

Annual Report on Water Resource Use in NSW

2014/2015 Water Year

1. Introduction

This report highlights key aspects of surface water and groundwater management and use in New South Wales (NSW) during the 2014/2015 water year commencing 1st July 2014. The report is submitted to the Murray Darling Basin Authority (MDBA) by NSW Department of Primary Industries (DPI) Water as required under Section 71(1) of the *Water Act 2007 (Cth)*, Schedule E of the MDB Agreement and Schedule 12 Matter 9.1 and 9.2 of the Basin Plan.

2. Water resource management overview for NSW

NSW continued to develop and implement Water Sharing Plans (WSPs) for rivers and groundwater systems throughout 2014/15. Water sharing plans establish rules for sharing water between the environmental needs of the river or aquifer and water users, and also between different types of water use such as town supply, rural domestic supply, stock watering, industry and irrigation. All groundwater and surface water sources within the NSW Murray-Darling Basin (MDB) are managed under WSPs and the *Water Management Act 2000* (the Act).

Each Plan includes a long-term diversion limit (the Plan limit) and rules for adjusting water-sharing if diversions grow beyond the limit set out in the Plan. In all major regulated rivers, in the NSW portion of the Basin, these Plan limits are below Cap. The Plan rules are intended to produce environmental benefits, while also ensuring that long-term average diversions do not exceed those which would result from 1993/94 development levels.

Assessment of Cap performance for the 2014/15 water year using computer simulation models indicated that actual diversions were less than the modelled Cap target for most valleys. The exceptions being the Murray and Murrumbidgee which had debits of 336 GL and 81 GL respectively - but all valleys still maintain cumulative credits.

All diversions are reported using a July to June water year, and are in accordance with the MDBA Register of Diversion Definitions to the extent that availability of information allows.

3. Surface water overview

The 2014/15 water year was one of reduced inflows in many NSW MDB regulated river valleys. Volumes in many of the major storage dams declined significantly. As a result most regulated river valleys received very low general security allocations for the year. The Gwydir, Lower Namoi, Peel, Lachlan and Belubula regulated rivers all received zero general security allocations for the year. In most of these systems, water users were able to use water carried over from the 2013/14 water year.

The volume in the Menindee Lakes system dropped to critically low levels, with strategies put in place to safeguard the critical human needs of the city of Broken Hill. To maximise the volume of flows reaching Menindee Lakes, in January 2015, temporary restrictions on access to unregulated flows were placed on supplementary licence holders in the Border Rivers, Gwydir and Lower Namoi regulated river valleys as well as unregulated B-class and C-class licence holders in the Barwon-Darling. The restrictions were later lifted in June.

NSW is examining longer-term options to ensure adequate water supplies for Broken Hill during future periods of low storage levels in Menindee Lakes.

New South Wales continued to implement the Murray-Darling Basin Ministerial Council Cap on diversions. The cumulative diversions since the commencement of the Cap accounting in 1997/98 are below Cap in all NSW valleys.

4. Surface water SDL resource units / Cap Valleys

a. NSW Intersecting Streams

Unregulated diversions in the NSW Intersecting Streams are not currently monitored. The estimate of unmetered consumptive diversions for 2014/15 in the Intersecting Streams SDL resource unit (SS17) remains unchanged from estimates in previous years at 3 GL. There is no Cap established for the NSW Intersecting Streams.

b. NSW Border Rivers

The 2014/15 consumptive diversions within the NSW Border Rivers SDL resource unit (SS23) totalled just under 63 GL consisting of 40 GL of metered regulated diversion and an estimated annual average 23 GL diversion by unregulated river licences which are currently not metered.

Irrigation diversions in the regulated system totalled 38 GL during 2014/15, including only 1.8 GL of supplementary usage. This is well below the previous year due to the restrictions imposed on access to supplementary flows. There was a net inter-valley transfer of just over 1 GL out of the NSW Border Rivers to the Queensland (Qld) Border Rivers. This is also less than previous years, and is primarily due to the low allocations.

