

**WATER RESOURCE MANAGEMENT AND ASSESSMENT IN REGIONAL
AUSTRALIA – NATIONAL WATER QUALITY MANAGEMENT
STRATEGY REGIONAL WORKSHOPS**

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Introduction

Various regions across Australia are developing catchment management plans and investment strategies to implement activities associated with Landcare and for the National Action Plan for Salinity and Water Quality (NAP) and the Natural Heritage Trust (NHT). A major objective of these plans and strategies is to improve the management of water quality, including monitoring and assessment of water resources. Integrating community water quality monitoring activities into a regional approach is a key focus of the 2005 4th Waterwatch Conference.

The National Water Quality Management Strategy (NWQMS) workshops are an initiative of the Australian Government to enable regions to integrate all aspects of water quality management, including monitoring, into these regional management strategies. These workshops will be developed and delivered by the Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management (Coastal CRC) and held in selected regions to expand the usability of the NWQMS and associated tools.

Background to the National Water Quality Management Strategy (NWQMS)

The NWQMS provides nationally agreed policies, programs and a set of guidelines that form part of the Council of Australian Governments Water Reform Agenda. The guidelines provide the information and tools to help communities protect and enhance the quality of their water resources while maintaining economic and social development.

The NWQMS guidelines cover water quality issues associated with:

- industries (eg dairy, piggeries and distilleries etc.);
- sewerage systems and stormwater use (including the use of recycled water);
- rural land uses;
- drinking water; and
- fresh and marine water quality (including water quality monitoring and reporting).

The NWQMS guidelines that will be used to inform the Regional Workshops are:

- Guideline 3, *Implementation Guidelines*;

- Guideline 4, *The Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (2000); and
- Guideline 7 *Australian Guidelines for Water Quality Monitoring and Reporting* (2000).

The *Implementation Guidelines* (Guideline 3) outline the approach for governments and the community to prepare and implement plans to manage Australia's water resources. These guidelines provide the principles and process for establishing management actions that aim to protect the 'Environmental Values or uses (EVs) agreed to by the community for that particular water-body.

Guidelines 4 and 7 provide planning and practical tools for managing, monitoring and reporting on water quality from a regional and catchment perspective. For example, the *Australian and New Zealand Guidelines for Fresh and Marine water Quality* (2000) include extensive detail on:

- the identification of EVs by the community to be protected in a particular water body (EVs consist of the protection of aquatic ecosystems, recreational water and aesthetics, drinking water, agricultural water use, cultural and spiritual and industrial water use. The set of water quality guidelines that satisfy all of the EVs selected for a particular water body become its water quality objectives) ;
- the identification and establishment of management goals/objectives for water quality tailored to local conditions and designed to protect the designated 'EVs (or uses);
- the initiation of a management response to meet those water quality objectives; and
- the establishment of a monitoring and assessment program to gauge achievement of the water quality objectives.

Similarly, the *Australian Guidelines for Water Quality Monitoring and Reporting* (2000) provides the guiding principles for:

- setting the objectives of the monitoring program to achieve management goals;
- study design and establishment of a field sampling program;
- laboratory or field analysis;
- data analysis and interpretation; and
- reporting and information dissemination.

Guidelines 4 and 7 play an important part in developing catchment management plans. The breadth and complexity of these guidelines, however, can make them difficult for planners to use. To address this difficulty, the Australian Government has created simplified handbooks and web-based tools eg <http://www.deh.gov.au/water/quality/targets/> that can be used to plan and establish water quality objectives and targets for particular watercourses. Whilst these handbooks and tools are very useful, regional organisations have indicated that they would benefit from regionally specific, face-to-face guidance on how to best utilise these documents to improve water quality in their region. To provide this guidance the Australian Government has instigated these regional workshops.

