



STATE WATER CORPORATION

**REPORT TO IPART
UNDER THE
OPERATING LICENCE**

1 SEPTEMBER 2008



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Introduction

State Water Corporation is required to act in accordance with its Operating Licence, which has been issued under the *State Water Corporation Act 2004*. State Water was corporatised on 1 June 2004 and the Operating Licence commenced on 24 June 2005 and expired on 23 June 2008.

During 2007/08, IPART undertook a review of the 2005-2008 Operating Licence which resulted in the Minister for Water agreeing on the revised terms for the new 2008-2013 Operating Licence. The new Operating Licence came into effect on 24 June 2008. For the purposes of this report, all references to the Operating Licence refer to the 2005-2008 Operating Licence, unless otherwise stated.

Under the Operating Licence, State Water must report to IPART by no later than 1 September each year, for the preceding financial year, on its performance regarding each of the following matters:

- Memoranda of Understanding;
- Customer Service Charter;
- Internal Complaints Handling Procedure;
- External Dispute Resolution Scheme;
- Complaints to Other Bodies;
- Water Metering;
- Environment Management Plan; and
- Performance Indicators.

In addition, State Water must prepare, by no later than 1 September each year, annual water balances.

Under the Operating Licence, IPART can also require State Water to include other relevant information in the report. To date, IPART has not exercised this power.

This report has been prepared in compliance with the above requirements. It is the third and final report under the 2005-2008 Operating Licence. The report indicates the requirements under the Operating Licence for each of the above matters and outlines State Water's compliance during 2007/08. Under the terms of the Operating Licence, this report is required to be available to the public. Accordingly, this report will be published on State Water's website.

In 2007/08, the ongoing drought conditions providing increasingly challenging operating conditions in all of State Water's areas of operations. Water deliveries were around 1,020 GL, less than 20 percent of average historical levels and the lowest level on record. In addition, during 2007/08 State Water developed and commenced implementation of a new organisational structure aimed at reducing regulated operating expenditure by 14% and providing a sustainable and efficient operating platform on which to build the business in the future. The new structure involves removal of regionally based organisational structures and an organisation wide approach to planning and managing maintenance, operations and service delivery.

Despite the challenging operating environment, State Water continued to fulfil its Operating Licence requirements and provide high levels of customer service.

Memoranda of Understanding

Clause 2.3.1 of the Operating Licence requires State Water to use its best endeavours to enter into, by 1 October 2005, MoU with each of the Directors-General of the Department of Environment and Conservation (now the Department of Environment and Climate Change (DECC)), the Department of Primary Industries (DPI) and the Department of Infrastructure Planning and Natural Resources (DIPNR), now DWE.

The MoU with DEC was signed on 2 November 2005, with DPI was signed on 23 June 2006 and with DWE on 28 July 2006. These MoU are still in place.

In keeping with Clause 2.3.2 of the Operating Licence, the purpose of the MoU is to form the basis for co-operative relationships between the parties to the MoU, while recognising the respective roles of each Department and State Water.

The MoUs with DECC, DPI and DWE have been made available to the public on State Water's internet site, in accordance with Clause 2.3.4 of the Operating Licence.

Clause 2.3.5 of the Operating Licence sets out the requirements for reporting to IPART on the MoU, as follows:

"State Water must, by no later than 1 September each year, for the preceding financial year, report to IPART on its performance against and compliance with the MoUs referred to in clause 2.3.1 including such relevant information as may be required by IPART to be included in the report."

State Water's performance against and compliance with each MoU is provided below.

State Water will be reviewing all the MoUs in 2008/09, as required under the terms of the current MoUs. The MoU with DWE will be the first to be reviewed and State Water has obtained DWE's agreement to this review.

State Water Corporation and DECC

The MoU with DECC provides the basis for cooperative relations between DECC and State Water in fulfilling their responsibilities, including the protection of water quality and ensuring environmental sustainability. The MoU recognises DECC's role as the environmental regulator and agency responsible for environmental protection and conservation of natural and cultural heritage and State Water's responsibility to address the water quality, river health and aquatic biodiversity impacts of its operations.

It should be noted that interaction with DECC under the MoU often occurs on more than one area of the MoU. For example, State Water's provision of expert advice on river operations for environmental releases relates to the following MoU areas: water quality and river flow objectives; objectives for the operation of State Water structures and releases for water quality and environmental flow outcomes; and developing and implementing agreed positions on environmental flows and water savings. To minimise duplication, State Water has avoided repeating the same information under different sections of the MoU as much as possible.

State Water has worked with DECC in accordance with the MoU, as shown in the schedule on the following page.

In addition, during 2007/08, State Water and DECC progressed the development of a schedule to MoU to recognise DECC's role as regulator, customer, environmental water manager and environmental landholder interests in using State Water's assets to deliver environmental water.

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DECC MoU Requirement	State Water Compliance Performance
Co-operate to work towards achievement of agreed environmental objectives, which may include:	
<ul style="list-style-type: none"> Water quality and river flow objectives 	<p>In 2007/08, State Water consulted with DECC on a number of projects including:</p> <ul style="list-style-type: none"> Stage 2 of Upgrade works in the North Marsh Bypass Channel including approval of the Review of Environmental Factors, development of an <i>Environmental Protection and Biodiversity Conservation Act 1999</i> referral and compliance with a clean up notice from Stage 1 works. Finalisation of environmental approvals and commencement of works on the Lake Brewster Water Efficiency Project including integration of conditions of consent into the Statement of Environmental Effects and development of Construction Environmental Management Plans. Re-directing storm water inundating productive lands around Lake Cargelligo and the main access road into the lake. <p>In the Gwydir Valley, the Environmental Contingency Allowance (ECA) Operations Advisory Committee established under the Water Sharing Plan (WSP) includes representatives from State Water, DPI, DECC and DWE as well as scientists and irrigators. State Water provides expert advice and information on water delivery requirements to the Committee as well as providing advice and education on supplementary events and determining delivery dates for block releases to deliver small amounts of remaining water allocations as well as environmental water.</p> <p>State Water also provided advice to DECC on river levels in the Edward River for DECC's project to replace drop boards with aluminium gates at the Tumudgery Offtake.</p> <p>In addition, State Water undertakes modelling to calculate allowable salt loads under the Hunter River Salinity Trading Scheme as a subcontractor to DECC who is the scheme regulator. In 2007/08, State Water successfully managed several events through the year, completed an upgrade of the salt model, and negotiated a new 7 days-a-week agreement for 2008/09.</p>
<ul style="list-style-type: none"> Standards and targets developed by the Natural Resources Commission 	<p>The standards and targets developed by the NRC now form priority E4 of the NSW Government's State Plan. Initiatives and progress towards priority E4 are being overseen by the Natural Resources and Environment Cluster CEO Group. The membership of this Group has been revised, and in recognition that State Water does not play a prime role in driving natural resource management investment in NSW, State Water has been allocated affiliate membership. State Water's EMP objectives are compatible with the Priority E4 outcomes.</p>

2007/08 Report to IPART under the Operating Licence

DECC MoU Requirement	State Water Compliance Performance
<ul style="list-style-type: none"> Objectives for the operation of State Water structures and releases for water quality and environmental flow outcomes 	<p>DECC and State Water are members of the Cold Water Pollution Interagency Group (CWPIAG) which aims to minimise impact of cold water pollution (CWP) from bulk water supply structures, including State Water's storages. During 2007/08, the CWPIAG convened on 27 July 2007, 24 October 2007 and 28 March 2008. As part of its contribution to the IAG, State Water is developing operating protocols for dams with multi level offtakes, starting with Glenbawn Dam. The further development of these protocols has now been included in the proposed State Water Work Approvals for dams which are currently being developed with the DWE, in consultation with State Water.</p> <p>In addition, as agreed with the CWPIAG, in 2007/08 State Water sought Community Service Obligation funding in the 2008/09 State Budget for CWP investigations. Although this bid was supported by the Minister for Water, it did not receive approval for funding in the State Budget due to fiscal constraints.</p> <p>State Water continues to provide advice and operational information to the Macquarie Environmental Flows Reference Group which determines when and how environmental water will be used within the System.</p> <p>In 2007/08, State Water delivered the first environmental flows purchased through the RiverBank scheme in the Macquarie valley. Nearly 8,700ML of environmental water was delivered to the Macquarie Marshes allowing water levels to be maintained in the Northern Nature Reserve long enough to allow the waterbirds to breed successfully.</p> <p>In 2007/08, State Water and DECC finalised Operating Principles and Protocols for the management of the North Marsh Bypass Channel. These protocols aim to improve communications and water delivery efficiencies by increasing consultation and improve decision making processes.</p> <p>State Water also worked with DECC in the development of Water Use Plans for Adaptive Environmental Water (AEW) licence to be created from water savings via Lake Brewster Water Efficiency Project in the Lachlan Valley.</p> <p>In the Namoi, Gwydir and Border rivers, State Water worked closely with customers and DECC to determine delivery dates for block releases to deliver small amounts of remaining allocation as well as environmental water, thereby reducing conveyance losses and maximising the amount of water available for water delivery. In particular, State Water developed a release schedule for the Environmental Contingency Allowance (ECA) for the Gwydir and Gingham wetlands that coincided with block releases for irrigation.</p>

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DECC MoU Requirement	State Water Compliance Performance
<ul style="list-style-type: none"> Waste management 	<p>State Water provided statistical data to DECC for the Waste Reduction and Purchasing Policy (WRAPP) 2007 return. The 2008 WRAPP Progress Report is available on the Department of Environment and Climate Change website at www.environment.nsw.gov.au or the WRAPP site at www.wrapp.nsw.gov.au. The report provides a whole-of-government review of the information provided by 106 agencies for the 2005-07 reporting period.</p>
<ul style="list-style-type: none"> Noise management 	<p>For the most part, noise management is not currently an issue of concern between State Water and DECC. State Water's operations are not generally associated the generation of excessive levels of noise and State Water's operations do not currently produce noise pollution, as defined under the <i>Protection of the Environment Operations Act 1997</i> (POEO Act) and administered by DECC.</p> <p>However, State Water did meet with DECC on 4 March 2008 to discuss the POEO Act, details of additional noise and air quality studies required and details of additional information on biodiversity offsets required for the Keepit Dam Safety Upgrade. Attach stakeholder consultation summary. State Water also subsequently sought DECC's comment on the reports regarding these matters.</p> <p>Construction noise associated with the Lake Brewster Project has been managed to ensure no excessive noise emitted from the construction area as per the requirements of development approval. The Statement of Environmental Effects for the project including noise management guidelines was put on public display for input by DECC.</p>
<ul style="list-style-type: none"> Energy efficiency and Greenhouse 	<p>State Water's main interaction with DECC relating to energy efficiency was via DECC input to the Environment Management Plan (EMP), which contains a requirement for State Water to develop an Energy Management Plan. The Energy Management Plan was developed in 2006/07 and State Water continued implementation in 2007/08.</p>
<ul style="list-style-type: none"> Protection of threatened species 	<p>In 2006/07, DECC approached State Water about developing a voluntary conservation agreement on part of the foreshore at Glenbawn Dam which has been identified as a high conservation area and which contains endangered flora. During 2007/08, DECC, State Water and a consultant appointed by DECC worked to develop a draft agreement.</p>

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DECC MoU Requirement	State Water Compliance Performance
	<p>State Water Murrumbidgee river operators worked closely with DECC to water the endangered Southern bell frog habitat during the critical breeding season in the Lowbidgee flood plains.</p>
<ul style="list-style-type: none"> • Protection of aboriginal and cultural heritage 	<p>During 2007/08, State Water carried out an aboriginal heritage field survey and test excavations for Lake Brewster Water Efficiency Project as part of the Statement of Environmental Effects (SEE) and subsequent investigation process for construction of the project works. The National Parks section of DECC provided feedback on the SEE.</p> <p>State Water has developed and commenced implementation of a Lake Brewster Heritage Management Plan, for which DECC is the approving body. This plan outlines key actions to be addressed throughout the Lake Brewster Efficiency Project including mitigation measures as well as onsite inspections by the Local Aboriginal Land Council.</p> <p>As part of the Stage 2 works at the North Marsh Bypass Channel State Water obtained a section 90 permit from DECC under the <i>National Parks and Wildlife Act 1977</i> prior to commencing works.</p>
<p>Co-operate in developing and implementing agreed positions on environmental issues, which may include the following:</p>	
<ul style="list-style-type: none"> • Environmental flows 	<p>NSW Rivers Environmental Restoration Program</p> <p>2007/08 saw the completion of the first 12 months of the three-year NSW Rivers Environmental Restoration Program (RERP). RERP is jointly funded by the Australian Government's Water Smart Australia program and the NSW Government. RERP aims to address the urgent need to improve the health of some of the most significant and threatened wetlands in the Murray-Darling Basin via:</p> <ul style="list-style-type: none"> • Acquisition and management of environmental water • Enabling better use of environmental water • Better Delivery of Environmental Water • Developing partnerships for the management of environmental water on private land <p>DECC is responsible for the program management of RERP with State Water contracted to complete the "Better Delivery of Environmental Water" subprogram. State Water is working closely with DECC to roll</p>

