



Cooperative management of environmental water to improve river and wetland health in NSW

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Published by:

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ISBN 978-1-74359-597-8

OEH 2014/0308

April 2014

Printed on environmentally-friendly stock

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Glossary

Basin Plan	Murray–Darling Basin Plan
FMPs	Floodplain Management Plans
EWAGs	environmental water advisory groups
iWAS	Internet Water Accounting System
LLS	Local Land Services
NOW	NSW Office of Water
NRC	Natural Resources Commission
NWC	National Water Commission
OEH	Office of Environment and Heritage
SWC	State Water Corporation

Overview

NSW 2021 sets the NSW Government's agenda for change and includes a number of goals and targets

(see www.2021.nsw.gov.au/sites/default/files/NSW2021_Plan%20Goals_10.pdf)

The management of environmental water provides excellent opportunities to protect the natural environment by:

- improving the health of wetlands and catchments (Goal 22)
- increasing opportunities for people to look after their own environments (Goal 23)
- involving the community in decision making (Goal 32).

Specific actions to realise these goals include:

- strategic recovery and management of water to improve the health of the most stressed rivers and wetlands
- completing water sharing plans
- reporting annually on environmental water use
- assisting the Australian Government to ensure the Murray–Darling Basin Plan (Basin Plan) protects the environment and regional, social and economic outcomes by investing in strategic water recovery, water efficiency and river health measures
- increasing opportunities for local decision making.

Within NSW, the NSW Office of Water (NOW) is the lead agency for water resource management and leads the implementation of the *Water Management Act 2000*. NOW develops statutory water sharing plans for regulated river, unregulated river and groundwater sources, rules for water use in accordance with these plans, and water allocation strategies. NOW is also responsible for ensuring the rules in water sharing plans that provide water for the environment (i.e. planned environmental water) are applied. NOW leads negotiations with the Australian Government on administrative arrangements for water management, including the implementation of the Basin Plan prepared under the *Water Act 2007*. The Water Act requires that planning and management of environmental water in NSW must be consistent with the Basin Plan.

The Office of Environment and Heritage (OEH) manages allocated environmental water, including adaptive environmental water licences held by the NSW Government and held water allocations established under water sharing plans. OEH also cooperates with the Commonwealth Environmental Water Holder on the management of environmental water held by the Australian Government. For the purposes of this document, allocated environmental water includes:

- planned environmental water allowances (or environmental contingency allowances) accrued through the regulated river water sharing plans – NOW has delegated the use of this water to OEH
- adaptive environmental water licences arising from the purchase of entitlements by governments and the recovery of water savings from infrastructure projects. The purchase of entitlements by the NSW Government is now complete.

OEH's management of allocated environmental water is regulated by NOW. OEH must comply with licence conditions including adaptive environmental water use plans approved by NOW and, consistent with all water users, must operate in accordance with water sharing

plans and the *Water Management Act 2000*. OEH pays water access licence charges for its adaptive environmental water licence holdings, consistent with all other water access licence holders.

OEH's planning and management of allocated environmental water is informed by environmental water advisory groups (EWAGs) which are chaired by a Local Land Services (LLS) representative. These groups are supported by OEH, and comprise broad community membership. LLS assists in guiding regional and community involvement in planning environmental water management and communicating all its aspects.

In regulated rivers, the operation of water infrastructure is undertaken by State Water Corporation (SWC). SWC delivers allocated environmental water in accordance with environmental water orders and assists in accounting for the water delivered, particularly where orders are made to SWC works.

These key roles in the management of environmental water are undertaken in partnership with a number of other state and Commonwealth agencies. To provide transparency for the community, the performance of agencies is audited by the Natural Resources Commission (NRC) and indirectly by the National Water Commission (NWC). The administrative arrangements outlined in this paper are consistent with governance expectations under the National Water Initiative by providing clear separation of regulatory and operational roles and accountabilities.

The roles of all partners are outlined further in Attachment A.

Plans and partnerships

Successful environmental water management requires a robust planning framework with broad community support and effective collaboration among partners. The existing planning framework has been developed to facilitate effective collaboration between the various agencies and stakeholders and comprises a mix of statutory and non-statutory plans (see Figure 1).

