Schedule 3 – Water Management

Water Management

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Water Management

1.0 Introduction

The new *Water Management Amendment Act 2004* adds to the potential scope of CAPs. The amendments allow CMAs to be involved in developing future water management plans (WMPs) and in evaluating the achievement of outcomes in existing water sharing plans (WSPs). It is not proposed that CAPs could replace regulatory water sharing plans under the *Water Management Act 2000*.

CMAs will have the capacity to address some water management issues through CAPs rather than through the establishment of new WMPs. Some water quality or other non-regulatory water management issues could be more fully integrated into the catchment activities and targets within a CAP, rather than developing new water WMPs. Those water management issues such as water sharing, floodplain management or water use - that involve the definition of basic statutory rights - will continue to require stand-alone regulatory WMPs.

The amendments to the *Water Management Act 2000* enable CMAs to acquire and manage one type of environmental water (ie. adaptive environmental water) via water access licences and through the establishment of Environmental Water Trust Funds. The CAPs could assist in this function by providing additional information on aquatic threatened species, populations and communities. CMAs will be able to hold access licences to which such adaptive environmental water may be credited.

2.0 History of Water Management in the Catchment

There have been many changes to the river systems of the Central West Catchment since the introduction of the *Water Act 1912*. River management in the Central West has seen the regulation of the Cudgegong and Macquarie Rivers and the general decline of riverine health through development of industry, townships and agriculture. Significant development has occurred in the last fifty years in water extraction industries such as cotton farming, placing an additional burden water resources.

The NSW State Government introduced the *Water Management Act 2000* in an attempt to make the distribution of water resources more equitable across the wide range of catchment users including, irrigators, graziers, towns and the environment. The Water Management Act allows for the development of catchment Water Sharing Plans (WSP) to create this equity.

There have been three Water Sharing Plans developed in the Central West catchment. These are:
- Macquarie Cudgegong Regulated WSP
- Castlereagh above Binnaway WSP
- Lower Macquarie Groundwater WSP

The is also a draft Lower Macquarie Floodplain Management Plan and Macro Water Sharing Plans are currently under development for the remainder of the unregulated streams and groundwater sources. The objectives of these Plans are outlined below along with information on other relevant water management plans and policies.

3.0 Guiding Principles for Water Management

The Central West CMA has drafted a number of guiding principles for water management based on the documents discussed above. These are as follows:

1. Water is a shared government and community responsibility.

2. For improved environmental health water should be equitably divided through water sharing provisions, which require water to be provided for the environment as the highest priority, to allow for activities that mitigate threats to waters and their dependent ecosystems.
3. The community should have equitable access rights to water and water markets.
4. Water sources should be managed to ensure equitable sharing between all users.
5. Protect basic landholder rights for owners of land.
6. Protect, preserve, maintain or enhance the important river flow dependent environmental ecosystems.
7. Protect Aboriginal, cultural and heritage values of all water sources.
8. Recognition the spiritual, social and customary values of water to Aboriginal people.
9. Recognise and respect Aboriginal cultural responsibilities and obligations to the landscape.
10. All people have the right to clean drinking water.
11. Protect and enhance riverine ecosystems to improve habitat for native aquatic and terrestrial fauna.
12. Protect and enhance the floodplain ecosystems of the Macquarie, Bogan and Castlereagh Rivers.
13. Protect and enhance the wetland ecosystems of the Macquarie, Bogan and Castlereagh Rivers.
14. Water Savings realised through Government funding must be used for environmental purposes.
15. Water savings realised through private investment must remain the right of that investor.

4.0 Role of the CMA in Water Management

The *Water Management Amendment Act 2004* describes the following functions for CMAs in water management.

The Minister may authorise a Catchment Management Authority to exercise the following functions:

- assisting the Minister or a management committee in the development of, in consultations about or in the implementation of management plans,
- managing adaptive environmental water under access licences,
- monitoring water quality and other environmental health objectives of management plans (including in connection with a review or audit of any such plan).
- A Catchment Management Authority may, with the approval of the Minister, acquire, hold and deal with access licences.
- In order to carry out some of these functions the Minister may establish the CMAs as Section 388 committees " *to advise the Minister on matters pertaining to water planning in general*"
- Consistent with the above, CMAs roles in water management can generally be categorised as leading community engagement, the management of environmental watering plans and AEW licences assigned by the Minister and reporting on the health of rivers and wetlands with respect to targets in CAP's.