A Continuous Accounting allocation system has been used in the NSW Border Rivers regulated river water source since 2001/02. The system provides general security licensees with an individual account which can be credited with water up to a maximum 100% of entitlement and allows for the continuous carryover of any unused water. In any water year the maximum that each general security licence holder can use is also limited to 100%, plus adjustments for water traded-in.

General security (A-class) licenses commenced the 2014/15 water year with a lower than normal allocation of 28%. General security (B-class) licenses make up the larger volume of general security entitlement in the Border Rivers and received zero allocation at the start of the water year with an average of 15% carryover available in B-class accounts from the previous year. As more water became available throughout the year, A-class licences reached the maximum allocation of 100% of entitlement while total allocations for general security (B-class) licences reached only 1.6%. Domestic and stock, local water utility, high security licences received the maximum yearly allocation of 100% at the start of the water year.

The 2014/15 Cap target for the regulated system has been estimated using the Border Rivers IQQM. It is not currently possible to assess a Cap target for the unregulated sections of the valley, and the estimated average annual unregulated diversion is also used to represent the unregulated Cap target each year. Modelling results show an adjusted 2014/15 Cap target for the NSW Border Rivers of 82 GL with a resulting Cap credit for 2014/15 of 19 GL and a cumulative credit since 1997-98 of 483 GL.

c. Gwydir

The 2014/15 consumptive diversions within the Gwydir SDL resource unit (SS22) totalled 141 GL. This consisted of 97 GL of metered regulated diversions and an estimated annual average of 44 GL of diversions by unregulated river licences which are not currently metered. Regulated diversions for irrigation in the Gwydir during 2014/15 totalled approximately 93 GL. Temporary restrictions were also placed on access to supplementary flows in the Gwydir regulated river in the second half of the water year, with total usage of 5 GL by supplementary licence holders.

In the Gwydir regulated river system the higher priority licence categories (domestic and stock, local water utility and high security) commenced the water with the maximum 100% allocation. For general security licenses a Continuous Accounting allocation system is in use, providing individual accounts that can be credited with up to a maximum account limit of 150%. In any one year the volume of water that each licensee can use is limited to 125% of licenced entitlement with no more than 300% over any three years, plus adjustments for water traded-in. In 2014/15 general security licences received zero allocation throughout the water year, relying solely on water carried over from the previous year. This carryover volume was an average of 33%.

The 2014/15 Cap target for the regulated system has been estimated using the Gwydir IQQM. It is not currently possible to assess a Cap target for the unregulated sections of the valley, and the estimated average annual unregulated diversion is also used to represent the unregulated Cap target each year. Modelling results show an adjusted 2014/15 Cap target for the Gwydir Valley of 161 GL with a resulting Cap credit for 2014/15 of 20 GL and a cumulative credit since 1997-98 of 337 GL.

d. Namoi/Peel

Consumptive diversions within the Namoi SDL resource unit (SS21), which includes the Peel, for 2014/15 totalled 188 GL. This also includes an estimate for unregulated river diversions of 113 GL that are not currently monitored. Regulated diversions totalled 75 GL, consisting of 62 GL diversions in the Lower Namoi regulated river, 4 GL in the Upper Namoi regulated river and 9 GL in the Peel regulated river. Diversions for irrigation in the combined Namoi-Peel regulated systems totalled 67 GL.

A Continuous Accounting allocation system is used for general security licences in the regulated section of the Lower Namoi Valley. Licence holders may receive allocation increments throughout the year (dependent on resource availability) up to a maximum account limit of 200%. In any particular water year, the volume of water that each licensee can use from their account is limited to a maximum of 125% of licensed entitlement with a maximum of 300% over any 3 years, plus adjustments for water allocations traded in.

All high security licences and general security licences in the regulated section of the Peel valley are managed under an annual accounting system, and with no carryover available, unused water allocations are forfeited at the end of each water year.

In 2014/15 Lower Namoi Valley general security licensees received zero allocation for the water year; however commenced the year with an average of 32% of licensed entitlement available in individual accounts. The Upper Namoi valley licensees commenced the season with 100% allocation for all categories of licence.