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DECC MoU Requirement	State Water Compliance Performance
	<p>out the activities under RERP in accordance with the Funding Agreement and is involved in the Program's Project Control Group.</p> <p>Throughout 2007/08, State Water continued to be involved in RiverBank management meetings to discuss best use, management of water purchased under the DECC RiverBank scheme.</p> <p>During 2007/08, State Water participated in the development of draft water sharing plans for the Richmond and Bega regulated valleys, including environmental flow conditions. DECC, DWE and DPI are on the panel to develop WSPs and State Water was involved in providing expert input.</p> <p>State Water also interacted with DECC on the following:</p> <ul style="list-style-type: none"> • The Marebone Choke removal project under the DECC / Commonwealth Wetland Recovery Program. • Assisted in the development of Water Use Plans for AEW licences held in Lachlan and Macquarie by RiverBank. • Facilitated the establishment of Water Supply Works Approvals to deliver adaptive environmental water from RiverBank licences. • Facilitated the purchase of supplementary access licences by Central West Catchment Management Authority to be turned into Adaptive Environmental Water licences funded by DECC's Wetland Recovery Program. <p>During 2007/08, State Water called for nominations for new Customer Service Committee (CSC) members. In recognition of the growing importance of environmental water as a customer, State Water requested nominations from DECC, whose representatives were then appointed to the new CSCs. Subsequent to this, State Water's new Operating Licence included DECC representation on the CSCs as a new requirement.</p>
<ul style="list-style-type: none"> • Floodplain management and harvesting 	<p>Floodplain management is the joint responsibility of DECC and DWE. State Water does not have any responsibilities relating to floodplain management or harvesting and does not have any control over construction and other activities on floodplains. For this reason, floodplain management and harvesting is not currently an area of interaction between State Water and DECC. Furthermore, State Water understands floodplain harvesting is yet to occur under the <i>Water Management Act 2000</i>.</p>
<ul style="list-style-type: none"> • Water savings 	<p>State Water provided verbal advice to DECC on the flow regime for the Coobool Water Savings Project.</p>

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DECC MoU Requirement	State Water Compliance Performance
	State Water worked with DECC to delay replenishment flows in Yallakool Creek to allow DECC to complete the temporary control structure on Back Creek to reduce evaporation. State Water also project managed these works for DECC.
Consult with DECC in developing indicators and targets for State Water's environmental management plan	DECC were involved and consulted in the development of the original EMP and provided comment and feedback as part of the recent 12 month EMP review in 2006/07. The EMP was not required to undergo further review in 07/08.
Information and data held by each party will be generally available	<p>State Water readily provides DECC with the information it requires. Examples of information exchange include:</p> <ul style="list-style-type: none"> • Water allocation statements for RiverBank licences sent to DECC as requested. • Survey on water volumes and water balances of "Yarnel" and "Burrawang West" lagoons provided to State Water by DECC to calculate water use by RiverBank licences in Lachlan.
Any guidelines or published material will be provided free of charge	In 2007/08, all guidelines and published materials were provided free of charge.
Share expertise, personnel and facilities to fulfil project objectives	<p>State Water and DECC regularly share expertise, personnel and facilities. Examples of this interaction in 2007/08 include:</p> <ul style="list-style-type: none"> • ECA Operational Advisory Committee consisting of DECC staff were provided with State Water expertise, personnel and facilities with regard to delivery of ECA water to the Gwydir wetlands. • State Water provided information from DECC on the NSW Wetland Recovery Program to the Macquarie CSC. • State Water participated in willow clearing in the lower Macquarie River as part of the NSW Wetland Recovery Program.

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DECC MoU Requirement	State Water Compliance Performance
	<ul style="list-style-type: none"> • State Water participated in the Project Control Group investigating alternatives to provide Stock and Domestic flows to users on the Macquarie River below the Marshes under the NSW Wetland recovery Program. • In the Hunter valley State Water participated in the Operations Committee for Hunter River Salinity Trading Scheme
<p>Each party will nominate one Contact Officer to be the first point of call for any matters between the parties</p>	<p>Due to State Water's geographically dispersed operations, it is often not practical to have a single point of contact. Better cooperation and outcomes can be achieved through direct contact with the relevant officer in each area or valley. Therefore, State Water has designated Contact Officers for each regulated valleys. Some valleys have more than one Contact Officer, depending on its geographical size and operational complexity.</p>
<p>The Contact Officer will inform the Contact Officer of the other party when matters arise within each organisation that are relevant to the functions of the MoU</p>	<p>Regular contact occurs between the various Contact Officers as required.</p>
<p>Meetings held at least once a year between the CEOs of both parties</p>	<p>In 2007/08, State Water's CEO and DECC's Director General both attend the Water CEOs meeting. State Water's CEO also attended a Riverbank Subcommittee meeting which was chaired by the Director General of DECC.</p>
<p>If there is a failure to agree on matters at a senior level, then the matter should be escalated to CEO level for resolution</p>	<p>No matters were escalated to CEO level during 2007/08.</p>

State Water Corporation and Department of Primary Industries

State Water has had a MoU with NSW Fisheries for the last three years which has resulted in the development of an effective working relationship between the two organisations. With the amalgamation of Fisheries into DPI, State Water has committed to establishing these relationships with all arms of the Department. To this end the new MoU was signed on 23 June 2006.

The purpose of the MoU is to serve as the basis for cooperative relations between DPI and State Water in fulfilling their responsibilities including the protection of water quality and ensuring environmental sustainability. The MoU recognises DPI's role as the agency responsible for fisheries management in the State and addresses aquatic habitat and fish passage impacts of State Water's operations and information sharing arrangements. In addition, the MoU recognises the role of DPI as the agency responsible for primary industry and agriculture management.

State Water and DPI have also entered into a 3 year Service Level Agreement (SLA) on 23 June 2006 with annual renewal at the end of this period. The SLA indicates which services are to be charged on a fee for service basis as well as the services which are to be exchanged freely during routine dealings between the parties.

At the start of each financial year, State Water holds an Annual Report meeting with DPI to discuss previous year's outcomes and upcoming projects and priorities. The DPI (Fisheries) Liaison Officer discusses with State Water Area officers the latter's individual works programs and the inputs required by DPI.

It should be noted that interaction with DPI commonly crosses a number of MoU requirements simultaneously. To avoid repeating the same information under different sections of each MoU, State Water has combined two sections of the MoU for reporting purposes:

- Co-operate to work towards achievement of agreed environmental objectives; and
- Co-operate in developing and implementing agreed positions on environmental issues.

State Water has worked with DPI in accordance with the MoU, as shown in the schedule on the following page.

Key performance indicators associated with the Service Level Agreement between State Water and DPI are included in the Environment Management Plan section of this report.

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DPI MoU Requirement	State Water Compliance Performance
<p>Co-operate to work towards achievement of agreed environmental objectives and in developing and implementing agreed positions on environmental issues, which may include:</p>	
<ul style="list-style-type: none"> Fish passage objectives and aquatic habitat 	<p>In 2007/08 State Water and DPI liaised on eleven projects to ensure appropriate assessment of threatened species impacts and protection of aquatic habitat during State Water works. These projects are listed below in the "Environmental provisions of the MoU" section.</p> <p>DPI and State Water worked in partnership to investigate the removal of three redundant weirs on the North Coast to improve fish passage. In 2007/08 State Water, in consultation with DPI, secured Community Service Obligation funding of \$115,000 for the removal of the weirs, which will be undertaken in 2008/09.</p> <p>State Water and DPI are working together to determine legislative fish passage requirements as part of the major dam upgrade program. After extensive investigations into a fish lift past Keepit Dam. The two organisations have agreed this option is not cost effective. Trade-off alternatives to provide fish passage at downstream weirs in the Namoi are being investigated.</p> <p>As part of Objective 4 of State Water's EMP, the two organisations have been developing valley specific programs to improve long term planning and strategic decision-making regarding fish passage requirements.</p> <p>Also during 2007/08, DPI and State Water:</p> <ul style="list-style-type: none"> Negotiated a cost effective outcome for fish passage as part of the Lake Brewster Water Efficiency approval process – the installation of a trade-off fishway at Booligal Weir. Progressed designs on a fishladder planned for Lake Cargelligo. Commenced the development of Operating Principles and Protocols for proposed regulators at the mouths of Muggabah and Merrimajeel Creeks. These protocols will aim to outline key procedures to ensure fish movement during times of operation. Worked together on the carp eradication program in Lachlan River. State Water and DPI developed a service level agreement outlining roles and responsibilities for the monitoring and maintaining a carp separation cage on the Island Creek fishway, and the design of the cage was finalised. The aim is to commence the trial in 2008/09.

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DPI MoU Requirement	State Water Compliance Performance
	<ul style="list-style-type: none"> • Trialled the use of aqua dams during the proposed upgrade of Yanco Weir to ensure low flow conditions did not impact on downstream habitat. • Relocated fish during the upgrade of Colligen Creek Regulator. • Changed dam spilling regimes to reduce fish kills downstream of Toonumbar Dam. • Identified fish passage priorities across the state for inclusion in the State Water sub-program of the NSW Rivers Environmental Restoration Program. <p>State Water also completed a review of environmental impacts for the removal of a small weir on a south coast river to improve fish passage. DPI were advised as part of the approval process for the development application.</p> <p>State Water also provided information to DPI for flows at Weir 32 on the Darling River and Burtundy for construction of fish passage by DPI.</p>
<ul style="list-style-type: none"> • Standards and targets set by the Natural Resources Commission 	<p>As stated above in the DECC MoU section, the Monitoring, Reporting and Evaluation Strategy prepared by the NRC outlines agency roles and responsibilities for the standards and targets developed by the NRC.</p> <p>Currently, State Water does not have any direct responsibilities in the Strategy. However, State Water contributes to <i>"Priority E4: Better outcomes for native vegetation, biodiversity, land, rivers and coastal waterways"</i>, for which DPI shares responsibility with other government natural resource agencies.</p> <p>Target 5 under this priority is: <i>"By 2015, there is an improvement in the condition of riverine ecosystems."</i> State Water contributes to this target by improving fish passage in its regulated rivers, which is reflected in Objective 4 of State Water's Environmental Management Plan: <i>"improve fish passage at weirs"</i>.</p> <p>Further detail on State Water's partnership with DPI to achieve these improvements is provided in the EMP section of this report, including the number of fish passage initiatives which are currently underway.</p>

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DPI MoU Requirement	State Water Compliance Performance
<ul style="list-style-type: none"> Any other objectives as agreed between the parties or by Government. These may include objectives for construction, maintenance and operation of State Water structures (including management of thermal impacts); and protection of threatened species and habitats 	<p>State Water and DPI staff worked together to relocate 18,000 native fish into the Murray River from the lock chamber at Lock 10 during refurbishment and de-watering works.</p> <p>DPI is also a member of the Cold Water Pollution Interagency Group referred to in the section of the report on the DECC MoU.</p> <p>During July 2007, DPI and State water relocated fish that had become trapped in an isolated pond after a section of the Creek was drained in preparation for major upgrade of the Colligen Creek. The fish, which included Murray Cod and the endangered Trout Cod, were caught with nets by DPI staff before they were relocated in safe environment. The fish were then returned safely back in to the creek away from the upgrade construction area.</p> <p>State Water released 30GL for Wakool River and Merran Creek system to provide stock, domestic and environmental benefit during December 2007 to January 2008, in consultation with DPI, DWE and the MDBC. This release improved water quality and provided water into pools that provide drought refuge for native fish and other aquatic species. The release also provided additional benefits of riparian flows for hundreds of kilometres of river and creek system. The release comprised 6 GL of environmental water under the Living Murray and 26 GL of NSW environmental water. State Water was closely involved in negotiations between the parties on the delivery of the water. State Water also compiled a report on this event, a copy of which can be provided if necessary.</p> <p>State Water mitigated the downstream impacts of toxic algae in Lostock Dam by altering the spilling regime. Valves releases were made to contain the toxic bloom within the storage. This was consistent with the Government's Algal Management Strategy.</p>
<ul style="list-style-type: none"> Environmental flows 	<p>DPI and State Water cooperatively participate in the Environmental Flow Reference Group (EFRG) in Macquarie Cudgegong Rivers.</p> <p>As outlined above, the 30 GL released for Merran Creek and the Wakool River included environmental water.</p>
<ul style="list-style-type: none"> Water savings 	<p>DPI and State Water cooperatively contribute to the NSW Wetland Recovery Program.</p>

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DPI MoU Requirement	State Water Compliance Performance
	<p>State Water obtained approval from DPI to close gates on the fishladders at Bumbuggan Weir on the Lachlan River and Marebone Weir on the Macquarie River to conserve regulated flows to maintain essential supplies.</p> <p>In 2007/08, State Water consulted with DPI and presented a Review of Environmental Factors for desilting work conducted instream to improve the efficiency of water delivery at the Lower Gwydir Offtake.</p>
<p>Consult with DPI in developing indicators and targets for State Water's environmental management plan</p>	<p>DPI were involved and consulted in the development of the original EMP and provided comment and feedback as part of the recent 12 month EMP review. The EMP was not required to undergo further review in 2007/08.</p>
<p>The parties will share information relevant to measuring State Water's environmental performance and progress towards agreed objectives</p>	<p>As outlined in the MoU, DPI provide State Water with an Annual Report which outlines activities completed for the financial year and also reports against Key Performance Indicators as outlined in the Service Level Agreement.</p>
<p>Information and data held by each party will be generally available</p>	<p>Reports on projects affecting both organisations have been passed on via the Contact Officer.</p> <p>Flow data and analysis on Marebone Weir flows were made available to DPI for Marebone Fishway under RERP.</p>
<p>Any guidelines or published material will be provided free of charge</p>	<p>In 2007/08, all guidelines and published materials were provided free of charge.</p>
<p>Share expertise, personnel and facilities to fulfil project objectives</p>	<p>The DPI (Fisheries) Liaison Officer discusses with State Water Area officers the latter's individual works programs and the inputs required by DPI.</p>
<p>Each party will nominate one Contact Officer to be the first point</p>	<p>Both State Water and DPI have nominated a MoU Contact Officer. The relationship between State Water and DPI continues to be effective under the MoU. The DPI Liaison arrangement allows</p>

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DPI MoU Requirement	State Water Compliance Performance
of call for any matters between the parties	State Water staff to access consistent advice and for State Water staff to establish an ongoing relationship with DPI.
The Contact Officer will inform the Contact Officer of the other party when matters arise within each organisation that are relevant to the functions of the MoU	State Water's and DPI's Contact Officer are in ongoing contact, keeping both organisations abreast of key projects and initiatives operating under the MoU.
Meetings held at least once a year between the CEOs of both parties	During each financial year, State Water holds an Annual Report meeting with DPI to discuss previous year's outcomes and upcoming projects and priorities. State Water's Chief Operating Office on behalf of the CEO attended this years meeting. In 2007/08, this meeting occurred on 12 February 2008.
If there is a failure to agree on matters at a senior level, then the matter should be escalated to CEO level for resolution	No issues were required to be escalated to CEO level during 2007/08.

