



The Basin Plan
two years in



Photo: Arthur Mostead

Key things to deliver

The central objective of the plan is to ensure a healthy working river system.

It involves:

- recovering water through infrastructure investment and efficiency programs
- efficient delivery and effective use of water for the environment
- devising smarter ways of managing rivers
- improving the operation of water markets
- continuing to address water quality and salinity issues
- determining the plan's effect on communities, business (including agriculture production), plants, animals and the environment.

All of these activities occur in a framework of cooperation between the Murray–Darling Basin Authority, the Australian government and Basin state governments.

Progress has been good. All of the tasks in the Plan to date and deadlines agreed with governments have been met. The level of cooperation between agencies and governments to implement the Plan is high.

This report card summarises the Basin Plan activities that have occurred to September 2014.

Infrastructure investment

The Australian Government is giving priority to investment in water saving infrastructure projects over buybacks as a means of returning water to the environment. The Sustainable Rural Water Use and Infrastructure Program (SRWUIP) is the Australian Government's key mechanism to "bridge the gap" to the Sustainable Diversion Limits.

Infrastructure funding supports a range of investments in rural water use, management and efficiency, with the main emphasis being on projects to improve the operation of off-farm delivery systems and helping irrigators improve on-farm water use efficiency.

On-farm programs are assisting a large number of irrigators across the Basin. These include: the On-Farm Irrigation Efficiency Program (NSW, Victoria and SA), the Victorian Farm Modernisation Program and the Queensland Healthy Headwaters Water Use Efficiency Program.

Off-farm programs such as the Private Irrigation Infrastructure Operators Program in NSW and the Private Irrigation Infrastructure Program in South Australia, and the Goulburn-Murray Water Connections Project State 2 (formerly known as the Northern Victorian Irrigation Renewal Project) are providing further investment in the regions.

What's been done

- More than \$2.2 billion has been spent on infrastructure efficiency projects since 2007-08.
- At 30 June 2014, 580 gigalitres long term average annual yield terms (LTAAY) had been contracted to be recovered from infrastructure projects.
- More than 1150 irrigation projects have been funded in the first three rounds of the On-Farm Irrigation Efficiency Program. A fourth round of this program is in its final stages of assessment with in-principle approval for a further 476 irrigators across the Southern Basin. At the local level, benefits flow-on to other local businesses and services during construction and beyond.
- Projects completed under the Sustainable Rural Water Use and Infrastructure Program to date have demonstrated improved productivity benefits such as increased crop rotation ability, increased crop water use efficiencies, greater crop diversification, improved soil management, reduced maintenance and reduced weed control requirements. Some projects have achieved greater than anticipated water savings, the benefits of which are retained by irrigators.

Examples of benefits from irrigation efficiency upgrade projects include:

- An irrigator who converted to lateral move irrigation system reported that it has saved him six hours a day in labour costs.
- Another farmer constructed a new storage dam and reuse system with a lateral move irrigator to maximise production during dry periods. As a result of the upgrade, the farmer saved 3.7 megalitres of water per hectare of production.
- Some farmers expected their crop production to increase by 10-20 per cent as a result of improved irrigation scheduling. Other irrigators are able to do more with less by converting from sprinklers to drip irrigation and irrigating during the night.

Still to do

- The total water recovery from current and planned infrastructure investments to 2019 is expected to be in excess of 600 GL in long term average annual yield terms (LTAAY) towards bridging the gap to the Sustainable Diversion Limits in the Murray-Darling Basin Plan.
- More than \$2.3 billion on infrastructure efficiency projects is expected to be spent in the next four years.



Photo: Brayden Dykes

Water for the environment

What's been done

- The first Annual Watering Priorities at both the regional and Basin scale were prepared by States and MDBA for 2013-14 and 2014-15. MDBA also prepared and released an Environmental Watering Outlook for 2014-15.
- MDBA has released a draft Basin-wide environmental watering strategy to seek public comment, with the final strategy due in November 2014. The strategy identifies the long-term outcomes that should be achievable with the water recovered for the environment.
- By the end of June 2014, around 1,904 gigalitres (one gigalitre (GL) equals one billion litres) of environmental water has already been recovered - that's almost 70% of the surface water recovery target of 2,750 GL.
- In 2013-14 the Commonwealth Environmental Water Holder had 1,449 GL available for environmental watering.
- In 2014, 982 GL of the Commonwealth Environmental water was delivered to water many wetlands and billabongs all the way through to the Coorong, Lower Lakes and Murray Mouth.