Peel Valley general security licensees received zero allocation during the water year. Due to the greatly reduced inflows in the Peel regulated system, higher priority licences received less than 100% allocation for the first time since the WSP commenced in 2010, with high

security licences receiving 50% allocation and local water utility and domestic and stock licences both receiving 70% allocation for the water year.

There was zero supplementary access licence usage in the Lower Namoi Valley during 2014/15, reflecting the low incidence of sufficient unregulated flows and the temporary restrictions placed supplementary access licence holders during the second half of the water year.

The 2014/15 Cap target for the regulated system has been estimated using the Namoi IQQM and the Peel IQQM. It is not currently possible to assess a Cap target for the unregulated sections of the Namoi-Peel catchment, and the estimated average annual unregulated diversion is also used to represent the unregulated Cap target each year. Modelling results show the 2014/15 combined adjusted Cap target of 210 GL. This results in a Cap credit for 2014/15 of 22 GL and a cumulative credit since 1997-98 of 375 GL for the Namoi/Peel.

e. Macquarie/Castlereagh/Bogan

Diversions within the Macquarie-Castlereagh SDL resource unit (SS20) for 2014/15 totalled 114 GL. This includes an estimated average use of 35 GL of unregulated river diversions that are not currently monitored and 4 GL of metered diversions from the Fish River unregulated river water source. Included in the Fish River diversions is 2 GL diverted by the Sydney Catchment Authority which was transferred out of the MDB to the Sydney Basin.

Regulated diversions in the Macquarie and Cudgegong regulated rivers totalled 75 GL. Regulated diversions for irrigation totalled 56 GL in the Macquarie regulated river and 3 GL in the Cudgegong regulated river. There were no diversions by supplementary access licences in the Macquarie Valley during 2014/15.

Licensees with general security licences in the regulated section of the Macquarie Valley received an initial allocation of 0% for 2014/15 however carryover equated to an equivalent of 15% of general security entitlement. Carryover for Cudgegong users was equivalent to 96% of entitlement. An allocation increase of 2% of entitlement was received through the water year.

The 2014/15 Cap target for the regulated system has been estimated using the Macquarie Valley IQQM. This target is the diversion that would have occurred during 2014/15 with management rules and irrigation development at 1993/94 levels. It is not currently possible to assess a Cap target for the unregulated sections of the valley, and the estimated average annual unregulated diversion is also used to represent the unregulated Cap target each year. After adjustments for licences purchased for the environment were made, the overall Cap target for 2014/15 was 203 GL. Modelled results also indicate a Cap credit for 2014/15 of 89 GL and a cumulative credit since 1997-98 of 1037 GL.

f. Barwon-Upper Darling

Diversions in the Barwon-Darling watercourse SDL resource unit (SS19) during 2014/15 totalled 32 GL, including metered extraction of 30 GL for irrigation. In January 2015 temporary restrictions were placed on access to flows by unregulated B-class and C-class licences, which make up the majority of licenced volume in the Barwon-Darling. Reflecting these restrictions and the drier climatic conditions, the total volume of diversions in the Barwon-Darling is less than half that of the previous water year. The restrictions were lifted in June 2015.

With the commencement of a WSP for the Barwon-Darling in October 2012, access was granted to previously suspended carryover water in individual accounts. The

commencement of the WSP also introduced a rule which limits annual water use to 300% of licensed entitlement, with adjustments for trade.

Commencing allocations for unregulated river A-class, B-class and C-class access licences in 2014/15 were equivalent to 109% of entitlement which equated to the “Cap share” in the Barwon-Darling. In accordance with the WSP for the Barwon-Darling, licenced entitlements were increased by 9% in January 2015. This means that annual start of water year allocations now only need to be 100% to allocate the same amount of water.

The Cap target is estimated each year using the Barwon-Darling Valley IQQM, which has now been accredited by the independent auditor. This target is the diversion that would have occurred during 2014/15 year with management rules and irrigation development at 1993/94 levels. The Cap target for 2014/15 was 51 GL – no trade or environmental adjustments to the target were necessary. This resulted in a Cap credit of 20 GL for 2014/15.