State Water Corporation and Department of Water and Energy

The MoU with the Department of Natural Resources, now the Department of Water and Energy (DWE), provides the basis for co-operative relations between the DWE and State Water in fulfilling their responsibilities, including water management and ensuring environmental sustainability.

The MoU recognises DWE's role in regulating water access, use and management and State Water's role in delivering water and managing assets. It addresses the coordination of functions and associated responsibilities between DNR and State Water, including arrangements in relation to information sharing and the making and announcements of available water determinations (AWDs) and controlled flows.

Although the existing MoU continues to be in place, State Water and DWE have both identified areas in which the MoU could be improved. In addition, IPART's recent end of term review of State Water's Operating Licence resulted in some changes to the required content of the MoU in the 2008–2013 Operating Licence. In particular, the new MoU will need to recognise the roles of DWE in regulating water access, use and management and State Water in releasing water and managing assets.

As a result, DWE and State Water have agreed to revisit the MoU in 2008/09 and build on the work already undertaken on the co-ordination of functions between DWE and State Water as part of the IPART review of functions.

As with the MoUs with DPI and DECC, interaction with DWE often crosses a number of MoU requirements, such as water sharing plan objectives, water savings and environmental flows. To minimise duplication, State Water has avoided repeating the same information under different sections of the MoU as far as possible.

State Water has worked with DWE in accordance with the current MoU, as shown in the following schedule:

2007/08 Report to IPART under the Operating Licence

DWE MoU Requirement	State Water Compliance Performance
Co-operate to work towards achievement of agreed water management objectives, which may include:	
<ul style="list-style-type: none"> Water sharing plan objectives 	<p>State Water and DWE work together extensively to achieve water sharing plan objectives. In 2007/08, this included:</p> <ul style="list-style-type: none"> State Water worked with DWE following suspension of the WSP in Lower Darling and Murrumbidgee to refine and implement drought contingency plans. State Water has involved in reviewing the situation and assisting DWE in choosing the best option eg State Water undertook modelling of the Menindee Lakes to reduce losses and maximise water delivery, as well as assessing security of supply for the Broken Hill township. As outlined in the DPI MoU section, State Water designed and implemented the plan to maximise delivery of the 30 GL available for stock and domestic replenishment in the Wakool System. DWE's role was to approve the proposal. State Water implemented the first year of the Paterson Water Sharing Plan. State Water provided information to DWE to be used in developing the Bega and Richmond valleys. Worked with DWE in developing the small flows roster in the Gwydir. DWE has given in-principle approval to the objectives of the roster which is currently being reviewed to ensure it is able to be delivered operationally. Following the suspension of the Hunter WSP continued work with DWE in developing drought management plan and reviewing end of system environmental flow rules. State Water successfully made timely announcements on supplementary, uncontrolled and off-allocation flow events for all coastal valleys. These announcements are undertaken under delegation from DWE. DWE receives copies of the event and undertake audits. Implementing changed water accounting rules following the suspension of the Murray WSP, including critical water allocation and changes to normal WSP carryover rules.
<ul style="list-style-type: none"> Standards and targets set by the Natural Resources Commission 	<p>As outlined in the DECC MoU section, State Water does not have any direct responsibilities in the Monitoring, Reporting and Evaluation Strategy which outlines the roles and responsibilities</p>

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DWE MoU Requirement	State Water Compliance Performance
	<p>for the standards and targets developed by the NRC.</p> <p>However, State Water does contribute to <i>Priority E1: A secure and sustainable water supply for all users</i>, for which DWE has primary responsibility. Target E(f) under this priority states: <i>across NSW meet the commitments under the National Water Initiative to restore water extraction from rivers to sustainable levels</i>. The mechanism for this is the WSPs. State Water delivers water which is allocated in accordance with the WSPs and therefore contributes indirectly to this target.</p> <p>The standards and targets developed by the NRC now form priority E4 of the NSW Government's State Plan. Initiatives and progress towards priority E4 are being overseen by the Natural Resources and Environment Cluster CEO Group. The membership of this Group has been revised, and in recognition that State Water does not play a prime role in driving natural resource management investment in NSW, State Water has been allocated affiliate membership. State Water's EMP objectives are compatible with the Priority E4 outcomes.. However, presumably due to the affiliate status noted above, there has been no requirement set by DWE to formalise linkages to priority E4.</p>
<ul style="list-style-type: none"> Other agreed environmental objectives, including objectives for the construction, maintenance and operation of State Water structures 	<p>State Water's formal environmental obligations to DWE will be included in the conditions of valley based Works Approvals, established under the <i>Water Management Act 2000</i>. State Water is currently assisting DWE in developing the conditions of Works Approvals, with the conditions of the first Works Approval (for the Namoi Valley) completed in July 2008. The Works Approvals will authorise State Waters structures in each valley and the conditions set out State Water's responsibilities under the relevant WSP. The conditions also set out the regulatory requirements for management of cold water pollution.</p> <p>DWE is also a members of the CWPIAG, referred to in the DECC MoU section. The CWPIAG is developing operating protocols for dams with multi level offtakes. The further development and implementation of any requirements is being negotiated as conditions under the proposed work approvals for State Water owned infrastructure.</p> <p>State Water worked with DWE and DPI on a number of project steering committees developing options to ensure appropriate environmental watering assets are created as part of the Murray</p>

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DWE MoU Requirement	State Water Compliance Performance
	<p>Darling Basin Commission (MDBC) Environmental Works and Measures program. These include Steven's Weir Fishway, Edward River Offtake Fishway, Pericootta Koondruk Forest Watering Project and Weir 32 Fishway (CMA).</p> <p>State Water project managed the construction of three regulators on the Murray system initiated by the Commonwealth's Drought Contingency Senior Officers Group. Refer to the MDBC website for more information.</p>
<p>Co-operate in developing and implementing agreed positions on environmental issues, which may include:</p>	
<ul style="list-style-type: none"> • Environmental flows 	<p>In consultation with DWE, State Water maintained Stevens Weir pool to divert environmental and domestic water for Wakool River and Merran Creek during November 2007 to March 2008. State Water and DWE also worked together to develop drought contingency operations of Stevens Weir pool. This resulted in the weir pool being operated at a lower level to reduce losses.</p> <p>DWE is also part of the Gwydir ECA which State Water provides expert advice and information on water delivery and potential delivery times.</p> <p>State Water made environmental releases from Menindee lakes in consultation with DWE. The releases occurred from January 2008 to March 2008. State Water released water as per the pattern issued by DWE.</p>
<ul style="list-style-type: none"> • Water savings 	<p>State Water interacted with DWE on the following water savings projects:</p> <ul style="list-style-type: none"> • In the Hunter Valley, State Water developed and implemented an End of System averaging protocol in the Hunter Valley to meet environmental flow targets and save water. DWE's role was to approve the protocol. • Implementing the drought contingency plan for Murrumbidgee valley including a number water savings initiatives. State Water met monthly with DWE to discuss resource assessments and water savings.

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DWE MoU Requirement	State Water Compliance Performance
	<ul style="list-style-type: none"> • State Water is a key participant in DWE's Darling River Water Savings Project, which is funded by the National Water Commission. State Water provides input on the management of Menindee Lakes and options for water efficiency.
<p>Sharing of information relevant to measuring State Water's environmental performance and progress towards agreed objectives.</p>	<p>Consistent with the conditions of the Work Approvals, State Water provides DWE with:</p> <ul style="list-style-type: none"> • shared access to all relevant hydrographic and water accounting data; • information for resource assessments; and • supplementary announcements. <p>With the commencement of the Works Approvals, from 2008/098 State Water will also submit to DWE an annual report detailing State Water's compliance with the Works Approvals in each valley.</p> <p>Information sharing with has also occurred in regard to:</p> <ul style="list-style-type: none"> ▪ monitoring the incidence of blue-green algal outbreaks and communication requirements for the Regional Algal Contingency Plans. ▪ the existing temperature monitoring network, as part of the CWPIAG's process to set monitoring guidelines for operating protocols.
<p>Consult with DWE in developing indicators and targets for State Water's environmental management plan</p>	<p>DWE were involved and consulted in the development of the original EMP and provided feedback as part of the EMP review completed in July 2007. The feedback has not required changes to the indicators and targets in the EMP. State Water sought clarification on DWE's regulatory requirements for water quality through consultation on the drafting of conditions attached to the Works Approval in 2007/08.</p>

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DWE MoU Requirement	State Water Compliance Performance
<p>Information and data (HYDSYS, LAS, WO&U) held by each party will be generally available free of charge, unless covered by a Service Level Agreement</p>	<p>State Water and DWE continue to share access to data in the LAS, and Water Accounting System at no cost. The data in HYDSYS is also shared, but State Water pays DWE as a service provider for operation and maintenance of the regulated river hydrometric network.</p> <p>State Water also provides DWE with regular updates on water account, storage and flow information for AWD determinations.</p> <p>State Water also provides information to DWE on Blue Green Algae levels. This information is provided weekly or fortnight depending the season and the presence of algal outbreaks. DWE's role is to communicate algal alert levels to the public, in consultation with State Water.</p> <p>State Water's operational spreadsheets are available to DWE to review if they choose. Backup versions of these spreadsheets for all systems are located on DWE's Citrix System, maintained by the Department of Commerce.</p>
<p>Any guidelines or published material will be provided free of charge</p>	<p>In 2007/08, all guidelines and published materials were provided free of charge.</p>
<p>As specified in Service Agreements, parties will share expertise, personnel and facilities to fulfil project objectives</p>	<p>The Service Level Agreements in place for 2007/08 are:</p> <ul style="list-style-type: none"> • Work carried out by DWE for State Water: <ul style="list-style-type: none"> ○ Hydrometrics ○ Facilities Charges (office accommodation) ○ Salt interception scheme ○ Water quality laboratory analysis • Work carried out by State Water for DWE: <ul style="list-style-type: none"> ○ Unregulated Usage in the Barwon Darling and Adelong Creek ○ Groundwater Usage ○ Regulated, unregulated and groundwater billing ○ MDBC Cap Performance Reporting

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DWE MoU Requirement	State Water Compliance Performance
	<p>State Water continues to share expertise, personnel and facilities with DWE under the terms of these agreements.</p> <p>Also in 2007/08, State Water and DWE worked together to develop a draft Heads of Agreement to cover the water accounting system, which is a jointly owned application. State Water developed the initial draft and it was further improved by DWE. The document is currently awaiting finalisation.</p> <p>State Water also participated with DWE in several service level agreement workshops for the Hunter River Salinity Trading Scheme.</p>
<p>Each party will nominate one Contact Officer to be the first point of call for any matters between the parties</p>	<p>Following the implementation of the MoU, it has emerged that it is not practical to have a single point of contact between State Water and DWE, given the frequency of interaction and the breadth of issues collaborated on between the two entities. Each geographical unit of State Water has nominated one or more contact offices, depending on the size and needs of the business in that area.</p>
<p>The Contact Officer will inform the Contact Officer of the other party when matters arise within each organisation that are relevant to the functions of the MoU</p>	<p>Regular contact occurs between operations staff and DWE water management staff.</p>
<p>Meetings held at least once a year between the CEOs of both parties</p>	<p>The State Water CEO has bimonthly meetings with DWE's Director-General and/or Deputy Director General, Water Management Division. Agenda items include billing, compliance, works approvals, metering, service level agreements.</p>
<p>If there is a failure to agree on matters at a senior level, then the matter should be escalated to CEO level for resolution</p>	<p>Any issues not resolved at officer level are discussed at the bimonthly meetings.</p>

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In addition, the principles of the MoU underpin the following regular interactions:

Task	Role of State Water	Role of DWE
Operations Planning	State Water plans annual operations for a range of scenarios from drought, dry, median and wet conditions on the storage behaviour. State Water carries out allocation prognosis for different scenarios.	DWE provides modelling data. The models are updated based on input by State Water operations and performance review.
Resource Assessments (RA)	<p>The role of State Water varies between valleys:</p> <ul style="list-style-type: none"> • RA is prepared by State Water in the Lachlan, Macquarie, Gwydir, Namoi, North Coast, Hunter, Paterson and South Coast Valleys and sent to DWE for approval. • In valleys where the RA is prepared by DWE, State Water's role is to provide information to DWE including: storage data, water account information, crop details. State Water also checks the assessments done by DWE. 	<p>In all valleys, the role of DWE is to recommend any increments in AWDs to the Minister. DWE communicates these increments to State Water.</p> <p>In the Murrumbidgee Valley, the RA is undertaken by DWE.</p>
Available Water Determination orders	<p>In the Lachlan and Macquarie Valleys, once the RA is approved, if there is an allocation increase then the draft AWD orders are prepared by State Water and electronically sent to DWE for signature.</p> <p>In the North Coast, South Coast, Hunter Namoi/Peel and Gwydir valleys State Water recommends to DWE an appropriate AWD, based on the draft resource assessment. State Water also reassesses the available water following changes in resources (eg dam inflows, river flows) or on a monthly basis and, if necessary, recommends to DWE an incremental AWD.</p>	AWD orders are issued and copies sent to State Water
Allocation media release	State Water issues subsequent customer notices and newsletters to supplement the detail of the AWD.	Media releases are prepared and issued by DWE.
Crediting of water accounts with AWDs	Checks accounts for correctness of information and provides feedback to DWE.	Actual crediting of allocations in the water accounts