Workshop Outcomes

It is expected that these workshops will improve the capacity of regional planners and catchment management groups to achieve national water quality objectives in Landcare, NHT and NAP regions. They will provide the vehicle for the dissemination and transfer of information and knowledge about tools and practices that can be used to improve the management of water resources. In addition, the workshops should assist in providing consistency in the water quality planning, target setting, monitoring and reporting elements of catchment management plans. This will support the longer-term aim of improving water quality in accordance with national water quality objectives. The workshops may also be the driver for the further development and adoption of tools and practices, including techniques, practices and decision support tools that improve the management of water resources and more particularly water quality.

Choosing regions, participants and water quality issues

These workshops will only be effective if regions want to participate. Therefore the primary criteria for selection were level of interest demonstrated by regions in the workshops. In addition, it was important to cover a representative cross section of regions. At this stage, a pilot workshop will be held in the ACT and also involve NSW representatives from the Murrumbidgee.

The target audience for the workshops is catchment management planners, community groups, WATERWATCH coordinators, government officers and NAP/NHT regional facilitators.

As the level of understanding of water quality planning will differ between each region the workshops will use the NWQMS guidelines to cover water quality planning issues. For example, the workshops will be able to provide advice/training on:

- methods to determine and amend EVs;
- the setting of water quality targets/objectives;
- the prioritisation water quality issues through threat and risk assessment;
- regional water quality monitoring to analyse outcomes from actions; and
- regional application of NWQMS to support assessment of resource condition and trend.

The workshops, methodology and tools

After prior consultation with regional groups, the project team will develop appropriate workshop materials based on the NWQMS guidelines including case studies and simplified examples. In addition the project team will utilise a number of existing tools such as the Water Quality Targets handbook. All tools used in the workshop will be pitched at a level appropriate to participants and build on their existing knowledge bases. Where necessary, the workshop materials will be supported by supplementary education materials to ensure the ongoing needs of participants are met.

The training approach applied to the NWQMS workshops will be based on the principles of adult learning outlined by Malouf (1994) whereby:

- learners must feel a need to learn;
- the learning environment must be mentally and socially safe;
- learners must set their own learning goals;
- learners must participate actively in the learning process;
- learning must build on, and use, the learner's experience; and
- learners must see that their learning has been successful and learning must involve effective two-way communication.

Therefore, each workshop will reflect the level of pre-existing knowledge and understanding of the NWQMS and the expectations of the learners and then utilise the most appropriate mix of facilitation/training techniques for each group.

Relevant experience of the workshop team

The Coastal CRC workshop project team has members with over 30 years experience in the development and delivery of water quality outcomes in regional areas. Recent projects relevant to the NWQMS strategy include:

- the Douglas Shire Water Quality Improvement Plan;
- the South East Queensland Water Regional Water Quality Management Strategy;
- the Queensland EPA's Environmental Values/Water Quality Objectives and Queensland Water Quality Guidelines projects;
(www.epa.qld.gov.au/environmental_management/water/environmental_values) ;
and
- National Estuarine, Coastal and Marine Indicators projects

Reporting framework and evaluation

Performance indicators and an evaluation strategy will be determined at the beginning of the project to enable ongoing measurement of progress. It is essential that the workshop evaluations measure whether the objectives of the workshops have been met. The workshops will feature the use of participant feedback forms at the beginning and end of each workshop to gauge changes in knowledge of the NWQMS. Follow-up one-on-one interviews with a small number of workshop participants will also be conducted to assess whether this knowledge has translated into practice/change.

This information will then be collated and used to assess the effectiveness of the workshops and the need (and format) for any supplementary education materials or follow-up activities. A report into the value and effectiveness of the workshops will be provided for analysis to the Australian Government Department of Agriculture, Fisheries and Forestry at the end of the project.

References

ANZECC/ARMCANZ (1998) *Implementation Guidelines*, Document 3 of the National Water Quality Management Strategy.

ANZECC/ARMCANZ, (2000) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Document 4 of the National Water Quality Management Strategy.

ANZECC/ARMCANZ, (2000) *Australian Guidelines for Water Quality Monitoring and Reporting*, Document 7 of the National Water Quality Management Strategy

Malouf, D (1994) *How to teach adults in a fun and exciting way*, Business and Professional Publishing, Chatswood, Australia.