Specifically CMAs will:

- monitor progress in the achievement of standards and targets in CAPs and other issues affecting overall catchment and river health, including the operation of WSPs.
- Lead community engagement in water management functions.
- Provide recommendations to NRC and Minister on plan objectives and provisions including issues relevant to catchment and river health.
- Review and report plan performance against CAP targets.
- Hold and manage Adaptive Environmental Water licences assigned by the Minister.

5.0 Water Quality Targets

Statewide Targets set by the Natural Resources Commission

The following Targets have been set by the Natural Resource Commission. The statewide targets below specifically relate to water quality and the Central West catchment.

- By 2015 there is an improvement in the condition of riverine ecosystems,
- By 2015 there is an improvement in the ability of groundwater systems to support groundwater dependent ecosystems and designated beneficial uses,
- By 2015 there is an improvement in the condition of important wetlands, and the extent of those wetlands is maintained.

The following targets have been set by the Central West CMA in relation to water quality. The nine Management Targets listed in the CAP contribute to the achievement of the Water Quality Catchment Target. The Management Targets relate to addressing the courses of water quality decline as well as supporting the implementation of all Water Sharing Plans developed under the *Water Management Act 2000*. The CMA has an important role in reviewing Water Sharing Plans which is outlined below.

Central West Water Quality Catchment Target

CTW1 - By 2015, improve surface and groundwater system health across the catchments, as measured by:

- A 5% reduction in the modelled result for suspended sediment;
- Temperature to be maintained or restored to within 2 degrees Celsius of median levels (ANZECC guidelines, 1992);
- A reduction in the duration of blue-green algal blooms duration above the high alert level;
- No detection of hazardous chemicals above ANZECC guidelines, 2000;
- Faecal Coliforms reduced below primary contact levels at key sites in catchment;
- Flow rules are in operation to meet the long term extraction limit and environmental water requirements, as defined by Water Sharing Plans.

Central West Water Quality Management Targets

The are nine Water Quality Management Targets listed in the CAP (MTW1-9). These targets are designed to all contribute to an improve in the overall water quality of the catchment measured by the Water Quality Catchment Target. These Targets are consistent with the National and State Plans and Strategies discussed below.

6.0 National and State Water Plans / Strategies

National Water Quality Management Strategy (NWQMS)

The aim is of the NWQMS is 'To protect and enhance the quality of water resources while maintaining economic and social development'.

The main objective is, "to achieve sustainable use of the nation's water resources by protecting and enhancing their quality while maintaining economic and social development."

The Strategy goes on to state that the process for water quality management involves the community working with government to set and achieve local environmental values and water quality objectives for water bodies and to develop management plans for catchments, aquifers or other water bodies.

The national guidelines developed under the NWQMS cover issues across the whole of the water cycle - ambient and drinking water quality, monitoring, groundwater, rural land uses and water quality, stormwater, sewerage systems and effluent management for specific industries. The aim of the guidelines is to help the community, catchment managers, environment protection agencies and water authorities protect water quality including developing local action plans for water quality management. A total of 19 guideline documents have been released under the NWQMS and two more are being prepared.

State Water Management Outcomes Plan

The Water Management Act (2000) provides for the establishment of a State Water Management Outcomes Plan (SWMOP) to set out the over-arching policy context, targets and strategic outcomes for the development, conservation, management and control of the State's water sources.

This SWMOP is the first of its kind and will have effect for five years from the date of its gazettal. It will then be reviewed and updated.

This SWMOP promotes the objects of the Act and its water management principles, and seeks to give effect to the NSW Government's salinity strategies. It is also consistent with government legislative obligations, Commonwealth international agreements and government policy. It has had regard to relevant environmental, social and economic considerations, and the results of monitoring and assessment programs.

The SWMOP explicitly provides for the protection and enhancement of the environmental services provided by aquatic ecosystems, while delivering a stronger and clearer framework for the use of water to meet human needs, including more secure access licences. It details the Government's commitment to effectively manage the important linkages between environment, human health, prosperous communities and profitable industries.

This SWMOP provides clear direction for all water management in New South Wales including (but not limited to) the creation of management plans addressing:

- water sharing,
- water use,
- drainage management,
- floodplain management,
- controlled activities and aquifer interference, and
- environmental protection.

In particular, it seeks to ensure that the NSW Government's Interim (Water Quality and River Flow) Environmental Objectives for NSW waters are explicitly addressed in future water resource management and action.

Impact of the SWMOP is expected to:

- improve the quality of water sources and the health, productivity and diversity of their dependent ecosystems,
- increase the economic value of water extracted from water sources and used, and
- protect the long term interests of regional communities.