Under the MDB agreement, annual Cap performances are cumulated from the 1997/98 water year and since this point in time the cumulative Cap credit for the Barwon-Upper Darling is 127 GL. For Cap auditing purposes however, the Barwon-Darling and Lower Darling valleys are treated as one valley. The combined annual Cap performances totalled from the 1997/98 water year show a cumulative Cap credit of 538 GL.

g. Lachlan

Diversions within the Lachlan SDL resource unit (SS16) for 2014/15 totalled 188 GL including an estimated average use of 15 GL of unregulated river diversions that are not currently monitored. Regulated diversions in the Lachlan and Belubula regulated rivers totalled 172 GL. Regulated diversions for irrigation totalled 157 GL in the Lachlan regulated river and 3 GL in the Belubula regulated river.

The Lachlan valley general security water users commenced the 2014/15 water year with zero initial allocation. However, general security carryover equated to an average of 51% of entitlement in the Lachlan River and 59% in the Belubula River. No allocations were granted for general security licences during 2014/15 for either the Lachlan or the Belubula regulated rivers. Other high priority licences (including those for domestic and stock purposes, town water supplies and high security entitlements) all benefited from the maximum 100% initial allocation.

The Cap target for the year is estimated for the regulated system each year using the Lachlan Valley IQQM, which was the first model to be accredited for Cap purposes by the independent auditor. This target is the estimated diversion that would have occurred during 2014/15 with management rules and irrigation development at 1993/94 levels. It is not currently possible to assess a 2014/15 Cap target for the unregulated sections of the valley, and the estimated average annual unregulated diversion is also used to represent the unregulated Cap target each year.

After adjustments for licences purchased for the environment were made, the overall Cap target for 2014/15 was 357 GL with a resulting Cap credit for 2014/15 of 169 GL. Under the MDB agreement, annual Cap performances are accumulated from the 1997/98 water year, and the Lachlan valley has accumulated a Cap credit of 699 GL over this period.

h. Murrumbidgee

The 2014/15 consumptive diversions within the Murrumbidgee SDL resource unit (SS15) totalled 1,689 GL including an estimated average 42 GL diversions by unregulated river licences which are not currently metered. Regulated diversions in the Murrumbidgee

(including Lowbidgee), during 2014/15 totalled 1,646 GL. This included supplementary access licence diversions of 65 GL plus supplementary (Lowbidgee) access licence diversions of 24 GL.

Blowering and Burrinjuck Dams in the Murrumbidgee commenced the 2014/15 water year with 31% and 47% of capacity respectively. Initial allocations at the start of the year for general security water users were 10%. In addition there was an average carryover of 29% in general security accounts at the commencement of the water year. Increases to allocations throughout the year saw general security water allocations rise to 53% in April 2015. Net trade from the Murrumbidgee valley to other valleys in the southern Basin during 2014/15 was 46 GL.

The Cap target is estimated for the regulated system (including Lowbidgee) each year using the Murrumbidgee Valley IQQM, which has been accredited for Cap purposes. This target is the diversion that would have occurred during 2014/15 with management rules and irrigation development at 1993/94 levels. It is not currently possible to assess a Cap target for the unregulated sections of the valley, and the estimated average annual unregulated diversion is also used to represent the unregulated Cap target each year.

After adjustments for inter-valley trade and licences purchased for the environment were made, the overall valley Cap target for 2014/15 was 1,608 GL. Modelled results also indicate a Cap debit for 2014/15 of 81 GL. Under the MDB agreement, annual Cap performances are accumulated from the 1997/98 water year. After taking into account the 2014/15 Cap debit result, the Murrumbidgee Valley has an accumulated Cap credit of 2,301 GL over the period since 1997/98.

i. Lower Darling

All licence categories in the Lower Darling received an initial 100% allocation at the start of the 2014/15 water year. This included supplies for towns, stock and domestic users, as well as high and general security purposes. Net trade into the Lower Darling during 2014/15 was 56 GL. A total of 42 GL was diverted from the Lower Darling SDL resource unit (SS18) during the 2014/15 water year, with regulated river licences accounting for all of the diversions.