The hierarchy of plans bring together the various sources of environmental water and provide for its efficient use in meeting desired outcomes (see Figure 1).

Key plans include first generation **water sharing plans** prepared under the *Water Management Act 2000*. These statutory plans share water between various users and are made by the Minister for Primary Industries with the concurrence of the Minister for the Environment. The water provided for the environment in most first generation water sharing plans is through specific environmental flow rules and water allowances. NOW is responsible for developing, implementing and evaluating water sharing plans. LLS lead community consultation during plan preparation.

Water sharing plans will be replaced with **water resource plans** by 2019 to be consistent with the requirements of the *Water Act 2007* and Basin Plan. These plans will be accredited by the Australian Government.

The Basin Plan requires **long-term environmental watering plans** to be produced for each water resource area. These non-statutory plans will identify individual environmental assets (wetlands and river reaches), define their water needs and show how water will be managed to meet those needs under varying water availability scenarios. OEH will lead preparation of these plans in partnership with other NSW agencies and in consultation with EWAGs. LLS will lead community consultation during plan preparation, consistent with their role in water resource plan development.

Other plans generally implement components of the above plans.

Non-statutory **annual environmental watering plans** integrate information on asset values and water requirements, recent watering history, asset condition, and actual and forecast water availability. They are guided by long-term watering plans and informed by EWAGs. Annual watering priorities are extracted from these plans and provided by OEH to:

- the Murray–Darling Basin Authority to inform basin-scale planning and prioritisation and coordination of environmental water activities
- NOW to link with water sharing plan objectives.

There are also a number of environmental water use plans for specific water sources and environmental assets to inform the management of environmental water licences.

Regarding coordination and management:

- **at the basin scale**, the Murray Darling Basin Ministerial Council and the Basin Officials Committee provide the highest level direction for water management
- **at the State scale**, the Water sub-Panel of the Land and Water Advisory Panel reviews and improves the coordination of relevant activities
- **at regional (valley) scales**, EWAGs connect NSW and Commonwealth agencies with local and regional community values and experience

- **at wetland and river reach scales**, informal partnerships exist and continue to be established between landholders, environmental water managers and other natural resource managers as needed.

Whilst a hierarchy of plans and various collaborative mechanisms exist for oversight and coordination of environmental water management at all scales, the advent of the Basin Plan and government changes over the last 10 years present challenges to the current framework. In particular, increased coordination across NSW agencies will assist in maximising the benefits to NSW from the implementation of the Basin Plan.

Implementation

Successful implementation of environmental watering plans requires a number of components including:

- adequate resources
- clearly defined roles and accountabilities
- an accurate register of available water
- an effective monitoring program
- a responsive communications strategy
- strong governance.

Resources are provided by individual agencies according to their accountabilities and overall priorities. Commonwealth funds to assist in implementing the Basin Plan will be in accordance with the Intergovernmental Partnership Agreement. However, current experience suggests that Commonwealth funding is becoming available through piecemeal processes, and coordination is required if NSW is to maximise the benefits of this funding.

Accountabilities of NSW agencies are outlined in Attachment A and may be reviewed periodically by the Land and Water Advisory Panel.

Watering decisions are strongly influenced by the volumes of water available, particularly when there is flexibility to combine sources. NOW maintains an **environmental water register** that is linked to the official NSW water access licence database which is also maintained by NOW.

SWC maintains **iWAS** (Internet Water Accounting System), which uses the official NSW water access licence database as the definitive repository of water account information.

OEH tracks:

- the volumes of allocated environmental water available for active management
- Near real time use of allocated environmental water
- any trading of water accruing to adaptive environmental water licences
- other information relevant to the governance of the environmental water portfolio.

Monitoring is essential to measure progress in meeting management objectives and it is critical for adaptive management. Effective and efficient monitoring requires collaboration between managers and scientists across a range of spatial and time scales. Formal collaborations are expected under Basin Plan implementation arrangements and the Commonwealth Environmental Water Office's long-term intervention monitoring programme 2014–15 to 2018–19. This monitoring program is a driver for increased collaboration across NSW agencies.