Highlights of 2013-14 environmental watering

- Largest ever environmental flow to the Lachlan Valley resulting in the southern bell frog being evident for only the 2nd time since 1970.
- Coordinated environmental watering by the Commonwealth and Victorian Environmental Water Holders, Barmah-Millewa Environmental Water Account and The Living Murray holdings to inundate the Moira grass plains of Barmah-Millewa forest. This resulted in successful and extensive vegetation growth, flowering and seed production.
- The return flows from this watering of the forest were subsequently coordinated with other water releases downstream and contributed to a combined environmental water delivery of 450 GL over the South Australian border.
- Adequate river flows in the summer of 2013 - 14 meant dredging of the Murray Mouth was unnecessary.

Still to do

- Further water recovery, taking into account the new limits following the Sustainable Diversion Limit adjustment process in 2016.
- States completion of long term regional watering plans by the end of 2015.



Photo: Judy Swann



Photo: Arthur Mostead

Smarter ways of managing rivers

Sustainable Diversion Limits - adjustment

The sustainable diversion limit is the amount of water that can be sustainably taken from the basin's rivers. The Basin Plan determines that the basin-wide surface water SDL is 10,873GL (annual long term) and each river catchment in the basin has its own SDL.

The Basin Plan provides an opportunity in 2016 to change the limit up or down as long as the environmental outcomes remain equivalent to those in the Basin Plan and there are neutral or better social and economic effects.

What's been done

- Finalised the benchmark model to compare the Basin Plan environmental outcomes with those possible through Basin State projects.
- CSIRO devised a method (the environmental equivalence test) to enable comparison of the outcome (scores) for two hydrological modelling scenarios.
- Commenced a trial of the CSIRO method to test the Sustainable Diversion Limit adjustment modelling on sample projects.

- A scientific panel has peer reviewed the methodology and found it to be robust, practical and fit for purpose subject to the testing.
- Basin states have developed seventeen project proposals.

Still to do

- Basin states are developing business cases for projects.
- States need to reach agreement on the package of the most prospective projects before they can be assessed by the MDBA.
- MDBA must assess proposals using the method in the Plan as soon as practicable after June 2016.
- Public consultation on any proposed Sustainable Diversion Limit adjustment.
- Commonwealth Minister to make a final decision on the Sustainable Diversion Limit and table in Parliament.
- Projects to be completed by Basin states by 2024.

Smarter ways of managing rivers

Constraints

Constraints can be physical structures along or near the river, like bridges and roads that stop water getting to some areas in the volumes and at times it is most needed. They can also be practices that have been developed, mostly to support navigation and irrigation. Some practices, or even the absence of them, mean we don't use environmental water as efficiently as we could.

What we've done

- A Constraints Management Strategy was released in November 2013. It identified areas where changing constraints would provide the best environmental gains. This is an extremely complex task that will take time to achieve.
- Inundation maps have been prepared using information from landholders and communities, showing where water would flow under different scenarios.
- Some reports on key locations will be completed by the end of September 2014. They describe the effects of delivering certain types of flows, and present options to lessen or overcome those effects, such as building bridges or buying easements.

- MDBA, Basin governments and river managers have worked on identifying which river practice constraints should be a priority focus.
- MDBA has developed community consultation networks in key locations. These networks are working through smarter ways to manage rivers; to get water to the environment, while avoiding flooding issues and any impacts on property and business.

Still to do

- MDBA will report to the Murray-Darling Basin Ministerial Council in November 2014 on progress of matters covered in the Constraints Management Strategy.
- Governments will make decisions about which projects they will support and how those projects should progress. They have agreed they will do so at the same time as they make decisions about the Sustainable Diversion Limit adjustment proposals.
- Governments' final decisions about which proposals will go ahead are due in June 2016.

