



Australian Government



# Basin Plan

## FACT SHEET 5: WATER QUALITY AND SALINITY MANAGEMENT PLAN

MDBA'S APPROACH TO THE DEVELOPMENT OF THE WATER QUALITY AND SALINITY MANAGEMENT PLAN AS A COMPONENT OF THE BASIN PLAN

### ABOUT THE MURRAY-DARLING BASIN AUTHORITY

The Murray-Darling Basin Authority (MDBA) is the statutory agency that manages the Murray-Darling Basin's water resources in the national interest.

MDBA is responsible for preparing and overseeing a legally enforceable management plan — the Basin Plan.

The Basin Plan will:

- set and enforce environmentally sustainable limits on the quantities of water that may be taken from Basin water resources
- set Basin-wide environmental, water quality and salinity objectives
- develop efficient water trading regimes across the Basin
- set requirements for state water resource plans
- improve water security for all Basin water uses.

### WHY A WATER QUALITY AND SALINITY MANAGEMENT PLAN?

Water quality issues in the Murray-Darling Basin have been a focus of public concern, government policy and water management for a long time. Increasing incidences of algal blooms and higher in-river salinity levels are indicators of declining water quality — an ongoing threat to the Basin's water resources. Impacts can be local and can also intensify as water flows down through the system.

The *Water Act 2007* specifically requires that the Basin Plan include a Water Quality and Salinity Management Plan. This plan will protect and enhance water quality in the Basin for environmental, social, economic and cultural uses. It will use the principles of ecologically sustainable development to underpin the long-term health of the Basin's water resources.

### BUILDING ON WORK TO DATE

Two significant initiatives, the National Water Quality Management Strategy and the Basin Salinity Management Strategy, are currently guiding development of the Basin's Water Quality and Salinity Management Plan.

#### 1. National Water Quality Management Strategy

The policies, principles and implementation guidelines that comprise the National Water Quality Management Strategy have been in place since the 1990s and are supported by state, regional and local water management authorities. Its approach to aquatic ecosystems, drinking water, agricultural water, cultural use of water and recreational water are significant matters that the Water Quality and Salinity Management Plan will consider. For further information on the National Water Quality Management Strategy see <http://www.environment.gov.au/water/policy-programs/nwqms/>.

#### 2. Basin Salinity Management Strategy 2001–2015

This is a long-term approach to control salinity in the Murray-Darling Basin and to protect water quality, environmental values, regional infrastructure and productive agricultural land. The Water Quality and Salinity Management Plan will build on the success of the Basin Salinity Management Strategy, particularly the key elements of using targets, managing risk, understanding accountability, and dealing with water quality and salinity issues in a whole-of-Basin approach. For further information on the Basin Salinity Management Strategy 2001–2015 visit the publications section of the MDBA website at [www.mdba.gov.au](http://www.mdba.gov.au).



Lower Murray Catchment Authority researcher assessing water quality in the Werta Wert Wetlands, Chowilla National Park.

## DEVELOPING THE WATER QUALITY AND SALINITY MANAGEMENT PLAN

The overarching objective of the Water Quality and Salinity Management Plan is to protect and enhance water quality (including salinity levels) to ensure it is suitable to meet the environmental, social, economic and cultural values of the Basin water resources. It will focus on water used for aquatic ecosystems, drinking supplies, irrigation water, and recreation.

The Water Quality and Salinity Management Plan will include:

- objectives and targets
- a description of the key causes of water quality degradation and the risks to the condition of the Basin's water resources.
- a framework for basin and catchment management to promote improved water quality.

## WATER QUALITY CHARACTERISTICS

The quality of water in the Basin's watercourses, lakes, wetlands, groundwater and water dependent ecosystems is fundamental to the long-term health and sustainability of the Basin and all its communities. Threats to water quality in the Basin include:

- **Toxins:** blue-green algal blooms can generate algal toxins which are a serious health risk to humans and livestock. Occasionally, inappropriate use of chemicals may result in water contamination.
- **Salinity:** salt, in large quantities, occurs naturally in the Murray–Darling Basin. In high concentrations, salt can affect ecosystem health, impact on drinking water, and cause economic loss in irrigated agriculture. There is a long history of salinity management to protect water quality, particularly in the mid- and lower-Murray.

- **Nutrients:** includes phosphorus and nitrogen from agricultural activity, stormwater and erosion. Nutrients can harm water quality by stimulating algal growth.
- **Turbidity:** matter suspended in water carries nutrients and reduces light penetration, which can impact on aquatic plants and animals.
- **Temperature:** higher temperatures, which can result from lack of flow and/or from clearing of vegetation at the edges of rivers, creeks and lakes, may worsen an algal bloom. Lower water temperatures can also be a problem and can come about after the release of water from deeper layers held in dams during summer. This cooler water can damage downstream ecological communities.
- **Dissolved oxygen:** releases from deeper layers in a dam, river or lake in summer may contain low levels of dissolved oxygen which is harmful to many aquatic organisms. Low levels of dissolved oxygen can also come about when floodplains are inundated, resulting in organic matter breakdown. Microbial breakdown of the organic matter can quickly consume the oxygen, resulting in what is described as a 'blackwater' event.

The Water Quality and Salinity Management Plan will have the flexibility to address significant or emerging threats, including those local in nature but important at the national level.

## FURTHER INFORMATION

*The Basin Plan: a concept statement* and copies of this, and other fact sheets are available on the Murray–Darling Basin Authority website at [www.mdba.gov.au](http://www.mdba.gov.au).

For copies or enquiries email [engagement@mdba.gov.au](mailto:engagement@mdba.gov.au) or phone 1800 230 067.

This fact sheet provides a general summary which has been prepared using best efforts to ensure that the material it presents is current and accurate. Users should note that developments in Commonwealth Government policy, input from consultation and other circumstances may result in changes to the approaches set out in the fact sheet.

The information in this fact sheet does not represent any decision of the six-member Authority.

This is #5 in a series of fact sheets on the development of the Basin Plan



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