Storage levels in Menindee Lakes continued to decline during the 2014/15 water year resulting in contingency measures being introduced in the Lower Darling regulated river, as well as elsewhere in the Northern Basin.

The Cap target is estimated for the regulated system each year using the Murray Simulation Model. This target is the diversion that would have occurred during 2014/15 with management rules and irrigation development at 1993/94 levels. After adjustments for inter-valley trade and licences purchased for the environment were made, the Cap target for 2014/15 was 103 GL with a Cap credit of 61 GL. Under the MDB agreement, annual Cap performances are accumulated from the 1997/98 water year, and the Lower Darling has accumulated a cumulative Cap credit of 411 GL over this period.

For Cap auditing purposes however, the Barwon-Darling and Lower Darling valleys are treated as one valley. The combined annual Cap performances totalled from the 1997/98 water year show a cumulative Cap credit of 538 GL.

j. Murray

Water availability for general security water users in the Murray commenced the water year with initial water allocations of 6%. Increases to allocations throughout the year saw general

security water allocations gradually increase to 61% on 16th March 2015. A total of 1,245 GL was diverted in NSW from the Murray regulated river system during the 2014/15 water year, including supplementary access licence diversions of just 12 GL. Diversions in the unregulated sections of the catchment are not currently monitored and a volume of 28 GL, representing estimated average use, has been included as an estimate of unregulated diversions in the NSW Murray Valley. This provided a total diversion of 1,272 GL for the NSW Murray SDL resource unit (SS14).

The Cap target is estimated for the regulated system each year using the Murray Monthly Simulation Model that has been accredited following the independent review of the model. This target is the diversion that would have occurred during 2014/15 with management rules and irrigation development at 1993/94 levels. It is not currently possible to assess a 2014/15 Cap target for the unregulated sections of the valley, and the estimated average annual unregulated diversion is also used to represent the unregulated Cap target each year. After adjustments for inter-valley trade and licences purchased for the environment were made, the overall valley Cap target for 2014/15 was 936 GL. This resulted in a Cap debit of 336 GL for 2014/15. Under the MDB Agreement, annual Cap performances are cumulated from the 1997/98 water year and the Murray has accumulated a cumulative Cap credit of 1,282 GL over this period.

5. Groundwater overview

The 2014/15 water year experienced high volumes of groundwater extraction due to drier weather conditions and lower availability of regulated river general security allocations. Of the 44 NSW groundwater sources within the MDB, 28 are fully metered and 16 are partially metered. The licensed entitlement for the fully metered groundwater sources total 1,315 GL and represents 88 % of the total licensed groundwater entitlement within the NSW part of the Basin.

Extraction from four groundwater SDL units (Lower Gwydir Alluvium, Lower Lachlan Alluvium, Lower Murrumbidgee Alluvium (Deep) and Lower Namoi Alluvium) exceeded their permitted take totals for the 2014/15 year. However, with the exception of the Lower Gwydir Alluvium, their rolling average annual usage did not exceed their relative WSP compliance trigger.

The Lower Gwydir had a small exceedance over the WSP compliance trigger. A review of the usage patterns and levels of account water indicated that a reduction in usage is expected if an AWD of 1ML/share was maintained in 2015/16 because of the reduction in available account water and no allocations under the supplementary water access licences (SWALs). Targeted consultation will be undertaken during the 2015/16 water year with licence holders and usage will continue to be monitored to assess the necessity for a reduced AWD in the 2016/17 water year, ensuring that usage is managed to the extraction limits.

The high groundwater reliance during last water year from these sources was due to drier weather conditions, zero surface water general security allocation in Gwydir, Lower Namoi and Lachlan Rivers and low general security allocation in the Murrumbidgee River.