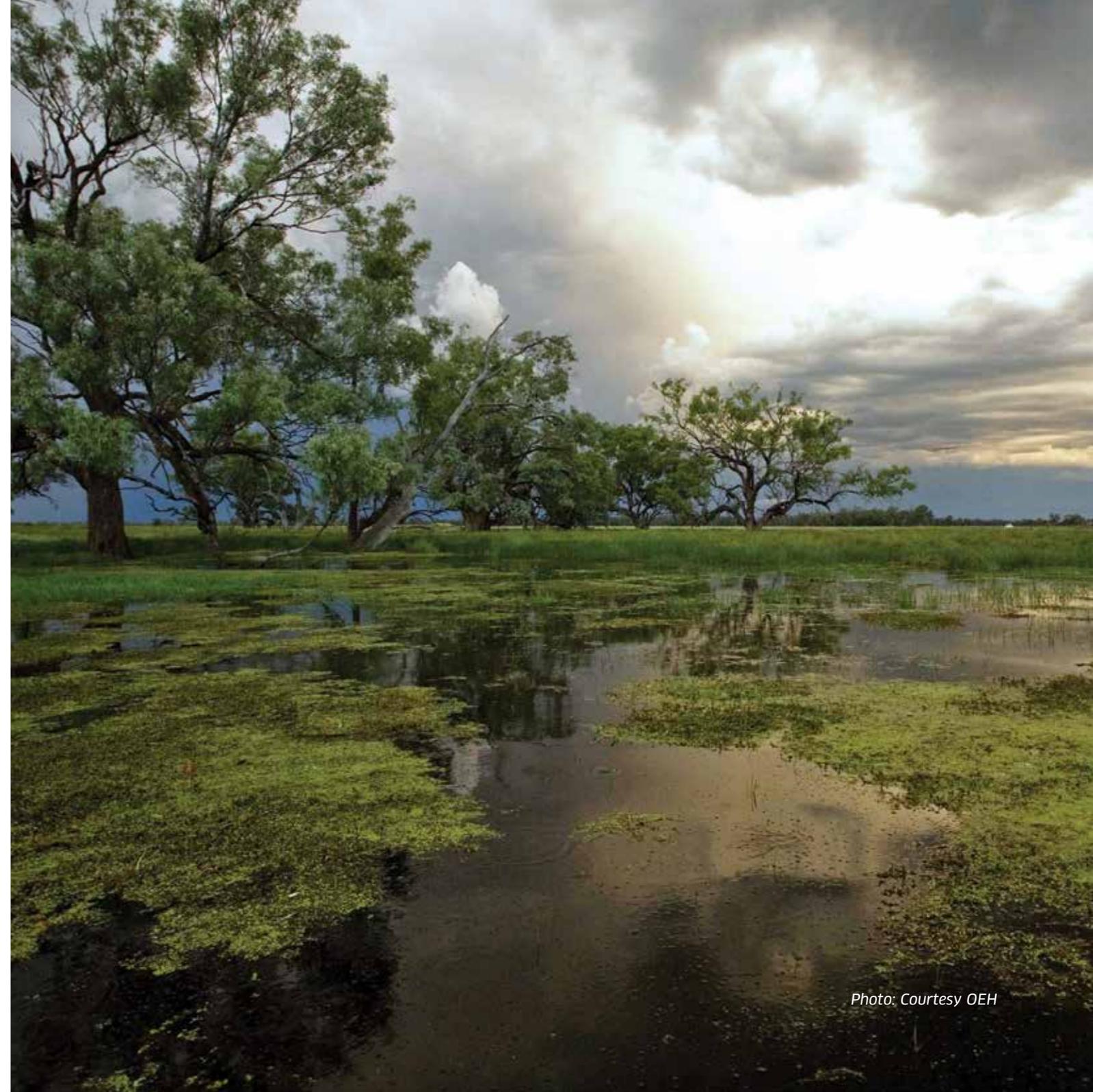


Photo: Courtesy OEH



Photo: Arthur Mostead

Water resource plans

State water resource plans are vital to deliver key elements of the Plan, including the Sustainable Diversion Limits (SDL). As Water Resource Plans fall due for revision, States will address the requirements of the Basin Plan and incorporate them into their water resource plans. MDBA is working collaboratively with States as they develop their plans, providing assistance and advice on Basin-wide issues throughout the process.