State Water Sharing Plans

Water Sharing Plans determine the allocation of water between the environment and extractive users. The following information provides a summary of existing Water Sharing Plans and other related issues. At present not all of the catchment is covered by a Water Sharing Plan. The Department of Natural Resources is in the process of developing Macro Water Sharing Plans for the remainder of the catchment, as discussed below.

Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers

Water Sharing Plan Objectives

The objectives of this Plan are:
- maintain or enhance the ecological functions and values of riverine environments,
- support a sustainable regional economy,
- protect the social values and benefits provided by the river system, and
- recognise and respect Aboriginal cultural responsibilities and obligations to the landscape.

Objectives for the Wildlife Allocation (managed by the Environmental Flow Reference Group discussed below)

In providing advice in accordance with subclauses, (5), (14), (16) (i), (18), (21), (22) (h) and (22) (k) and clause 67 (6), the Environmental Flows Reference Group shall have regard to:
- the objectives of this Plan,
- the principles of adaptive management,
- restoration of river flow variability within the constraints of the regulated river system,
- maintenance, rehabilitation or restoration, where possible, of the links between the river and its floodplain, effluent creeks and wetlands,
- maintenance, rehabilitation or restoration, where possible, of in-channel and riparian habitats, and
- maintenance, rehabilitation or restoration, where possible, of river channel form and processes.

Performance Indicators for the WSP

The following indicators are to be used to determine the performance of this Plan against its objectives:
- change in low flows,
- change in moderate to high flows,
- change in water quality in this water source,
- change in ecological condition of this water source and dependent ecosystems,
- change in economic benefits derived from water extraction and use,
- extent to which domestic and stock rights requirements have been met,

- extent to which local water utility and major utility requirements (where major utilities are involved in urban water provision) have been met,
- extent to which native title rights have been met, and
- extent of recognition of spiritual, social and customary values of water to Aboriginal people.

Objectives of the Environmental Flows Reference Group based on the WSP

Section 15(24) of the Macquarie-Cudgegong Water Sharing Plan. "the Environmental Flows Reference Group shall have regard to:
- The objectives of this Plan (Macquarie-Cudgegong WSP),
- The principles of adaptive management,
- Restoration of river flow variability within the constraints of the regulated river system,
- Maintenance, rehabilitation or restoration, where possible, of the links between the river and its floodplain, effluent creeks and wetlands,
- Maintenance, rehabilitation or restoration, where possible, of in-channel and riparian habitats, and
- Maintenance, rehabilitation or restoration, where possible, of river channel form and processes"

Also the Plan contains rules that could also be used as objectives, namely Section 15 (22 c-f) (as abridged): "releases may be made at any time of the year to:
- enhance native fish breeding;
- ensure the successful completion of colonial waterbird breeding;
- for the purposes of alleviating severe, unnaturally prolonged drought conditions in the Macquarie Marshes where habitat maintenance of semi-permanent wetlands as defined by River Red Gum Woodlands, water couch and common reed is seen as critical; and
- releases can be made at any time of the year for the purpose of any other ecological objectives (as identified by the EFRG prior to the commencement of the water year)."

Environmental Water Management Plan.

Water Sharing Plan for the Castlereagh above Binnaway

Water Sharing Plan Objectives

The objectives of this Plan are to:
- protect natural water levels in pools of creeks, rivers and wetlands during periods of no flow,
- protect natural low flow,
- protect or restore a proportion of moderate flows (freshes) and high flows,
- maintain natural flow variability,
- minimise the effects of weirs and other structures,
- protect aquatic ecosystems,
- protect access to water for basic rights,
- give priority of access to local water utility, domestic and stock access licences over other access licences,
- engender community ownership and acceptance of this Plan,
- provide equitable access to water in accordance with the Act,
- allow for trading of water access rights within this water source,
- sustain viable water based industries, including the irrigation industry,
- encourage water extraction to move from lower flows to higher flows,
- encourage efficient water use practices,
- preserve Aboriginal cultural heritage values across this water source that relate to water sharing management,
- preserve water related European cultural heritage values, and
- contribute to the achievement of water quality to support the environmental values of this water source.

Performance indicators

The following indicators are to be used to determine the performance of this Plan against its objectives:

- change in low flows,
- change in moderate to high flows,
- change in local water utilities access,
- change in ecological condition of this water source and dependent ecosystems,
- extent to which basic landholder rights requirements have been met,
- change in economic benefits derived from water extraction and use,
- extent to which native title rights requirements have been met,
- extent of recognition of spiritual, social and customary values of water to Aboriginal people, and
- contribution to the achievement of water quality to support the environmental values of this water source.