Monitoring to improve management is a long-term commitment. To be effective, its outputs need to be communicated to and understood by a variety of audiences.

Communication is fundamental for establishing the validity of environmental flow management, consolidating experience gained over time and involving people interested in or affected by environmental water activities. Communication is also essential in maintaining a common purpose between contributing partners. EWAGs are an important mechanism for ensuring both input from and advice to relevant stakeholders.

Good **governance** builds trust and ensures effective and efficient use of resources for implementing plans and reporting achievements. Whilst NSW has a range of governance arrangements in place, it is timely that these arrangements are reviewed to ensure that NSW interests and views are recognised and promoted as the Basin Plan is implemented.

Reporting requirements under State and Commonwealth plans establish communication obligations of each partner which allow performance to be evaluated. Water sharing plans are audited periodically to determine whether plan provisions are being implemented (see www.water.nsw.gov.au/Water-management/Water-sharing/auditing-and-reporting/default.aspx) and NOW produces evaluation reports for plans. NOW also produces annual general purpose water accounting reports for each regulated river valley in the Murray–Darling Basin (see www.water.nsw.gov.au/Water-management/Water-availability/Water-accounting/default.aspx#reports) using the National Water Accounting Standard.

OEH develops annual valley plans for environmental water use and reports annually on outcomes for the preceding water year (see www.environment.nsw.gov.au/environmentalwater/index.htm).

Relationship to other natural resource management plans and processes

There are a number of natural resource management plans that are relevant for the management of environmental water. Floodplain management plans and catchment action plans are particularly significant (see below).

Floodplain management plans

Floodplain management plans (FMPs) are statutory plans currently prepared under the *Water Act 1912* and intended to transition to the *Water Management Act 2000*. First generation FMPs focused on priority sections of rivers, while second generation FMPs will apply to a river valley. They map 'floodway networks' for the unimpeded passage of floodwaters to maintain beneficial flooding to environmental assets (generally wetlands), and identify areas where floodplain structures can be constructed for agricultural purposes and flood protection. FMPs provide the basis for NOW to determine flood control work approvals and generally regulate structures that may obstruct floodwaters.

