flooding is reduced to below 60 per cent of pre-development levels.)
- The panel considered that management targets expressed as a function of mean annual flow are neither suitable nor practicable for the Lower Balonne. It advocated using an event-based management approach tailored to meet the flow needs of downstream environments, and developed using scenario modelling.
- The panel recommended that the target of wetting on average every 3.5 years for the Narran Lakes, and an appropriate frequency for the two Culgoa National Parks, be achieved through close consultation with the community, given the need for a cooperative approach to manage the large number of extraction points and individuals involved. The panel indicated that such consultations should be completed within a period of three months.
- The panel noted that the Sustainable Rivers Audit of the Murray Darling Basin Commission is an appropriate base framework for monitoring and is currently being tested and developed in the Condamine–Balonne. The panel considered however that additional indicators (such as bird and fish

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breeding events, algal bloom incidence and vegetation communities) need to be incorporated.

- In view of the importance of evaporation in the Lower Balonne, the panel recommended that a specialist study be undertaken of the most accurate way to estimate evaporation from typical water storages and measures to minimise the evaporation loss.

## **The Queensland Government's response to the report of the scientific review**

In releasing the panel's report, the Minister for Natural Resources and Mines announced that he had requested his department to 'examine how the report's recommendations can be fully implemented, and to immediately consult with the community as part of finalising a Water Resource Plan for the Condamine–Balonne catchment' (Media Release 23 January 2003).

On 10 February 2003, the Acting Premier and Minister for Trade wrote to the Prime Minister outlining the Queensland Government's response to the panel's findings. The Acting Premier advised that the Queensland Government will proceed towards implementing the panel's recommendations in full, with the aim of releasing a new draft water resource plan as soon as possible.

Towards this end, the community reference group has been asked to provide advice to the Minister for Natural Resources and Mines on the following:

- suggestions on the most appropriate methods of communicating the findings of the review to the community of the Lower Balonne, in order to increase knowledge of the review process, issues and outcomes; and
- the next steps to be taken with respect to water resource planning in the Lower Balonne system and the scope for further community involvement (including from the community reference group or a variation of it).

The community reference group facilitated a science forum in St George on 28 February 2003, at which Professor Cullen presented the panel's findings and the group sought input from the community on the next steps in the process.

In a letter to the Council on 27 February 2003, the Director-General of the Queensland Department of Premier and Cabinet advised that:

- the community reference group hopes to provide its advice to the Minister on the above points by 26 March;
- subject to the group's advice, it is expected that the group, or a variant of it, will continue to be the primary mechanism for the Lower Balonne

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community's involvement in the development of the water resource plan, particularly with respect to developing management targets for the Lower Balonne area; and

- while the timing will, to a significant extent, be influenced by the outcomes of the community consultation process, it is envisaged that the Queensland Government will be in a position to release a new draft water resource plan around the end of June 2003.

In discussions with the Council, Queensland indicated that it expected (subject to advice from the community reference group):

- preparation of a draft resource operations plan to be formally commenced around the time of release of the new draft water resource plan;
- the water resource plan to be finalised by December 2003; and
- the water resource plan to be operationalised (by finalising and implementing the resource operations plan) in the first half of 2004.

## **Discussion and assessment**

In this supplementary 2002 assessment, the Council sought to confirm that:

- the independent scientific review promised by Queensland in the 2002 assessment had been completed; and
- the Queensland Government was committed to implementing appropriate action in response to the scientific review by the 2003 assessment, or to have such action significantly advanced.

The independent scientific review reported in January 2003, and the Queensland Government publicly released the review report on 23 January. In responding to the review, the Queensland Government committed to implement in full the recommendations of the review via a new Condamine–Balonne water resource plan.

Consistent with the recommendations of the review, the Government intends to develop management targets for the Lower Balonne in consultation with the community. The review panel considered that a period of three months for community consultation on the management targets would be appropriate and the Government has adopted this timeframe.

Subject to advice from the community reference group, the Government expects to release the new draft Condamine–Balonne water resource plan for public review in accordance with the *Water Act 2000* in mid 2003 and aims to finalise the new plan by the end of 2003. The Government also expects to commence preparation of the resource operations plan (needed to implement

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the water resource plan) in mid 2003, with a view to finalising it during the first half of 2004.

Given the complexity of the work required and the need for further close consultation with the community, the Council considers the timetable proposed by Queensland to be reasonable. The timetable appears unlikely to compromise the ecological condition of the Lower Balonne system given the review's finding that the rivers and wetlands of the system are currently in a reasonable ecological condition.

The Council is satisfied that the undertakings provided by Queensland meet the State's remaining water reform obligations for 2002. The Council will monitor Queensland's progress against its undertaking to produce a new Condamine–Balonne water resource plan in future NCP assessments.

For the 2003 assessment, the Council will look for Queensland to have produced a new draft water resource plan. The Council will look for key elements including:

- adoption in the draft water resource plan of outcomes and strategies consistent with the recommendations of the scientific review to ensure delivery of adequate environmental flows within a reasonable time period;
- close consultation with the community and transparency in developing the draft plan, as required under the *Water Act 2000*; and
- a commitment by Queensland to further research recommended by the scientific review, in particular to refine the environmental flow requirements.

For the 2004 assessment, the Council will expect Queensland to have finalised the Condamine–Balonne water resource plan and associated resource operations plan, with the water resource plan including appropriate environmental outcomes. As part of this, the Council will look for Queensland to:

- have adopted as recommended by the scientific review, the interim target of wetting on average every 3.5 years for the Narran Lakes and an appropriate wetting frequency for the two Culgoa national parks;
- have provided an opportunity for the Murray Darling Basin Commission Independent Audit Group to comment on the water resource plan and to have considered the audit group's comments in finalising the plan; and
- in line with the requirements of the *Water Act 2000*, have explained how issues raised during the public consultations were addressed in the final water resource plan and have in place monitoring arrangements to evaluate the performance of the plan.

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