Lower Macquarie Groundwater Plan

Water Sharing Plan Objectives

The objectives of this Plan are to:

- maintain, and if necessary restore groundwater dependent ecological processes and biodiversity,
- optimise or maximise the social outcomes of groundwater management,
- contribute to a sustainable regional economy,
- recognise and respect Aboriginal cultural responsibilities and obligations to the landscape, and
- preserve and enhance the cultural benefits and values derived from groundwater.

Performance indicators

- change in groundwater extraction relative to the extraction limits,
- change in climate adjusted groundwater levels,
- change in water levels adjacent to identified groundwater dependent ecosystems,
- change in groundwater quality,
- change in economic benefits derived from groundwater extraction and use,
- change in structural integrity of the aquifer,
- extent to which domestic and stock rights have been met,
- extent to which local water utility requirements have been met,
- extent to which native title rights requirements have been met, and
- extent of recognition of spiritual, social and customary values of groundwater to Aboriginal people.

Macro Water Sharing Plans

Macro Water Plans are catchment wide plans which set rules for sharing water between the environment and water users. Macro water plans will be developed for unregulated rivers and groundwater and will include 28 surface water plans and 12 groundwater plans statewide. These plans will generally apply to areas characterised by less intensive water use. As stated above, Plans have already been developed for the Macquarie-Cudgegong Regulated System, the Macquarie Groundwater system and the Castlereagh River above Binnaway. These plans will not be affected by the Macro planning process. The completion of Macro Plans will allow conversion of licences under the *Water Act 1912* to the *Water Management Act 2000*. The Macquarie Macro Plan will include 712 licences (133 in the Castlereagh) and just under 100,000 megalitres of allocation.

Lower Macquarie Floodplain Management Plan

A draft Flood Plain Management Plan for the Macquarie floodplain above Narromine is currently being developed by Department of Natural Resources and will be available for comments before the plan is gazetted.

7.0 Environmental Water Trust Fund

All CMAs can apply to the Minister for Natural Resources to establish an Environmental Water Trust Fund to hold and manage Adaptive Environmental Water licences assigned by the Minister. Managing this water will require the CMA to develop an Environmental Water Management Plan. The Environmental Water Management Plan for adaptive environmental water (AEW) will be consistent with, and complementary to, any statewide or national environmental water use initiatives or existing Water Sharing Plans and Catchment Action Plans and the CMA will recommend its adoption to the Minister.

The Environmental Water Management Plan will be developed by the CMA and will have regard to the following natural assets of the catchment:

- The riverine ecosystems of the Macquarie, Bogan and Castlereagh Rivers and there associated riparian vegetation, terrestrial fauna and aquatic flora and fauna,
- Riverine dependant ecosystems such as wetlands, swamps, lakes and some areas of inundation,
- Groundwater dependant ecosystems such as communities associated with ephemeral watercourses, ecosystems in streams fed by groundwater and limestone systems and springs,
- The natural floodplains of the Macquarie, Bogan and Castlereagh Rivers,
- The nationally significant Macquarie Marshes wetland and its associated wetland dependant flora and fauna.

The Environmental Water Management Plan will also include actions for the protection of the above assets. These actions have already been identified in the CAP under the following specific Management Actions: MTSA1, MTW1-9, MTV4 and MTB3.

The CMA is also developing a comprehensive Monitoring, Evaluation and Reporting Program to monitor the success of the above targets and any other actions identified in an Environmental Water Management Plan.

8.0 State Wetland Recovery Program

The NSW Wetland Recovery Plan is a suite of projects developed to deliver long term and permanent benefits to ecologically significant wetlands through water efficiency projects, water buy-back and projects to improve wetland management in the Macquarie Marshes and Gwydir wetlands.

On 11 June 2005, the then NSW Premier, Mr Carr, announced the NSW Wetland Recovery Plan, and the NSW Governments pledge of $13.4M towards the $26.8M Plan. As a first step, the Wetland Recovery Plan will focus on the Macquarie Marshes and Gwydir wetland assets. The NSW Government is seeking a matching commitment of $13.4M from the Australian Governments Water Fund, in order to implement the Plan in full.

An initial $11.3M as been allocated to the Macquarie Marshes for capital works projects to realise water savings for the marshes. At present only one of these projects is underway, restoring the carrying capcity of the Macquarie River below Marebone to allow greater volumes to reach the Macquarie Marshes, by upgrading Gradgery Lane and removing willows from the channel. The CMA is working with DIPNR, DEC, DPI, Warren Shire and State Water to develop and implement this project in association with the CMA Macquarie Marshes investment program.