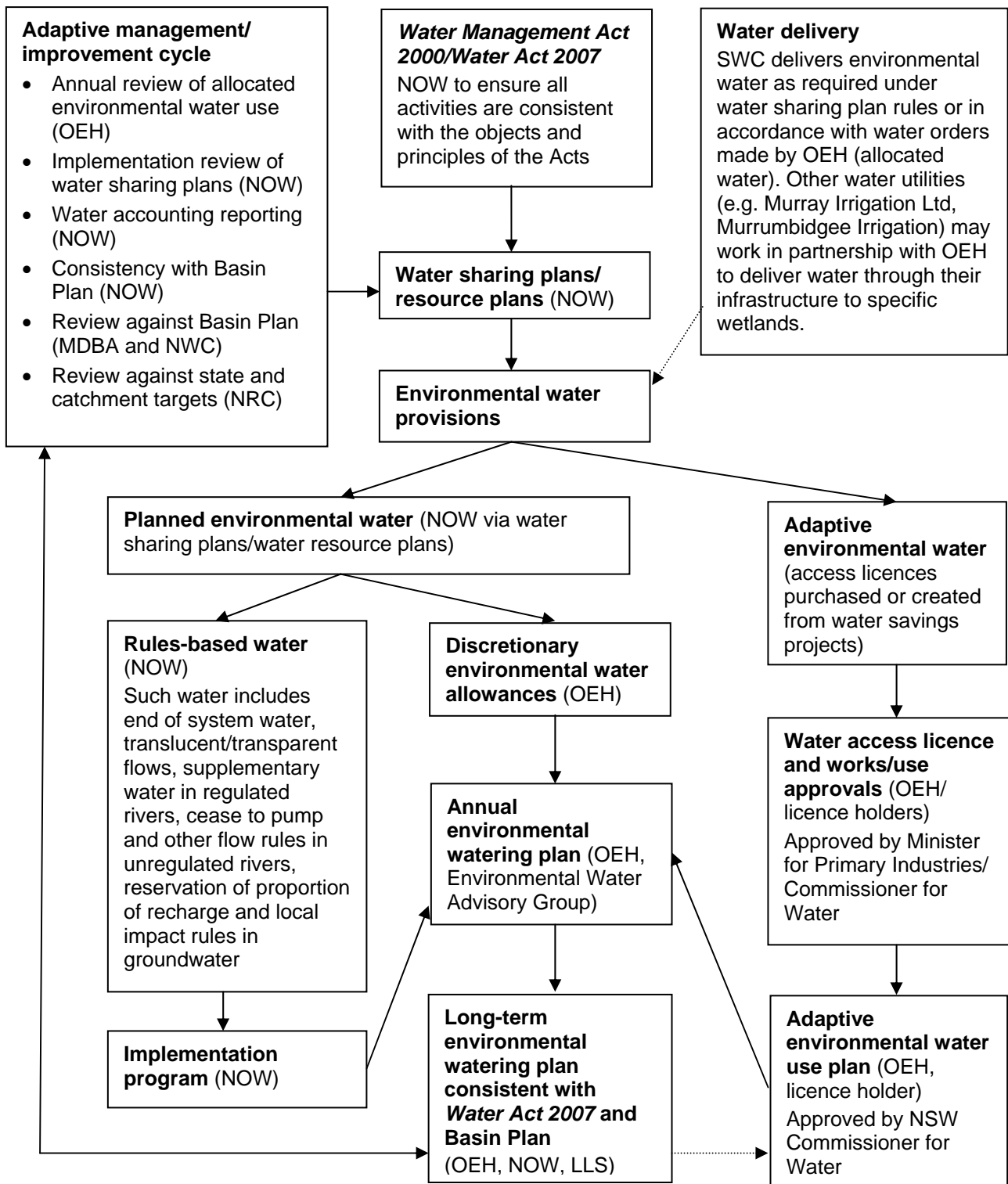
OEH prepares FMPs under the guidance of an inter-agency steering committee with community consultation.

Catchment action plans

Catchment action plans (CAPs) prepared by LLS integrate and set the direction for activities and investment in each catchment over ten years to support social and environmental resilience. CAPs identify targets and actions to address a range of natural resource management issues including biodiversity, land management, native vegetation and water and will transition to local strategic plans with the implementation of LLS. The NRC audits the performance of CAPs.

Both the National Water Initiative and the *Water Management Act 2000* require water sharing plans to align with or contribute to relevant natural resource management plans such as CAPs. The inclusion of water quality targets in the Basin Plan will also require a strengthened alignment between water sharing plans, CAPs and long-term environmental watering plans from 2019.

Figure 1: Overview of planning framework, roles and responsibilities for managing environmental water in NSW



Conclusion

A framework for the cooperative management of environmental water has been developed in NSW to establish clear roles and accountabilities to meet the expectations of regional communities. However, the implementation of the Basin Plan will require increased collaboration across NSW agencies to:

- optimise management of all environmental water
- ensure that the use of Commonwealth environmental water and the activities of other jurisdictions are integrated with this framework
- deliver improved outcomes for NSW rivers, wetlands and communities.

Attachment A: Roles and responsibilities of NSW agencies for management of environmental water