What's been done

- The MDBA and Basin states have agreed a work program for Water Resource Plan accreditation.
- MDBA has published a Handbook for practitioners – water resource plan requirements.
- Agreement has been reached on the monitoring and reporting requirements on surface water diversions from all Basin water resources to ensure SDL compliance is in place from June 2019.
- The inaugural Water Planners' Forum was held in March 2014. This annual event will be an important opportunity for water planners across the Basin to come together, share experiences, and discuss best practice approaches to planning.

- Basin states, the Department of Environment and the MDBA have arrangements in place through new regulations, to recognise existing State plans during the transition to Basin Plan-consistent water resource plans.
- A water planning 'community of practice' is developing to share knowledge, experience and approaches to water resource plans.

Still to do

- States to develop 36 water resource plans (by 2019) to be assessed by MDBA and accredited by the Commonwealth Minister.
- The Plan requires the review of 3 groundwater SDLs before the end of 2014. Two reviews – both in NSW – have already been completed and the final review – in Victoria – will be completed by November 2014.

Water markets and water trading

New water trade rules commenced on 1 July 2014. The new rules improve the operation of the water market in the Basin by: increasing the transparency of the market; improving rules for disclosure; and by reducing restrictions on trade. The rules apply to Basin states, Irrigation Infrastructure Operators and individuals who trade. The MDBA administers the rules while Basin states continue to be responsible for day to day water trading.

What's been done

- Explanatory guidelines were released in April 2014 prior to the rules commencing to enable everyone to comply with the new rules.
- A central online access point has been developed for the information provided by the Basin states about their trading rules and their most highly traded water products. This website uses interactive maps and allows buyers and sellers to find and compare products based on features like the water resource name, reliability, volume and location.

- The most notable changes have been the removal of volumetric restrictions on trade in Victoria and NSW.
- The removal of these limits allows entitlement holders rather than governments to decide if, when and how much they trade.

Still to do

- Existing water trade rules need to be reviewed for consistency with the new rules – it is estimated there are up to 40,000 existing rules.