A total of 17 GL was traded permanently and no groundwater was traded between any water sources during 2014/15. 200 GL of groundwater was traded on a temporary basis with most of this occurring within the Lower Gwydir, Lower Lachlan Alluvium, Lower Murrumbidgee Alluvium (Deep), Lower Murray Alluvium (Deep), Upper and Lower Namoi Alluvial sources. SWAL allocations in these groundwater sources have been at their lowest and water may

have been traded temporarily to make up any reduced access. The 2015/16 year will be the first year that SWAL allocations will not be available (in accordance with the WSPs for any of these groundwater sources). SWALs were issued to licence holders to provide them with an incremental withdrawal of access to groundwater over 10 years following the reduction in their entitlements at the commencement of the WSPs in 2006.

6. Environmental water

a. Held environmental water

The volume of licenced environmental water usage totalled 365 GL in NSW during 2014/15. The majority of this was in the Murrumbidgee (224 GL) and the NSW Murray (63 GL). When compared to the previous water year, the volume of environmental usage varied across the state. In the Gwydir and Murrumbidgee valleys more environmental water was used in 2014/15 than in the previous year. In all other valleys the usage was either less or close to the previous year. For example, licenced environmental water usage in the Lachlan was only 6 GL compared to 23 GL in 2013/14. In the Lower Darling licenced environmental diversions were zero in 2014/15.

Compared to 2013/14 there was significantly less volume of environmental water traded for non-environmental use in NSW during 2014/15. Only the Murrumbidgee and the Murray valleys traded environmental water for non-environmental use. The volumes traded were 2 GL and 1 GL respectively.

A total of 45 GL of available environmental water was traded out of the Murrumbidgee. Of this, 30 GL was transferred to Victoria and 1 GL to South Australia, the balance (14 GL) was transferred to the NSW Murray. In the Murray a total of 213 GL of environmental water was traded out of the valley.

b. Planned environmental water

Additional environmental water is made available through the rules of the various WSPs in NSW. This planned environmental water may be either 'rules-based' or managed in a specified account similar to water accounts for other (licensed) water users. Examples of rules-based environmental water include stimulus flows and end of system flows.

In some valleys where there is account based planned environmental water, Environmental Water Advisory Groups (EWAGs) have been established to advise on the management and use of environmental water.

Three regulated valleys recorded account based PEW use during 2014/15 with a total of 121 GL across NSW. This figure does not include the rules-based PEW such as stimulus flows or end of system flows.

- In the Gwydir, 30 GL of Environmental Contingency Allowance (ECA) water was used.
- In the Macquarie, 18 GL was used against the Macquarie Environmental Water Allowance (EWA). In the Murrumbidgee Valley a total of 73 GL of PEW was used.

7. Progress of water reform

NSW continues working towards implementation of the Basin Plan under the terms and conditions of the Intergovernmental Agreement and National Partnership Agreement signed by the Prime Minister and the NSW Premier on 27 February 2014.

NSW is required to complete 22 water resource plans (WRP) across the NSW MDB by 2019. To meet this timeframe it is proposed to develop plans in three batches (see Table 1 below), with planning for the first batch of WRPs already commenced.

Table 1. Proposed commencing dates for NSW water resource plans

Batch 1: Commencing 2017	Batch 2: Commencing 2018	Batch 3: Commencing 2019
Gwydir alluvium	Eastern porous rock	Barwon Darling surface water
Gwydir surface water	Intersecting Streams surface water	Darling alluvium
Lachlan alluvium	Lachlan surface water	Murrumbidgee surface water
Macquarie/Castlereagh alluvium	Namoi surface water	Lachlan and South West fractured rock
Macquarie/Castlereagh surface water	NSW Border Rivers alluvium	New England fractured rock and northern basalts
Murray alluvium	NSW GAB shallow	NSW Border Rivers surface water
Murrumbidgee alluvium	Western porous rock	NSW Murray/Lower Darling surface water
Namoi alluvium		

NSW DPI Water is currently scoping the products likely to form the WRPs in NSW. These include:

- Water sharing plans for the relevant WRP area;
- A water quality management plan;
- An index document which details how Basin Plan provisions are addressed in the various WRP documents;
- An overview document which summaries the information used in the plan development;
- A risk assessment report; and
- Relevant policy documents.