Lead agency	Role
Office of Environment and Heritage	<ol style="list-style-type: none"> 1. Manage allocated environmental water (i.e. environmental water allowances made under water sharing plans and adaptive environmental water licences) in accordance with the Water Management Act 2000 and relevant statutory and non-statutory plans, including water sharing plans, adaptive environmental water use plans (approved under section 8E(7) of the <i>Water Management Act 2000</i>), long-term environmental watering plans and annual environmental watering plans. 2. Administer and support environmental water advisory groups to inform the management of allocated environmental water, including the development of annual and long-term environmental watering plans. 3. Lead the development of annual and long-term environmental watering plans in partnership with EWAGs, NOW, LLS, relevant land/asset managers and the valley community. 4. Monitor the delivery of, and ecological responses to, allocated environmental water in cooperation with NOW, the Commonwealth Environmental Water Office, SWC and other delivery partners. 5. Communicate the outcomes of allocated environmental water use. 6. Trade a proportion of water allocated to adaptive environmental water licences to pay water charges and supporting specific projects to facilitate delivery of water to environmental assets. 7. Lead NSW input to the development of the environmental watering plan under the Basin Plan.
Office of Water (within Department of Primary Industries)	<ol style="list-style-type: none"> 1. Lead the development, review of, and reporting on, the implementation of water sharing plans under the <i>Water Management Act 2000</i> which establish the environmental provisions in regulated river, unregulated river and groundwater systems, including the establishment of extraction limits and environmental rules. 2. Implement environmental water provisions in water sharing plans, including the monitoring of extractions against the extraction limit, delivery of rules-based environmental water (e.g. translucent dam or end-of-system flows, certain non-discretionary rules-based Environmental Contingency Allowance and the accrual of environmental water allocations). 3. Coordinate the monitoring and evaluation of water sharing plans against objectives. 4. Allocate water (including environmental water) through the making of available water determinations in accordance with water sharing plans and the <i>Water Management Act 2000</i>. 5. Regulate all water extraction, including environmental water. 6. Approve adaptive environmental water use plans developed by OEH under the <i>Water Management Act 2000</i>. 7. Lead negotiations with the Australian Government regarding the implementation of the Basin Plan and Commonwealth-funded water efficiency programs such as Sustaining the Basin. 8. Contribute to the development of long-term environmental watering plans in partnership with OEH. 9. Regulate floodplain works approvals and controlled activities under the <i>Water Management Act 2000</i> to facilitate the delivery of environmental water to identified assets.

Lead agency	Role
	10. Ensure water sharing plans align with other natural resource management plans.
Local Land Services	<ol style="list-style-type: none"> 1. Assist community consultation for long-term environmental watering plans in partnership with OEH. 2. Provide a regional perspective on environmental water management by: <ul style="list-style-type: none"> • chairing environmental water advisory groups • coordinating effective communication with regional communities on environmental water management, in partnership with OEH • brokering opportunities with landholders for improved environmental water management through cooperative land management or innovative works supported by environmental water and other investment sources • connecting government and community aspirations for environmental water management. 3. Report progress to the NRC on achieving standards and targets in catchment action plans. 4. Ensure water priorities in catchment action plans align with those of the relevant water sharing plan.
State Water Corporation	<ol style="list-style-type: none"> 1. Manage river operations and water delivery in regulated river systems, including the delivery of adaptive environmental water and environmental water allocations ordered by OEH. 2. Implement rules-based environmental water under water sharing plans administered by NOW. 3. Are responsible for monitoring extraction, accounting for water use, meeting water orders and billing water users. 4. Operate and maintain government-owned water supply infrastructure in NSW, including major dams and weirs.
Department of Primary Industries (Fisheries and Agriculture)	<ol style="list-style-type: none"> 1. Provide specialist technical and policy advice on water recovery and environmental water use projects and plans, particularly regarding on-farm water use efficiency, floodplain forest and wetland management, and fisheries management. 2. Manage approvals under the <i>Fisheries Management Act 1994</i> where a proposed environmental watering activity would result in restricted fish passage or water movement that thereby restricts fish passage. 3. Identify aquatic assets based on fish communities and advise on the hydrologic and other fish related requirements (e.g. water quality) of these assets. 4. Contribute to development of long-term environmental watering plans in partnership with OEH.
Natural Resources Commission	<ol style="list-style-type: none"> 1. Recommend statewide standards for natural resource management and targets for natural resource condition. 2. Assess the extent to which water sharing plans have contributed to achieving statewide natural resource management standards and targets in the relevant catchment area. 3. Audit outcomes achieved under water sharing plans. 4. Assess whether changes to water sharing plans are warranted. 5. Independently audit outcomes achieved through environmental water management.