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Task	Role of State Water	Role of DWE
Water accounts	Managed by State Water. Statements are sent to customers periodically and on request.	Audit
Other dealings under section 71	Advise DWE on the status of account water	Processed, approved and managed in the system by DWE licensing branch
Supplementary/uncontrolled/off-allocation events	Proposed and managed by State Water as per draft Implementation Manual (IM) and communicated to DWE. Reporting to DWE.	Approval within 4 hours of communication from State Water. Audit event report. Ongoing monitoring of announcements.
Environmental water release	Advises Environmental Flow Reference Group (EFRG), or other relevant group, on operations and Water Sharing Plan Rules. Release is managed as per DWE approval.	Decision after recommendation by EFRG and issuance of approval to release.
Air Space Operations	Executed by State Water on advice from Flood Mitigation Zone reference group and Flood Operation Manuals.	Approval of airspace operations protocol as per IM, with the exception of Glenbawn which is done in accordance with Flood Operations manual.
Delivery of annual Stock and Domestic Replenishment flows	Managed by State Water as per draft IM and communicated to DWE.	None
Management of supply constraints	State Water as per protocol developed in consultation with CSC.	Approval of supply constraint management protocol.
Drought Management	Development of draft Drought Contingency Plans (DCP) in consultation with CSC and recommendations to DWE.	Approval of DCP

Also during 2007/08, State Water and DWE developed and commenced implementation of a Compliance Protocol which details each party's commitment to working together to monitor and report on compliance and to take appropriate action when a breach of the law may have been identified. The protocol also outlines the steps that DWE and State Water will take to develop a closer working relationship on compliance matters. In keeping with the protocol, during 2007/08 State Water and DWE agreed for DWE to provide training sessions for State Water's customer service officers. These sessions were held in August 2008.

PART 4: CUSTOMERS AND COMMUNITY ENGAGEMENTS

4.3 Customer Service Charter

State Water, in consultation with the Customer Service Committees (CSCs), has in place a customer service charter ("Charter") in accordance with Clause 4.3.1 of the Operating Licence. The Charter was established on 28 January 2005.

In keeping with Clause 4.3.2, the Charter sets out the mutual responsibilities or obligations of State Water and its Customers (excluding Fish River customers) consistent with the Operating Licence, the *State Water Corporation Act 2004*, the *Water Management Act 2000* and the *Water Act 1912*.

In accordance with Clause 4.3.4 of the Operating Licence, State Water reviewed the Charter during 2006/07 in consultation with all of the Customer Service Committees. The new Charter was adopted in April 2007, effective from 1 July 2007. The Charter is available to the public on State Water's website as required under Clause 4.3.3 of the Operating Licence. It was also posted to all customers with their water accounts in 2007/08.

Clause 4.3.5 of the Operating Licence indicates State Water's requirement to report to IPART on the Charter, as follows:

"State Water must by no later than 1 September each year, for the preceding financial year, report to IPART on its overall performance against its obligations under the Charter and where appropriate State Water is also to report on its performance against its obligations under the Charter in relation to each valley."

The focus of the new Charter is on the key areas of water ordering and delivery; customer contact; and information and communication. Under each section, there are key expectations and commitments, as well as an indication of what customers need to do to help State Water provide the level of service outlined.

It should be noted that many of State Water's obligations under the Charter are centralised corporate activities which apply uniformly to all valleys. This allows State Water to deliver consistent and cost effective services such as billing, debt management, information management systems, asset management policies, metering standards and communications. As a result, not all commitments are reported on a valley by valley basis. Where activities have occurred that are specific to a valley, this has been noted.

The following table outlines State Water's overall performance against its commitments under the Charter.

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Commitment	Achievements
Water Ordering and Delivery	
An accessible water ordering system	<p>Customers have access to multiple water ordering systems across the state. These include fax, phone messaging, and over-the-counter systems.</p> <p>State Water has also been working with DWE on the development of an internet water ordering service (WIX). During 2007/08 State Water and DWE held demonstrations of WIX with some customers. With State Water's exit from the DWE/Department of Commerce IT network and establishment of its own network, State Water is developing iWAS, a version of WIX which is tailored to State Water's and customers' immediate needs, including: water ordering; meter readings; and customer access to water account balances.</p>
Timely water delivery within the limits of system response times	<p>State Water's performance in meeting this commitment is contained in the Performance Indicator section of this report under Water Delivery.</p>
We will inform you of any water delivery issues.	<p>State Water routinely contact customers regarding any water delivery issues.</p> <p>In 2007/08, State Water issued press releases on a wide range of issues affecting customers including:</p> <ul style="list-style-type: none"> • Off-allocation or supplementary flows in the Brogo River, Bega River, Peel River, Paterson, Hunter River, Ironpot Creek. • Water delivery issues in the Border and Gwydir Valleys. • Replenishment flows in the Gwydir. • Water releases in the Darling River. • Water allocations. <p>In the Lachlan and Macquarie Valleys, State Water regularly issues customer notices regarding allocations, water delivery and other relevant issues.</p> <p>In the Murray, there is a customer communication service customers can subscribe to and by which all State Water, DWE and MBDC notices are sent out. An example of State Water notices includes the Wakool System replenishment flows.</p>

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Commitment	Achievements
	<p>In addition, the performance indicator section of this report contains information on the percentage of water orders rescheduled in consultation with customers within one day of a known shortage or delivery delay and the percentage of customers contacted within one working day of a non-complying water order being placed.</p>
<p>Assets that are maintained fit for service</p>	<p>There were no instances where inoperable assets compromised water delivery.</p>
<p>Proactive management for optimal water availability</p>	<p>The efficient delivery of water has been State Water's primary area of focus during the drought. In 2007/08, State Water initiated a number of measures to increase operational efficiency in response to the ongoing drought:</p> <ul style="list-style-type: none"> • In the Murray and Murrumbidgee valleys, a range of measures have been undertaken in consultation with DWE to minimise system losses and increase reliability. These included minimising end of system losses, minimising use of some storage to reduce evaporating and seepage losses, temporary disconnection of wetlands, lowering of weir pools and reduction of losses due to shorter periods of delivery. An example of this was the co-ordinated 30GL release to the Wakool system. • Effluent creeks beds were left dry and customer orders were grouped in the Macquarie/Cudgegong Valley to increase water efficiency. • Different delivery arrangements were introduced in the Belabula Valley, including the trial of group orders. • In the Lachlan Valley, the Lake Brewster weir pool was reduced to very low levels and smaller structures in the lower Lachlan were used for micro re-regulation to conserve water. • State Water's Hunter valleys further developed and implemented an end of system averaging protocol that DWE approved to meet environmental flow targets and save water. • At Glenbawn Dam protocols were developed and implemented protocols for dam valve operation following a dam spill and algae management during potential spills, in order to reduce losses, optimise hydro-generation and mitigate downstream water quality issues. • Installed small operating valves on four coastal dams (Lostock, Glennies Creek, Toonumbar and Brogo Dams) to allow for small releases to maintain riparian and environmental flows. This reduced the minimum flows able to be released from the valves, thereby increasing the efficiency of releases of riparian and environmental water. • Implemented and maintained self-regulation of access to uncontrolled flows in the Hunter Regulated River to improve timely advice to licence holders.

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Commitment	Achievements
	<ul style="list-style-type: none"> • In the Coastal valleys, State Water maintained a customer contact data base to improve customer access to opportunity flows – for email, fax and SMS customer notices. • Developed a partnership agreement with a major electricity generator in the Hunter to optimise access to opportunity flows using a self regulation process. • As indicated in the MoU section above, State Water worked closely with customers and DECC to determine delivery dates for block releases to deliver small amounts of remaining allocation as well as environmental water in the Border, Gwydir and Namoi Valleys, thereby reducing conveyance losses.
Customer Contact	
Be courteous, helpful and communicate clearly	Interaction with the public and other stakeholders in 2007/08 did not generate any complaints in relation to courtesy, helpfulness or clarity of communication.
Behave responsibly in accordance with our Code of Conduct	<p>State Water’s Code of Conduct has been in place since 2006. The ‘Code’ is principles based and aligned with State Water’s values. State Water has a three day induction program for new employees and the ‘Code’ is one of the topics covered in the induction program and included in the ‘New Starters Kit’ provided to each employee. In addition, the ‘Code’ is also available on the State Water intranet.</p> <p>In May 2008 the ‘Code’ was revised to include specific references to bribery and corruption making explicit the need for every employee to be aware of the need to be decline offers of gifts and benefits from tenderers and suppliers and to seek permission from supervisors before accepting any gift or benefit except in specific circumstances. It is also made clear that the acceptance of cash is never acceptable.</p> <p>Further additions to the ‘Code’ include definitions of ethics and conflicts of interest as well as some simple questions to help employees think through a process of ethical decision making. A duty to notify conflicts of interest has also been included to ensure transparency. Further clarification on the private use by employees of State Water equipment has also been included.</p> <p>No complaints were received during 2007/08 alleging breaches of the Code of Conduct on the part of employees.</p>

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Commitment	Achievements
Listen and respond to customer requests, including access to your property, in an appropriate way	Throughout 2007/08, only one complaint was received in March 2008 alleging inappropriate behaviour. A thorough internal investigation of the allegations found they were without substance and no further action was required.
Make office hours and contact details accessible	<p>State Water's statewide office hours are 8.30 am to 4.30 pm, Monday to Friday.</p> <p>During 2007/08, the Customer Service Managers, Operations Manager and Customer Service Operators' mobile numbers were published on the State Water internet site. On weekends and public holidays, the duty operations officer responds to any problem or urgent issues with water delivery. From 1 July 2008, State Water has introduced a new organisation structure, which will include a call centre for customer contacts.</p> <p>No complaints were received from customers in relation to office hours and accessibility of State Water staff during 2007/08.</p>
Information and Communication	
Regularly meet with Customer Service Committees in every valley	<p>State Water met regularly with all CSCs. The CSCs convened on the following dates during 2007/08:</p> <ul style="list-style-type: none"> • Border: 18 August 2007, 21 November 2007, 20 February 2008, 17 June 2008. • Gwydir: 10 July 2007, 20 October 2007, 13 December 2007, 27 March 2008, 16 June 2008. • Namoi-Peel: 7 August 2007, 23 October 2007, 14 February 2008, 15 May 2008. • Macquarie-Cudgegong: 12 October 2007, 12 December 2007, 12 March 2008. • Lachlan: 13 August 2007, 12 November 2007, 11 February 2008, 12 May 2008. • Murrumbidgee: 21 December 2007. • Murray: 24 August 2007, 7 December 2007, 28 April 2008. <p>Coastal: 31 October 2007, 25 February 2008, 24 June 2008.</p>

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Commitment	Achievements
<p>Consult with affected communities on major projects</p>	<p>Local landholders were consulted to minimise impact from the proposed project and construction works associated with the Lake Brewster Water Efficiency Project. The Statement of Environmental Factors for the project was exhibited for a month seeking input from community and other interested parties.</p> <p>As detailed above, State Water worked closely with DECC and customers in the Gwydir, Namoi and Border valleys to determine delivery dates for block releases to deliver small amounts of remaining allocation as well as environmental water. State Water held meetings with the DECC Gwydir Valley ECA manager and irrigator groups, consulted with the CSCs, undertook valley surveys of anticipated demand to tailor release strategies and issued customer notices.</p> <p>State Water surveyed water users along the Moomin and Mallowa Creek systems and advised users of the repainting of the river control gates at Gundore Regulator. State Water brought forward replenishment flows which necessitated no deliveries for two months.</p> <p>Desilting work at Treel Regulator Offtake required rescheduling of replenishment flows into the Gingham Watercourse. This was undertaken in consultation with the Gingham Water Users Association.</p> <p>In 2007/08, State Water held a meeting with the Keepit Dam Upgrade Community Reference Panel on 13 December 2007 discuss State Water's preferred option and the content of the Keepit Upgrade Environmental Assessment submission prior to public exhibition. State Water also held follow up meetings and teleconferences.</p> <p>State Water held two meetings with the Chaffey Dam Upgrade Community Reference Panel in 2007/08 to brief them on progress of the dam safety upgrade, the status of the augmentation proposal and the need for confirmation of funding. These meetings were held on 29 October and 13 December 2007.</p> <p>On 11 April 2008, State Water met with Copeton Waters State Park in regard to impacts of Copeton Dam upgrade. In addition to a public consultation session in October 2007, State Water also held a technical briefing for stakeholders on 18 June 2008.</p> <p>State Water also held discussions with recreation parks located upstream of Burrendong Dam who may be affected by an increase in the flood surcharge level as a result of the Burrendong Dam safety upgrade.</p>