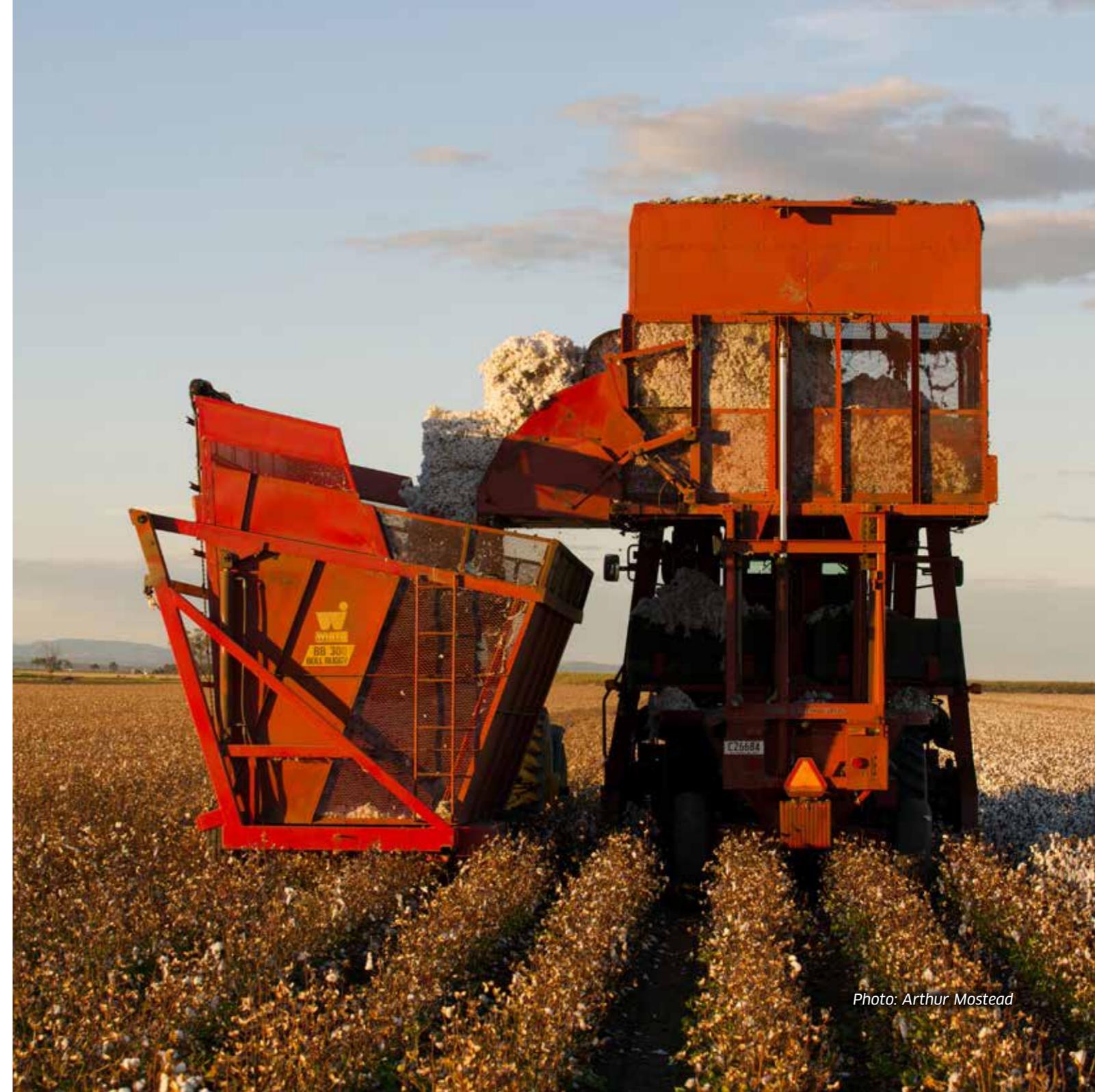


Photo: Arthur Mostead



Photo: Brayden Dykes

Water Quality & Salinity

Land management and land-use practices are key causes of water quality degradation in the Murray–Darling Basin. The major indicators of water quality degradation in the Basin are salinity, blue-green algae, water temperature, Blackwater (low dissolved oxygen), suspended matter, toxicants, nutrients and acidity.

The objective of the Water Quality and Salinity Management Plan is to maintain appropriate water quality (including salinity levels), for environmental, social, cultural and economic activity in the Basin.

What's been done

- Published the early reporting obligations for the water quality and salinity management part of the Basin Plan. This involved assessing achievement of the Basin Plan salt export objective, which included developing an approach to estimate salt export and salinity levels at 5 sites.
- MDBA with Basin states completed a review of future Basin-scale salinity management requirements.

- The investigation and confirmation of salinity levels with changed flow regimes under the Basin Plan means that salt interception activities can be adequately managed over the next 15 years. This can be done while still meeting the Basin Salinity Target at Morgan.

Still to do

- Basin states and the MDBA to develop the Basin-wide salinity strategy for 2015 to 2030.
- Establish accountability for the salinity impacts of all environmental watering activities.

Evaluating progress – social, economic and environmental effects

There are many review processes built into the Basin Plan and these are crucial. MDBA is commissioned with tracking progress of the Plan's implementation and evaluating and reporting on the effects of water reform on Basin communities and the environment.

Being able to measure the difference the Basin Plan has made, measuring the impact and adapting accordingly is fundamental in gaining community confidence during implementation and into the future.

What's been done

- MDBA published the evaluation framework for Murray-Darling Basin reforms that sets out the questions that will be addressed, the evaluation methods, indicators that will be used to measure progress, the types of data that will be drawn upon and the roles and reporting by the people involved.
- The Basin Plan effectiveness report for 2012-13 has been published. This was the first such report and is an annual obligation under the Basin Plan.

- MDBA worked with communities and industry groups throughout 2013 to develop a set of social and economic indicators to be used to track and assess the effects of the Basin Plan.
- The University of Canberra wellbeing survey was completed in early 2014 and will help in understanding the effects of change in Basin communities.

Still to do

- Preparation for the 2013-14 Basin Plan effectiveness report has commenced including collating a range of social and economic information.
- Socio economic case studies have been initiated for example on the dairy industry, to look more closely at how communities are adapting to the reforms.
- MDBA, the Commonwealth environmental water holder and Basin states continuing to invest in environmental monitoring; wherever possible drawing on data already being collected and reported on.



Photo Colette Geier



Australian Government

Photo: Irene Dowdy