WRPs will be prepared in consultation with stakeholders who will have opportunity for input either through public submissions or direct comment on specific issues. The broad steps to ensure the planning process meets the needs of stakeholders and the accreditation requirements of the Basin Plan include:

- Preparation - project plan, engagement plan, risk assessment;
- Review WRP - formal 10 year review (where required), consistency with Basin Plan;
- Refinement - stakeholder consultation, document issues, draft plan;
- Public exhibition - public meetings, public submissions, plan refinement; and
- Approval - MDBA assessment, Commonwealth approval, NSW Ministerial approval.

Water resource planning information, (including the above) is provided on the DPI Water website.

8. Infrastructure investment

NSW DPI Water has shortlisted three possible options to secure a long term water supply solution for Broken Hill and surrounding communities. The next step is to do a detailed analysis of these options and design a procurement process that enables innovation and delivery of the desired triple bottom line outcomes. The shortlisted options include:

- a pipeline supplying treated water from South Australia;
- a pipeline supplying raw water from the Murray River and treated at Broken Hill; and
- supplementing surface water from the Menindee Lakes system with treated shallow groundwater.

NSW DPI Water also manages the Country Towns Water Supply and Sewerage Program with total funding commitment of \$1.2 billion for water supply and sewerage projects in country communities of NSW. Part of this program is a requirement for local water utilities to prepare and implement a sound 30-year Strategic Business Plan for their urban water supply and sewerage businesses.

State Priority Projects under the Sustaining the Murray-Darling Basin program are being implemented in NSW. Projects include:

- Basin Pipe;
- Nimmie Caira;
- Healthy Floodplains;,,
- Irrigated Farm Modernisation; and
- Metering project.

The Basin Pipe project, managed by NSW DPI Water, is a \$137 million water efficiency infrastructure project that is replacing replenishment systems, open drains, channels and dams with pipeline systems to provide farmers with more efficient supplies of domestic and stock water. Additional water will be provided to the environment from the expected 38 GL of water efficiency gains the project is expected to deliver.

NSW DPI Water leads the Nimmie-Caira project with \$180 million of funding from the Australian Government to purchase land and water entitlements in the Nimmie-Caira area and to undertake infrastructure works to enhance environmental water delivery. Purchased water entitlements will be transferred to the Commonwealth for environmental use.

NSW DPI Water is also implementing the Healthy Floodplains project with funding up to \$50 million to reform the management of water on floodplains through the modification of floodplain structures and extraction control.

NSW DPI – Agriculture continues to implement the NSW *Sustaining the Basin: Irrigated Farm Modernisation* (STBIFM) program (funded under the Australian Government's Sustainable Rural Water Use and Infrastructure Program as part of the implementation of the Basin Plan in NSW) across the northern NSW portion of the Basin. The STBIFM program provides funding to eligible irrigators to identify and recover unproductive water losses through on-farm assessments and irrigation infrastructure modernisation projects. The program also subsidises education and training events and activities that enhance farmer skills and capacity to improve on-farm water use efficiency. Under the terms of the program, the participating irrigators transfer entitlement equivalent to at least half of the water recovered to the Commonwealth for environmental purposes with the balance remaining on-farm to boost productivity and sustain the productivity of the northern NSW irrigation industry.

WaterNSW is responsible for implementing the NSW Metering Scheme with funding of \$51.5 million to improve the measurement of water extracted in the Murrumbidgee, Lower Darling and NSW Murray valleys.

WaterNSW is managing the augmentation of Chaffey Dam on the Peel River, with the project around 85% complete at the time of preparing this report. The augmentation will increase the storage capacity of the dam from 62 GL to 100 GL. A key objective of this work is to provide greater security of supply for the city of Tamworth which is reliant on Chaffey Dam for much of its urban water needs. The project is jointly funded by the Australian and NSW Governments and the Tamworth Regional Council. Investigations are also continuing into the feasibility of a new water storage dam on the Belubula River under the Water Security for Regions program.

To remain compliant with the NSW Dams Safety Committee standard for extreme floods and earthquakes, WaterNSW has implemented safety upgrades to various large dams.