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Commitment	Achievements
	<p>During the construction of Colligen Creek Regulator and Lock 10 Lock Chamber refurbishment, State Water consulted directly and through the media with stakeholders and the community.</p> <p>In conjunction with MDBC and Goulburn Murray Water, State Water collaborated in the development of a community engagement strategy for the upgrade of Hume and Dartmouth Dams.</p>
Provide a toll-free customer billing information service	State Water has a customer account enquiries hotline (1800 353 091). The hotline received an average of 690 calls per month in 2007/08.
Provide a complaints handling system that you can access	<p>State Water's website provides information to encourage and assist in lodging complaints, including a readily downloadable concerns form (http://www.statewater.com.au/contact_us.htm) along with facsimile details for submitting the form. In addition, a 1300 toll free telephone number (1300 662 077) linked to the caller's nearest State Water regional office is actively promoted to customers via the website and printed material. Customer Service Officers are also situated at regional offices to enable issues to be addressed in person at a local level.</p> <p>Complainants not satisfied with the outcome of State Water's internal processes to address complaints are encouraged to raise the matter with the Energy and Water Ombudsman NSW (EWON).</p>
Survey customers every three years to measure their satisfaction with our services	<p>Regulated river customers were last surveyed in July and August 2006. The overall satisfaction rating improved from 7.2 out of 10 in 2002 to 7.3 in 2006. A copy of the results can be found on State Water's website: http://www.statewater.com.au/cusser/cussatsur06ext.pdf</p> <p>The next survey will take place in 2009.</p>

Internal Complaints Handling Procedure

Clause 5.1.5 of the Operating Licence indicates State Water's requirement to report to IPART on its internal Complaints handling procedures, as follows:

"State Water must report to IPART by no later than 1 September each year, for the preceding financial year, on its internal Complaints handling procedures including the following:

- (a) *the total number of Complaints;*
- (b) *once the category of Complaints are determined under clause 5.1.4, the number of Complaints received by the category of Complaint determined in accordance with that clause;*
- (c) *the number and type of Complaints resolved or not resolved in sufficient detail for IPART to gain an understanding of the timeframe with which the Complaint was resolved, how the Complaint was resolved, or why the Complaint was not resolved (as the case may be); and*
- (d) *any problems of a systemic nature arising from Complaints."*

On 28 July 2006, the Board endorsed the Complaints Handling and Resolution Policy (State Water Policy SW2006-P0104) and associated Complaints Handling and Resolution Procedures (SW2006-P0105).

Category	05/06	06/07	07/08
Asset Management	8	13	11
Water Releases/Operations	17	21	11
Water Metering	1	4	Nil
Annual Water Balances	Nil	Nil	Nil
Environmental Management	Nil	Nil	Nil
Billing	26	27	16
Customer Service	2	3	6
Employee Performance	Nil	2	1
Other	Nil	Nil	6
FRWS – standard quality of water delivered	Nil	Nil	Nil
FRWS – continuity of water delivered	Nil	Nil	Nil
TOTAL	54	70	51

Data Collection

State Water introduced a new complaints handling system on 1 September 2006. Complaints can also be registered via three other mechanisms. They are:

- Customer Service Manager files, where direct correspondence or calls are received from complainants and recorded on local office files;
- The billing system "Proclaim", where complaints and actions are captured from phone calls to the 1800 Billing Hotline or letters received with payments; and
- Letters to Members of Parliament.

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Although employees and customers now have the option of formally recording the nature of a concern or issue on an official complaints form via the website, only two complaints were registered using the new forms, with customers preferring to outline their concerns in a formal letter.

During the reporting year, one complaint was received direct to Head Office, four via Concerns Forms to Local Offices and 35 complaints were raised by letter with members of parliament or the Minister for Water. The Billing Enquiries Hotline received an average of 690 calls per month in 2007/08, but only registered 11 formal complaints into the Billing System "Proclaim", with the majority of customers' enquiries being resolved within the timeframe of the phone call.

State Water endeavours to resolve any problems as quickly as possible at the local level. Customer Service Officers in regional offices are encouraged to work with customers directly to resolve concerns. State Water addresses those which cannot be resolved between the customer and local officers on a priority basis. State Water responds to all complaints raised through the Minister's office within four weeks of the notification. Most local complaints are also resolved in less than four weeks.

Analysis of Results

With the introduction of a formal recording system for complaints and the associated raising of employee awareness of appropriate complaint handling procedures in 2006, a continued increase in the total number of complaints was expected in 2007/08.

However, in light of the total number of individual customers (around 10,000 regulated licences and 7,000 groundwater meters read under contract for DWE), the number of individual customer transactions (comprising almost 60,000 water orders and a record high of 6,076 temporary water transfers), State Water believes that the small number of complaints demonstrates the high level of service delivery in 2007/08.

It should also be noted that complaints received were seldom reflective of State Water's performance, especially where they involved a misunderstanding of State Water's operational framework under the terms of the operating licence, or a request for preferential treatment contrary to those terms. A significant portion of complaints involved concerns about the impact on job security and/or operations resulting from the organisational restructure scheduled for 1 July 2008.

System Improvements

An itemised list of complaints as well as their current status and the manner in which they were resolved is provided to the State Water Executive team twice a year, most recently January 2008. This ensures that management is aware of the nature of any ongoing complaints and is able to identify opportunities for system improvements.

In 2007/08, planning continued for a more co-ordinated system of handling customer complaints and queries, including plans for a designated call centre and an online capacity for accounts management, as part of the restructure process.

While existing face-to-face interaction at regional offices will continue, plans were finalised for a Customer Information Services Unit, which will incorporate a designated Customer Information Centre to better log, address and analyse customers' complaints as well as assisting with inquiries. The Customer Information Services Unit concept is designed to provide a seamless, co-ordinated response to customer complaints, to

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enhance information flow to customers and to free up frontline personnel for core services such as water metering and monitoring.

Planning for the implementation of the Internet Water Accounts System (iWAS) also proceeded in 2007/08. Once operational, IWAS will allow customers to access personal account information online and place orders.

External Dispute Resolution Scheme

Clause 5.2.1 of the Operating Licence requires State Water to have in place by no later than 1 September 2005 a Dispute Resolution Scheme (Scheme) or be a member of an industry based dispute resolution scheme, to resolve disputes between State Water and its customers. In fulfilment of this requirement, State Water became a member of the industry based scheme, Electricity and Water Ombudsman (EWON), from 1 January 2006.

As required under Clause 5.2.2, the Scheme does not require the Minister's approval as it is industry based. EWON's processes also comply with Clauses 5.2.3, 5.2.4 and 5.2.5 of the Operating Licence, which specify the nature of disputes required to be addressed by the Scheme, the need for the Scheme to be in accordance with the relevant Australian Standard and the essential features of the scheme.

Clause 5.2.6 of the Operating Licence requires State Water to prepare a pamphlet that explains how the Scheme operates and how it can be accessed and make this pamphlet available to the public. State Water has included these matters in the pamphlet it is developing on Customer Concerns. The pamphlet is on State Water's website and includes a link to EWON. In 2006/07, all the Customer Service Committees were presented with an overview of the new complaints handling system and EWON, and were provided with copies of the pamphlet.

Clause 5.2.7 indicates State Water's requirement to report to IPART on its Dispute Resolution Scheme, as follows:

"State Water must report to IPART by no later than 1 September each year, for the preceding financial year, on the Scheme based on information available to State Water and information reasonably obtained from the Dispute Resolution Body. Where considered appropriate by State Water and the Dispute Resolution Body, confidentiality arrangements are to be made so as not to disclose the Customer's identity in such reports. The report must take into account any issues raised by the Dispute Resolution Body and must contain the following information:

- (a) the number and types of Complaints received by the Dispute Resolution Body, classified in accordance with the Dispute Resolution Body's reporting arrangements;*
- (b) information on any determinations made by the Dispute Resolution Body; and*
- (c) any other relevant information required by IPART to be included in the report."*

Seven matters were raised with EWON during the reporting year. Five matters related to the EWON category "retail matters" and the remaining two fell under the EWON category "distribution matters. All matters were resolved and no determinations were made by EWON in relation to issues raised in relation to State Water in 2007-08.

Of the five retail matters, two were enquiries only, one was referred to a higher level before being closed, one matter became a level two investigation and one was a level three investigation.

The two matters categorised as distribution matters were enquiries.

Complaints to Other Bodies

State Water is required to report to IPART regarding complaints against State Water to a court or Tribunal under Clause 5.3.1 of the Operating Licence, as follows:

“State Water must report to IPART by no later than 1 September each year, for the preceding financial year, on Complaints made against State Water to a court or tribunal such as the Consumer Trader and Tenancy Tribunal (based on information reasonably obtained from these bodies and State Water itself as a party to the Complaint), and the report to IPART shall contain the following information:

- (a) the number and types of Complaints received by such other bodies;*
- (b) the outcome of the Complaints;*
- (c) how the Complaints were resolved;*
- (d) any problems of a systemic nature arising from the Complaints; and*
- (e) any other relevant information required by IPART to be included in the report.”*

In addition, State Water is required to report to IPART regarding complaints against State Water to a court or Tribunal under Clause 5.3.2 of the Operating Licence, as follows:

“State Water must report to IPART by no later than 1 September each year, for the preceding financial year, on any civil actions against State Water to a court (based on information available from the courts and State Water itself as a party to the civil action) where the civil action claims loss, damage or other relief arising from a Complaint against State Water, and the report to IPART shall contain the following information:

- (a) the number and types of civil actions commenced;*
- (b) the outcome of the civil actions;*
- (c) how the civil actions were resolved;*
- (d) any problems of a systemic nature arising from the civil actions; and*
- (e) any other relevant information required by IPART to be included in the report.”*

State Water is not aware of any complaints made under Clauses 5.3.1 or 5.3.2 of the Operating Licence.

WATER METERING

Under Clause 7.4.1 of the Operating Licence, State Water must report to IPART by no later than 1 September each year on what action it has undertaken over the preceding financial year to address the issue of metering accuracy.

In 2006/07, as a result of State Water's interactions with DWE regarding the enforcement of metering standards, it became evident that State Water's roles and responsibilities with respect to metering were unclear. Specifically, neither the 2005-2008 Operating Licence nor other legislative instruments gave State Water the express function of meter reading. Without this function, State Water's interests or obligations to ensure metering accuracy are undefined. Furthermore, the conditions upon works approvals for water metering are currently inadequate for the enforcement of accurate measurement of water extraction.

In 2007/08, State Water sought clarification from IPART regarding metering responsibilities in its submission to IPART's End of Term Operating Licence Review. State Water's new Operating Licence now states that State Water must read meters. It also requires State Water to audit the compliance of meters against the metering standard adopted by the Commonwealth, which according to the current Works Approvals condition, is the manufacturer's specifications.

State Water is seeking action by DWE to resolve the inadequacy in works approvals conditions, however State Water recognises that this situation is unlikely to be resolved until the National Metering Standards have been finalised.

Recognising the increasing importance of metering accuracy, and the limitations posed by the current arrangements, in 2007/08, State Water sought funding from the Commonwealth under the "Water for the Future" priority projects to upgrade the regulated river water meter system through the installation of StateWater owned meters. The Commonwealth has committed in principle to the metering project, subject to the completion of a due diligence assessment which will be undertaken later in 2008/09. The newly installed meters will be compliant with the new national standards, be of a type which is tamper resistant, reliable, and low maintenance. The meters will be connected to a telemetry network for "real-time" monitoring of the meter and its use. State Water anticipates that this project may also require further changes to the Works Approvals conditions.

Metering Audits

State Water and DWE established the NSW Water Extraction Monitoring Standards (NSW Standards) in November 2005. However, these standards are not enforceable with the current DWE conditions on Work Approvals. As a result, audits against the NSW standards were discontinued in 2007/08. However, customer service officers inspected all meters during 2007/08 in order to take meter readings and ensure meters were operational and had not been tampered with.

Action taken on Audit Findings

Given the lack of enforceability of the metering standards, very limited action was undertaken on metering standards in 2007/08. However, during 2007/08, a formal notice was issued to customers in the Murray system to replace their meter to remove operational irregularities.

Metering Standards

The development of national metering standards under the National Water Initiative continues under the direction of the National Water Commission. State Water understands that the first stage of establishing the metrological requirements to be applied by the National Measurement Institute has been completed. State Water understands that the second stage relating to the establishment of an Australian Technical Specification will be completed in 2008. DWE will then need to take the necessary action to ensure the standards are enforceable.

Performance Measures

Clause 7.4.2 of the Operating Licence requires State Water to submit for IPART's approval, by no later than 31 March 2006, proposed performance measures with respect to State's Water's performance for ensuring metering accuracy and to comply with these measures once approved. Clause 7.4.3 requires State Water to maintain record systems that are sufficient to enable it to measure accurately its performance against the approved performance measures.

In April 2006, State Water submitted to IPART a number of measures with respect to its performance in ensuring metering accuracy. IPART has discussed with State Water the need for more detailed measures, performance indicators and targets. However, at the current stage of development of national standards, it is not possible for State Water to establish these measures. That is, targets for closing the gap between the accuracy of existing sites and those required by national standards cannot be set until the national standards are finalised and the size of the gap can be measured.

Notwithstanding these current problems, in 2007/08 State Water suggested to IPART that the new Operating Licence should contain some additional performance indicators to reflect State Water's metering responsibilities. As a result, the 2008-2013 Operating Licence includes the following new performance indicators:

- Number of water supply works audited for compliance with metering conditions and the proportion of those works that comply with metering conditions; and
- Number of "alleged breach reports" forward to DWE.

State Water will begin reporting on these indicators in the 2008/09 Operating Licence report.

Clause 7.4.4 sets out State Water's requirement to report to IPART, as follows:

"State Water must report to IPART and the Minister, by no later than 1 September each year on its performance against the performance measures approved under clause 7.4.2 for the preceding financial year, including analysis of any systemic problems."

As outlined above, IPART has not been able to approve metering performance measures for State Water and the national standards remain under development.

Water Balances

Clause 7.5.1 sets out the requirements regarding the preparation of water balances, as follows:

"State Water must prepare by no later than 1 September each year, annual water balances in the form of the template at Table 5-1 of the final report by Sinclair Knight Merz "State Water Operating Licence – Water Balance Template" dated 30 March 2005 and in accordance with that report. "

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The usage figures required to finalise water balances for the previous financial year by 1 September are difficult to obtain due to the following factors:

- The time required to undertake meter readings;
- There is a reliance on power supply distributors to supply electricity readings for pumping stations so that run times and hence flow volumes can be calculated; and
- There is no direct correlation between water use readings and licences.

State Water has finalised the 2007/08 water balances for the Lachlan and Macquarie Rivers. As suggested in the Audit Report of State Water's compliance with the requirements of the Operating Licence in 2005/06, State Water has also included draft 2007/08 water balances for the remaining valleys, as an appendix to this report. The Paterson River Water Balance is the first to be undertaken, as the Water Sharing Plan for this valley commenced in 2007/08.

The appendix also contains final water balances for 2006/07. The final balances will be included in the 1 September 2009 Report.

All water balances have been published on the website as required by the Operating Licence.

Fish River Water Balance

Clause 7.6.1 sets out the requirements water balances for the Fish River Scheme:

"In relation to the Fish River Scheme, State Water must:

- (a) prepare by no later than 1 September each year, an annual water balance for the Fish River Scheme in the form of the template at Table 4-2 of the final report by Sinclair Knight Merz "Outcomes of consultation on performance standards and indicators for the Fish River Water Supply Scheme" dated 11 March 2005 and in accordance with that report;..."*

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 Fish River Water Supply Scheme – Water Balance for 2007/08

Water Balance Component	Source of Water		Distribution of Water		
	Volume (ML)	%	Volume (ML)	%	% metered
Storage Volume					
Volume at 1 July 2007	7,928				
Volume at 30 June 2008	6,786				
Change in Storage	(1,142)	13.7%			100%
Inflows					
Oberon Dam	7,193				100%
Duckmaloi Weir	0				100%
Subtotal	7,193	86.3%			100%
Supply					
Delta Electricity			4,367	52.4	100%
Sydney Catchment Authority			1,077	12.9	100%
Lithgow City Council			747	9.0	100%
Oberon Council			601	7.2	100%
Minor Consumers			150	1.8	100%
Sub total			6,942	83.3%	100%
Losses					
Storage net Evaporation			812	9.7%	100%
Piped Unaccounted for Water			420	5.0%	100%
Sub total			1,232	14.8%	100%
Out Flows					
Oberon Spills			0		100%
Riparian Releases			161	1.9%	100%
Sub total			161	1.9%	100%
TOTAL	8,335	100%	8,335	100%	100%

Environment Management Plan

Clause 8.1.1 of the Operating Licence requires State Water to produce a five-year environment management plan (EMP) by 1 November 2005. State Water finalised its inaugural EMP in April 2006 after a period of public exhibition and incorporation of comments from stakeholder groups including key environmental regulators, Catchment Management Authorities, irrigator groups and environmental non-government organisations such as World Wildlife Fund and Inland Rivers Network. A final version of the EMP was submitted to IPART on the 2 May 2006. The EMP covers all of State Water's operations (including the Fish River Scheme).

In accordance with Clause 8.1.2 of the Operating Licence, the EMP: includes details of State Water's program for addressing its environmental impacts and achieving environmental improvements as per the specific requirements under this clause; adopts Ecologically Sustainable Development principles; is integrated into State Water's business plans; includes indicators to measure the environmental impact of State Water's Asset operations and maintenance; and incorporate environmental improvement targets and timetables for State Water to achieve those targets over the term of the EMP.

The revised EMP (2006-2011), which arose from the 12-month review undertaken in line with Clause 8.13, came into effect from 1 July 2007. State Water's environmental performance with the revised EMP is outlined below.

Clause 8.1.5 of the Operating Licence sets out the requirements for reporting to IPART on the EMP and other environmental requirements, as follows:

"State Water must, by no later than 1 September each year, or an alternative later date specified by IPART, for the preceding financial year, report to IPART on its environmental performance including its performance against or compliance with:

- (a) its EMP;*
- (b) any environmental provisions of each Water Management Plan and the State Water Management Outcomes Plan issued under the Water Management Act 2000 where applicable to State Water;*
- (c) any environmental regulatory requirements applicable to State Water, including those under the water management work approval(s) issued under the Water Management Act 2000 and the Fisheries Management Act 1994; and*
- (d) the environmental provisions of any MoUs referred to in clause 2.3 including any performance standards and indicators established under these MoUs."*

State Water's environmental performance on each of the above elements is outlined below.

a. EMP

The purpose of the Monitoring, Evaluation and Reporting Framework stated in s5 of the EMP is to assist the management, tracking and subsequent reporting of activities under the EMP. As this framework was not established for the commencement of the inaugural EMP, it has in itself become a deliverable of the EMP which State Water is to develop.

The 2006/07 draft framework document was revisited in 2007/08 with the aim of integrating auditing into the proposed process and finetuning the layout of the existing Valley Specific Implementation Plans (Action Plans) to better support the framework's reporting processes. In anticipation of the potential roles and responsibilities changes that would come from the new organisational requirements, it was decided that the framework drafting would be carried over to 2008/09 so it could be finalised in its

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entirety when these arrangements had been confirmed. Until the framework document is established, annual reporting will occur as it has to date.

The Heritage Capacity Building Project was instigated in 2007/08 to develop directions and priorities for a 3-year heritage program. This program will encapsulate the strategies and targets for Objective 9 of the program and provides a staged approach to advancing State Water's capacity in heritage management and compliance.

Another initiative significant in terms of enhancing State Water's environmental management processes is the development of environmental assessment procedures. By the end of 2007/08 the procedures had reached a draft stage ready for testing against a range of project scenarios. The initiative also includes the development of targeted training modules and the integration of the procedures with State Water's Project Management System. Staff will be trained in their environmental assessment responsibilities and application of the procedures in 2008/09.

While this formalised system of procedures undergoes development and testing, State Water has an interim system in place to maximise compliance with relevant environmental legislation.

Performance relative to EMP targets is shown in the schedule on the following page.

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EMP Target	Achievement
Meet the flow, timing and channel capacity targets set by WSPs – Objective 1	Ongoing. State Water endeavours to meet the targets set by the WSPs and believes that it does this successfully. However, until DWE completes the WSP Implementation Manuals, State Water's compliance with these requirements cannot be measured. The works approval conditions that reflect the requirements of the WSPs have been undergoing drafting by DWE across 2007/08, in consultation with State Water.
Provide timely information and knowledge to Environmental Flow Reference Groups – Objective 1	Ongoing. During 2007/08, State Water provided expert knowledge to EFRGs established under the Water Sharing Plans, including the Macquarie and Lachlan EFRGs and the Gwydir ECA Operational Advisory Committee.
Have an effective storage water quality monitoring system – Objective 2	<p>In 2007/08, State Water continued to monitor storages and undertook further documentation of the components of the program as part of identifying program needs. At the end of 2007/08, DWE confirmed their intention to include temperature monitoring in the works approvals in line with the directions of the NSW Cold Water Pollution Strategy.</p> <p>With the water quality directions of the works approvals confirmed, State Water is now in a sound position to confirm regulatory requirements for water quality monitoring. State Water will seek to employ a brief internal review to determine what monitoring activities inherited from predecessor organisations need to be retained, revised or made redundant.</p>
To produce a State of the Storages report by 2008 – Objective 2	<p>State Water has engaged a water quality monitoring and reporting consultancy firm to statistically analyse and report on the water quality data for our major storages. The data provided for this exercise encompassed the period from the commencement of State Water (1 July 2004), and also drew on data from 2000 to provide a longer record of data. An internal workshop was held with key policy, communications, water delivery and operational stakeholders select a reporting style which would be technically sound and accessible to a broad range of report users, including our customers.</p> <p>The report will be finalised early in 2008/09 and made available on the internet.</p>

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EMP Target	Achievement
Develop a 10-year valley specific fish passage program by June 2008 – Objective 4	A draft fish passage program for the next 10 years has been developed in conjunction with DPI. This program outlines State Water works program, key priority sites, potential partnership opportunities with other stakeholders as well as operational measures to improve fish passage at State Water structures. Consultation will occur with Customer Service Committees before the program is finalised.
To complete Environmental Assessment Procedures and conduct staff straining by June 2008- Objective 5	A set of integrated Environmental Assessment Procedures for State Water has been drafted and pre-tested in 2007/08, with a view to finalising by the end of 2008. Targeted staff training will be delivered in 2008/09 and aligned to the new organisational structure.
Adopt a revised Energy Management Plan – Objective 6	State Water's Energy Management Plan which meets the Government Energy Management Policy is in place.
Benchmark current energy consumption – Objective 6	<p>State Water commenced energy benchmarking in 2006/07.</p> <p>In 2007/08, State Water audited its offices with the highest levels of energy consumption: Fish River, Dubbo and Parramatta offices. State Water has applied for a grant to implement the recommendations of the audit.</p> <p>State Water provides information on energy usage (green energy, petrol, diesel and electricity) via the OSCAR system to Australian Greenhouse Office.</p>
Develop a WRAPP Plan for State Water – Objective 7	The WRAPP Plan was endorsed by Management Team in July 2007.
Establish a waste paper reduction program – Objective 7	The waste paper reduction program was included in the WRAPP approved in July 2007.

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EMP Target	Achievement
Commence implementation of TRIM – Objective 7	State Water has commenced the implementation of TRIM. The implementation of hard copy records management system was completed in 2006/07. The next phase involves implementation of electronic records management system however progress on this during 2007/08 was limited as electronic access to TRIM was not accessible by State Water offices via the former DNR IT network. This problem is expected to be overcome in 2008/09, as State Water has now migrated all sites to the new State Water network.
Audit and cleanup storage yards – Objective 7	Commenced and ongoing. Storage yard management to be incorporated into Area Implementation Plans. Currently working to combine OH&S and environmental audits for depot sites, as part of the Monitoring and Evaluation Framework.
Develop a Pesticide Use Notification Plan – Objective 8	Completed. The Plan was finalised in accordance with the requirements of the Pesticides Regulation 1995 and is available on State Water's intranet and internet sites.

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EMP Target	Achievement
<p>Development of an Integrated Land Management Program – Objective 8</p>	<p>Time specific targets were removed from the EMP as a result of the 12 month review to allow adequate planning and flexibility for the foreshore objective (Objective 8).</p> <p>State Water has budgeted for the development of the foreshore management plans for those lands which State Water manages in 2008/09 and 2009/10.</p> <p>State Water does not currently own the storage foreshores. In 2007/08, State Water undertook a review of the relating to the ownership and management of the foreshores to determine whether there may be a business case for these lands to be vested in State Water. State Water is currently considering the recommendations of the review.</p> <p>During 2007/08, foreshores under State Water management were leased at Lostock, Glennies Creek, Glenbawn, Keepit, Split Rock and Chaffey Dams. State Water included in all leases a requirement for the lessees to put in place a property management plan which details the lessees' commitment to funding activities under that plan, such as maintaining ground cover to prevent erosion, maintenance of infrastructure such as fencing, controlling noxious weeds and feral animals, fire control programs and compliance with any native vegetation requirements.</p> <p>State Water has also contracted an independent agent to ensure that lessees are meeting their commitments. All dams have had a least one report undertaken by the agent with follow-up action required in some cases.</p>
<p>Develop a Cultural Heritage Strategy and Policy – Objective 9</p>	<p>The 3 year heritage program initiative outlined above includes a recommended pathway for developing the strategy and policy.</p>
<p>Discuss our operations and potential projects with CMAs – Objective 11</p>	<p>CMA liaison occurs on an issues basis at the local level.</p>

b. Provisions of each Water Management Plan and State Water Management Outcomes Plan**Provisions of Water Management Plans**

Water Management Plans are now referred to as Water Sharing Plans (WSPs). DWE, with State Water's assistance, is currently developing conditions for the Water Supply Works Approvals which will include the criteria for compliance with the environmental provisions of the WSPs. So far, only the Namoi Works Approval has been completed, in July 2008. It is therefore only possible to provide a provisional assessment of compliance, pending the finalisation of these Approvals. During 2007/08, there were no material breaches of the environmental provisions of the WSPs.

It should be noted that as a result of the ongoing drought, the suspensions of the Murray, Murrumbidgee, Lachlan, Macquarie and Hunter WSPs were still in place in 2007/08. State Water operated these valleys in compliance with the drought management plan instructions of DWE.

State Water Management Outcomes Plan

The *Water Management Act 2000* provides for the establishment of the State Water Management Outcomes Plan (SWOMP). The SWOMP sets out the over-arching policy context, targets and strategic outcomes for the development, conservation, management and control of water resources in NSW. The targets in the SWOMP are State-wide targets for all NSW agencies.

It should be noted that under s6(6) of the *Water Management Act 2000*, a SWOMP "has effect for the period of 5 years commencing on the date on which it is published in the Gazette". The date of publication in the Gazette was 20 December 2002 and the SWOMP lapsed on 20 December 2007. Future reporting by State Water under this Operating Licence requirement will depend on whether the Government chooses to issue a new SWOMP.

The environmental provisions of the SWOMP relevant to State Water are Targets 23, 23a, 23b, 23c and 26, 26a, 26b. In regard to Targets 23, 23a, 23b, 23c State Water is just one of the NSW state owned corporations and agencies involved in meeting these targets.

State Water's performance in 2007/08 relative to these targets is outlined in the following schedule.

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SWMOP Targets	State Water activities undertaken in 2007/08 contributing to these targets
Target 23 – Review licensed weirs and prepare a priority listing	State Water has continued to work with DPI through the MoU process to develop a prioritisation tool which will aid the identification of priority structures within each valley. During 2007/08, State Water commenced the development of valley specific fish passage programs to improve strategic planning. The priority listing of State Water weirs is a key information tool for the development of these programs.
Target 23a – Ensure no net increase in the number or total capacity of weirs	State Water has not increased the capacity of its weirs or built any new structures during 2007-08.
Target 23b – Remove at least 10 or structurally modify 15 priority weirs	<p>Since the introduction of the SWMOP, State Water has installed 8 fishways on State Water Structures (Warren Weir, Gunningbar Weir, Duck Creek Regulator, Crooked Creek Regulator, Bumbergan Weir, Balranald Weir, Island Creek and Colligen Creek).</p> <p>State Water is continuing to work with DPI to develop fish passage requirements as part of the dam safety upgrade program. The potential for a fish lift at Keepit Dam was investigated during 2007/08. Both parties agreed the likely costs of constructing a fish lift at Keepit is not cost-effective at this time. As outlined under the DPI MoU section, trade-off opportunities are now being investigated at downstream weirs to offset the works as part of both the Keepit Dam and proposed Split Rock Dam upgrades.</p> <p>As indicated in the DPI MoU section, State Water and DPI have been working closely under the “Bring Back the Fish Program” to investigate the potential removal of three unregulated weirs on the north coast. Once the appropriate environmental approvals have been gained, it is proposed to remove these weirs during 2008/09.</p> <p>During 2007/08, State Water has developed a Total Asset Management Plan (TAMP) for the unregulated structured which have come under State Water’s control via the Transfer Vesting Order. This TAMP has identified those structures which have potential to be removed, those that will be maintained and those which may require fish passage works. This information will form the basis for the coming 5 year works program associated with these structures, subject to State Water receiving Community Service Obligation funding for the program.</p>

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SWMOP Targets	State Water activities undertaken in 2007/08 contributing to these targets
	<p>As part of the Commonwealth and NSW Government funded NSW Rivers Environmental Restoration Program (RERP), State Water is responsible for implementing activities under the sub-program "Better Delivery of Environmental Water". One of the key activities being undertaken as part of this program is the provision of fish passage at a priority location. Marebone Weir has been chosen as the RERP site for fish passage provision during this 3 year program. RERP will also fund the investigation into the need for fishways and preferred designs for fishway installation at 4 weirs in the lower Gwydir adjacent to the Gwydir wetlands.</p> <p>State Water has an extensive involvement in the Yanco Creek Water For Rivers project and as part of that project a whole of system weirs review is being completed. It is expected that multiple weirs will be nominated for removal in consultation with landholders, as well as reinstating more natural wetting patterns to wetlands adjacent to the main stream channel. The establishment of a fish passage strategy is incorporated in the review.</p>
Target 23c – Establish improved weir operational protocols	<p>During 2007/08 State Water continued discussions with DPI regarding the potential to vary weir pool levels as part of operational improvements within the fish passage programs. State Water will proceed with discussions involving key environmental regulators, downstream users and stakeholders to further develop this issue, working towards the linked State Water EMP Target.</p>
Target 26 – Mitigation of Cold Water Pollution	<p>State Water continues to be a key participant in the Cold Water Pollution Inter-Agency Group (IGA) established to implement the NSW Cold Water Pollution Strategy.</p> <p>In 2007/08, State Water worked with the IGA to develop appropriate cold water pollution management conditions which will form part of the Water Supply Works Approvals for bulk water suppliers for those dams that can actively manage releases to optimise temperature under the <i>Water Management Act 2000</i>. The bulk water suppliers include State Water, Snowy Hydro, Sydney Catchment Authority and Council-owned dams.</p> <p>State Water also developed a proposal for Community Service Obligation funding for cold water pollution investigations. The IAG endorsed State Water's submission. However the project did not receive funding approval in the 2008/09 State Budget.</p>

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SWMOP Targets	State Water activities undertaken in 2007/08 contributing to these targets
Target 26a – Structural Modifications of 2 priority dams	As outlined above, progress continues on Cold Water Pollution (CWP) mitigation options as part of the Keepit and Burrendong Dam Safety Upgrade Programs. State Water is also developing a cold water pollution program, outlining investigative requirements into CWP mitigation measures at Wyangala, Copeton and Blowering dams. As a result of the government choosing not to provide State Water with CSO funding for this activity, State Water’s future ability to undertake cold water pollution investigations will be limited
Target 26b – Improved protocols for dams with existing temperature management infrastructure	During 2007/08, State Water continued to review the draft operating protocols for the seven State Water dams which have the capability to selectively withdraw water from the water column – Brogo Dam, Chaffey Dam, Glennies Creek Dam, Glenbawn Dam, Pindari Dam, Split Rock and Windamere Dam. The aim of the review is to standardise the protocols and to ensure operational requirements are streamlined. The development and implementation of the protocols for Split Rock are now included as a requirement of the Namoi Works Approval. This requirement will be included in the other valley Works Approvals as they are developed.

c. Regulatory Requirements

Item 8.1.5(c) mirrors Target 26c of the SWMOP - Environmental regulatory requirements under water management works approvals under the Water Management Act 2000 and the Fisheries Management Act 1994.

State Water is implementing a corporate wide compliance system. This system will identify all environmental laws and obligations affecting State Water's activities, as well as other legal and regulatory requirements. The system will ensure all State Water staff are aware of the relevant environmental obligations and therefore reduce the risk of non-compliance. The system will also ensure that any breaches are identified, reported to senior management or the Board and responded to. Progress on the compliance register in 2007/08 involved development of a database of obligations, identification of accountabilities for each obligation and procedures for ensuring compliance. This database will be loaded into a web-based system which will be accessible throughout the organisation during 2008/09.

As mentioned earlier, during 2007/08 State Water further developed the Environmental Assessment Framework into a set of Environmental Assessment Procedures. The procedures are aiming to capture the required processes, consultation and approvals for all State Water activities under state and commonwealth environmental legislation, which will be referred to in the compliance register.

State Water has assessed, gained the relevant approvals and adhered to the principles of the *Environmental Planning and Assessment Act 1979*, *Threatened Species Act 1995*, *River and Foreshores Improvement Act 1948*, *Native Vegetation Act 2003* and the *Heritage Act 1977*. State Water has also been working closely with DPI to obtain concurrences and approvals under the *Fisheries Management Act 1994* for proposals which have involved in-river works. Projects for which State Water has obtained, and adhered to the relevant environmental assessment and approval processes for during 2007/08 include:

- Tyreel Regulator Offtake desilting
- Snag removal in Merrimajeel Creek
- Lake Cargelligo Willow removal and Burning
- Mollee Weir downstream concrete and stone works
- Lake Brewster Weir conduit and trashrack cleaning
- Gogeldrie Weir Refurbishment
- Lake Brewster Inlet channel block bank
- Gundare regulator gate cleaning and painting
- Brogo Dam spillway downstream rock works
- Lock 10 Refurbishment
- Installation of temporary aquadam at Columbo / Yanco Creek
- Removal of Gulph Weir
- North Marsh Bypass Channel
- Lake Brewster Efficiency and Water Quality Project

During 2007/08, State Water had not yet been granted any water management works approvals under the *Water Management Act 2000*. State Water is currently working with DWE to develop the approval conditions.

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d. Environmental provisions of the MoU including any performance standards and indicators

Performance against and compliance with the environmental provisions of the MoU with DPI is covered in the first section of this report.

In addition, under the Service Level Agreement between DPI and State Water, DPI provides an Annual Report to State Water advising statistics on key performance indicators (KPIs) aimed at determining the extent of positive environmental impacts associated with State Water's works. The Annual Report includes a report on the following KPIs:

Total number of km's (upstream and downstream) opened to the free passage of native fish

Project/Activity/Site	Kilometres
Warren Weir fishway, Guningbar fishway, Duck and Crooked Creek fishways	403
Bumbuggan Weir fishway	107
Island Creek Fishway	231
Colligen Creek Fishway	157
TOTAL	741

Area of aquatic habitat managed for protection during State Water works in accordance with the *Fisheries Management Act 1994*

Project and activity/site	Hectares
Tyreel Weir Desilting	1
Mollee Weir rock protection	1
Merrimajeel Creek tree removal	3
Lake Cargellico Willow Removal	2
Colligen Creek Regulator construction	1
Hume Dam Stilling Bay works	1
Gundare Gate Painting and Maintenance	1
Lake Cargellico Emergency Water diversion works	3
Yanco Weir dewatering and refurbishment	1
Taranabah weir temporary works	1
Lock 10 refurbishment	1
Brogo Dam spillway reconfiguration	1
North Marsh Bypass channel levee	5
TOTAL	22

To monitor the fish passage performance indicator DPI monitors the movement of fish through seven fishways that were constructed during the past five years. The State Water Fishway Monitoring Program is designed to audit the success of these seven fishways. Confirmation of the successful migration of small and large native fish through the various fishways addresses several key performance indicators of State Water's Environmental Management Plan.

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The vertical slot fishways at Warren Weir and Gunningbar Creek regulator and innovative rock ramp fishways at Duck and Crooked Creek regulators have proven to be effective for the migration of native fish and these sites will be monitored again in 2010/11. Likewise, the vertical slot fishway at Bumbergan Creek has been successful in facilitating the migration of native fish and will be monitored again in 2009/10.

The new Island Creek Fishway was commissioned in 2006/07. However due to persistent drought conditions in the Lachlan Valley, the fishway was not monitored in 2007/08. Initial monitoring to confirm the performance of this fishway will occur in 2008/09.

The Colligen Creek Fishway was completed in 2007/08. However due to drought conditions the fishway was not operational and therefore the performance monitoring will commence in 2008/09. The monitoring of this site will incorporate "PIT tagging" technology whereby native fish are tagged with microchips. This allows the movements of the tagged fish through the Colligen Creek fishway to be recorded, effectively allowing for 24 hour/7day a week monitoring.

Performance Indicators

Section 9 of the Operating Licence indicates State Water's requirements relating to performance indicators. These indicators are listed in Schedule 1 of the Licence.

Clause 9.1 requires State Water to maintain record systems that are sufficient to enable it to measure and accurately report against the performance indicators in Schedule 1.

Clause 9.2 sets out State Water's reporting obligations, as follows:

"State Water must report to IPART, by no later than 1 September each year on its performance against the performance indicators in Schedule 1 for the preceding financial year, including analysis of any systemic problems."

Clause 9.3 requires State Water, as part of its report, to:

"provide IPART with physical and electronic access to the records kept by State Water that enable it to prepare the report under Clause 9.2."

State Water will provide access to all records on request. Electronic access cannot be provided remotely for security reasons.

State Water Indicators (excluding Fish River Scheme Indicators)

The performance indicators for State Water (excluding Fish River Scheme Indicators) relate to Water Delivery and Policing Functions.

Under Clause 9.1, State Water must maintain record systems sufficient to enable it to measure accurately its performance against the performance indicators set out in Schedule 1 of the Operating Licence.

In keeping with Clause 9.3, State Water will provide IPART with physical and electronic access to the records kept by State Water that enable it to prepare the report under clause 9.2.

There are no systemic problems raised by these indicators, other than the processing time for intra-valley transfers. However, the current level of transfer fees does not fully recover the cost of State Water's management of transfers. It is difficult for State Water to increase service levels in this area with the current level of under-recovery.

Fish River Scheme Indicators

The performance indicators for the Fish River Scheme relate to Asset Management, Water Delivery and Water Quality. The performance of the Fish River Water Supply Scheme (FRWS) against these indicators is outlined below.

The following schedules sets out State Water's performance relative to the performance indicators set out in the Operating Licence.

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State Water Indicators (excluding Fish River Scheme Indicators)

Performance Indicator	Achievement
Water Delivery	
<ul style="list-style-type: none"> percentage of Customers contacted within one working day of a non-complying water order being placed. Note: A “non-complying water order” is an order which does not comply with licence conditions or which contains insufficient information for State Water to supply water 	<p>In the Lachlan and Macquarie Valleys, State Water contacted 95% of customers within one working day of a non-complying water order being placed. This information is not collected in other valleys.</p>
<ul style="list-style-type: none"> percentage of complying orders identified as being delivered outside of ± 1 day of the scheduled day of delivery. Note: A “complying water order” is an order which does comply with licence conditions and which contains sufficient information for State Water to supply water and “scheduled day of delivery” is per period of required notice specified in works approvals, licences or entitlements. Further note: State Water is usually only made aware of late deliveries via customer complaints or notification 	<p>As advised in State Water’s last annual report to IPART, State Water relies on customer notifications for this indicator.</p> <p>Customer notifications indicated that only 0.005% of complying orders were delivered outside of 1 day of the scheduled day of delivery.</p>
<ul style="list-style-type: none"> percentage of water orders rescheduled in consultation with Customers within one working day of a known shortage or delivery delay. Note: This indicator should be calculated as a percentage of the total number of water orders rescheduled due to a known shortage or delivery delay 	<p>In the Lachlan and Macquarie Valleys, State Water rescheduled 100% of the total number of water orders rescheduled within one working day of the known water shortage or delivery delay. This information is not collected in other valleys.</p>
<ul style="list-style-type: none"> percentage of time that daily minimum flow targets are met. Note: “Daily minimum flow targets” are those specified in relevant Water Management Plans or by the Minister for Natural Resources or by the Ministerial Corporation 	<p>The daily flow targets were met 96% of the time in 2007/08, up from 91% in 2006/07.</p>

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Performance Indicator	Achievement
<ul style="list-style-type: none"> percentage of complying intra-valley transfers processed within four working days of State Water's receipt of correctly completed application form and fee. Note: "Intra-valley transfer" means the transfer of allocated water from one licence to another licence within a valley and includes transfers under the Water Management Act 2000 and the Water Act 1912. 	<p>There were 1,932 intra-valley transfers in 2007/08. State Water processed 65% of these trades within four working days.</p>
2. Policing Functions	
<ul style="list-style-type: none"> volume of water taken in excess of access licence conditions under the Water Management Act 2000 (ML) and number of licences and licence breaches involved 	<p>The volume of water taken in excess of licence conditions at 30 June 2008 was 7,489ML. This was around 0.7% of 2007/08 diversions. There were 91 licences that had taken in excess of licence conditions during the year ending 30 June 2008.</p>
<ul style="list-style-type: none"> value of penalties imposed by State Water for taking of water in excess of licence conditions under the Water Management Act 2000 or the Water Act 1912 (\$) 	<p>State Water did not impose any monetary penalties in 2007/08.</p>
<ul style="list-style-type: none"> volume of penalties imposed by State Water for taking water in excess of access licence conditions under the Water Management Act 2000 (ML) 	<p>The volume of penalties imposed by State Water in 2007/08 was 314ML.</p>
<ul style="list-style-type: none"> number of licences and entitlements suspended under the Water Management Act 2000 or the Water Act 1912 	<p>There were no licences suspended under these Act by State Water in 2007/08, however 23 licences remained suspended from previous years.</p>
<ul style="list-style-type: none"> number of approvals suspended under the Water Management Act 2000. 	<p>There were no approvals suspended in 2007/08, however 10 approvals remained suspended from previous years.</p>

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Fish River Scheme Indicators

Performance Indicator	Achievement
1. Asset Management	
<ul style="list-style-type: none"> the average response time for unplanned supply interruptions 	<p>The average response time for unplanned supply interruptions in 2007/08 was 1 hour.</p>
<ul style="list-style-type: none"> number of planned water supply interruptions 	<p>There was one planned water supply interruption in 2007/08.</p>
<ul style="list-style-type: none"> number of unplanned water supply interruptions 	<p>Unplanned interruptions occur when supply is interrupted because the pipe lines could not be cross connected. There was one unplanned interruption to supply in 2007/08.</p>
<ul style="list-style-type: none"> average duration of planned water supply interruptions 	<p>The average duration of planned water supply interruptions was 48 hours.</p>
<ul style="list-style-type: none"> average duration of unplanned water supply interruptions. Note: An “unplanned water supply interruption” is an interruption to water supply to a Customer where the Customer has not received at least 24 hours notice of the interruption from State Water. It also includes situations where the duration of a planned interruption exceeds that which was originally notified to the Customer – in which circumstances, the length of the entire interruption is counted as an unplanned supply interruption. A “planned water supply interruption” is an interruption to water supply where the Customer has received at least 24 hours notice of the interruption and the duration of the interruption does not exceed that which was originally notified to the Customer. 	<p>The average duration of unplanned water supply interruptions was 45 hours.</p>

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Performance Indicator	Achievement																																								
<p>2. Water Delivery</p>																																									
<ul style="list-style-type: none"> percentage of time that daily minimum flow targets are met. Note: "Daily minimum flow targets" are those specified in relevant Water Management Plans or by the Minister for Natural Resources or by the Ministerial Corporation or as advised in writing by DIPNR. 	<p>The FRWS scheme does not yet have daily minimum flow targets. These targets are normally established by DWE as part of a Water Sharing Plan. The Fish River does not yet have a Water Sharing Plan and State Water is not aware of any plans by DWE to develop such a plan. In previous reports, State Water has interpreted this requirement as an average riparian release of 1.9 ML per day. In response to the severity of the drought, in 2007/08 State Water sought and received approval from DWE for releases to the Fish River to mimic natural flow release variations. In addition, during 2007/08 the scheme maintained water restrictions, with the approval of with the FRWS Customer Council.</p>																																								
<p>3. Water Quality</p>																																									
<ul style="list-style-type: none"> percentage compliance with Australian Drinking Water Guidelines (2004) at the Fish River Scheme's water sampling locations for e-coli, colour, turbidity, iron, manganese, aluminium and pH. Note: The guideline value for turbidity is to be the value for public health rather than the aesthetic value (i.e. % of samples above 1 Nephelometric Turbidity Unit) and the "Fish River Scheme's water sampling locations" are those identified in the letter from State Water to IPART dated 29 April 2005. 	<p>The following tables detail the results of the sampling undertaken during 2005-06. The results are from Hunter Water Laboratories (NATA Registered). They also include the operational monitoring results. The results for turbidity are an indicator of aesthetic quality. The results for E.Coli are an indicator of health and disinfection.</p> <p style="text-align: center;">Chlorinated Raw Water Quality 2006/07</p> <table border="1" data-bbox="1102 1114 2045 1393"> <thead> <tr> <th>Parameter</th> <th>Criteria passing</th> <th>Target</th> <th>No of Tests</th> <th>% of Tests</th> </tr> </thead> <tbody> <tr> <td>E. Coli</td> <td>0 orgs/100 mL</td> <td>98</td> <td>115</td> <td>100</td> </tr> <tr> <td>Colour</td> <td>15 CU</td> <td>15</td> <td>7</td> <td>28.6</td> </tr> <tr> <td>Turbidity</td> <td>5 NTU</td> <td>5</td> <td>7</td> <td>85.7</td> </tr> <tr> <td>Iron</td> <td>0.3 mg/L</td> <td>0.3</td> <td>7</td> <td>71.4</td> </tr> <tr> <td>Manganese</td> <td>0.1 mg/L</td> <td>0.1</td> <td>7</td> <td>14.3</td> </tr> <tr> <td>Aluminium</td> <td>0.2 mg/L</td> <td>0.2</td> <td>7</td> <td>100</td> </tr> <tr> <td>pH</td> <td>6.5-8.5</td> <td>6.5-8.5</td> <td>7</td> <td>100</td> </tr> </tbody> </table>	Parameter	Criteria passing	Target	No of Tests	% of Tests	E. Coli	0 orgs/100 mL	98	115	100	Colour	15 CU	15	7	28.6	Turbidity	5 NTU	5	7	85.7	Iron	0.3 mg/L	0.3	7	71.4	Manganese	0.1 mg/L	0.1	7	14.3	Aluminium	0.2 mg/L	0.2	7	100	pH	6.5-8.5	6.5-8.5	7	100
Parameter	Criteria passing	Target	No of Tests	% of Tests																																					
E. Coli	0 orgs/100 mL	98	115	100																																					
Colour	15 CU	15	7	28.6																																					
Turbidity	5 NTU	5	7	85.7																																					
Iron	0.3 mg/L	0.3	7	71.4																																					
Manganese	0.1 mg/L	0.1	7	14.3																																					
Aluminium	0.2 mg/L	0.2	7	100																																					
pH	6.5-8.5	6.5-8.5	7	100																																					

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Performance Indicator	Achievement				
	Filtered Water Quality 2007/08				
	Parameter passing	Criteria	Target	No of Tests	% of Tests
	E. Coli	0 orgs/100 mL	98	138	97.8
	Colour	15 CU	15	10	90
	Turbidity	5 NTU	5	10	100
	Iron	0.3 mg/L	0.3	10	100
	Manganese	0.1 mg/L	0.1	10	60
	Aluminium	0.2 mg/L	0.2	10	100
	pH	6.5-8.5	6.5-8.5	100	100



Murray Lower Darling Water Balance 2006-07

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume					
Volume in storage at start of year	1,232,550				
Volume in storage at end of year	481,550				
Change in storage	751,000	40%	-		100%
Storage net evaporation			97,760	5%	100%
Inflows					
Storage inflows	845,765	45%			100%
Downstream tributaries (1)	274,625	15%			100%
Subtotal	1,120,390	60%			100%
Net Water diverted under water rights					
Domestic and stock rights (2)			5,845	0.3%	0%
Native title rights (2)			-	0.0%	0%
Subtotal			5,845	0.3%	0%
Net Water diverted under access licences					
Domestic and stock			12,503	0.7%	100%
High security			92,298	4.9%	100%
General security			429,493	23.0%	100%
Local water utility			24,588	1.3%	100%
Major water utility			-	0.0%	100%
Supplementary water			233	0.0%	100%
Conveyance			-	0.0%	100%
Subtotal			559,115	30%	100%
Environmental water					
Net diversions to wetlands			-	0.0%	100%
End of system flows (3)			716,570	38.3%	100%
Subtotal			716,570	38%	100%
Other outflows			-	0%	100%
Unaccounted difference (4)			492,100	26%	99%
TOTAL	1,871,390	100%	1,871,390	100%	99%

Notes

(1) Downstream tributaries include gauged flows from the Kiewa R (NSW share), Murrumbidgee R and Billabong Ck.

(2) Water rights are not metered. Values presented are estimated from recommended values provided in the Water Sharing Plan.

(3) End of system flow is the NSW share of the flow across the South Australian border after adjustment for water trades.

(4) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows, theft and any measurement errors recording other components.



Murrumbidgee Valley Water Balance 2006-07

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume (1)					
Volume in storage at start of year	1,231,335				
Volume in storage at end of year	738,533				
Change in storage	492,802	32%	-		100%
Storage net evaporation			24,339	2%	100%
Inflows					
Storage inflows	949,563	62%			100%
Downstream tributaries (2)	85,678	6%			100%
Subtotal	1,035,241	68%			100%
Net Water diverted under water rights					
Domestic and stock rights (3)			4,560	0.3%	0%
Native title rights (3)			-	0.0%	0%
Subtotal			4,560	0.3%	0%
Net Water diverted under access licences					
Domestic and stock			32,957	2.2%	100%
High security			239,515	15.7%	100%
General security			357,016	23.4%	100%
Local water utility			16,615	1.1%	100%
Major water utility			-	0.0%	100%
Supplementary water			-	0.0%	100%
Conveyance			274,532	18.0%	100%
Subtotal			920,635	60%	100%
Environmental water					
Net diversions to wetlands			2,105	0.1%	100%
End of system flows (4)			209,653	13.7%	100%
Subtotal			211,758	14%	100%
Other outflows (5)			-	0%	100%
Unaccounted difference (6)			366,751	24%	99%
TOTAL	1,528,043	100%	1,528,043	100%	99%

Notes

(1) Includes Burrinjuck Dam, Blowering Dam, Berembed Weir, Budidgerry Storage, Tombullen Storage, Gogelderie Weir, Hay Weir, Maude Weir, Redbank Weir. Volume varies from 2005/06 closing balance, which only included Burrinjuck and Blowering Dams.

(2) Downstream tributaries include gauged flows from the Goobragandra R, Jugiong Ck, Muttama Ck, Adjunbilly Ck, Adelong Ck, Tarcutta Ck, Kyemba Ck, Billabong Ck and the Finely Escape. Ungauged tributaries were estimated from the increase in mass balance between Burrinjuck Dam and Wagga Wagga.

(3) Water rights are not metered. Values presented are estimated from recommended values provided in the Water Sharing Plan.

(4) End of system flows include Balranald, Darlot and Warriston Weir. This includes 91,200 ML of Inter Valley Transfers

(5) Other outflows are flows to Lowbidgee, excluding those Lowbidgee flows reported under 'Net diversions to wetlands'.

(6) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows, theft and any measurement errors recording other components.



Gwydir Valley Water Balance 2006/07

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume					
Volume in storage at start of year	333,456				
Volume in storage at end of year	148,335				
Change in storage	185,121	67%			100%
Storage net evaporation			9,721	4%	100%
Inflows					
Storage Inflows	53,462	19%			100%
Downstream tributaries	37,508	14%			100%
Subtotal	90,970	33%			100%
Net Water diverted under water rights					
Domestic and stock rights (1)			6,000	2%	0%
Native title rights (1)			-	0%	0%
Subtotal			6,000	2%	0%
Net Water diverted under access licences					
Domestic and stock			1,283	0%	100%
High security			11,240	4%	100%
General security			114,038	41%	100%
Local water utility			2,473	1%	100%
Major water utility			-	0%	100%
Supplementary water			434	0%	100%
Conveyance			-	0%	100%
Subtotal			129,467	47%	100%
Environmental water					
Net diversions to wetlands (2)			38,672	14%	100%
End of system flows (3)			15,025	5%	100%
Subtotal			53,697	19%	100%
Other outflows (4)			11,257	4%	100%
Unaccounted difference (5)			65,949	24%	99%
TOTAL	276,091	100%	276,091	100%	99%

Notes

(1) Water rights are not metered. Values presented are estimated from recommended values provided in the Water Sharing Plan.

(2) Flows measured into the Gingham Wetland and to the Lower Gwydir

(3) End of system flows include the Carole Ck at Galloway and the Mehi R at Collarenebri

(4) Other outflows - stock and domestic replenishments of the Mallowa Ck, Thalaba Ck and Ballinboora Ck

(5) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows, theft and any measurement errors recording other components.

Namoi Valley Water Balance 2006/07

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume (1)					
Volume in storage at start of year	154,862				
Volume in storage at end of year	37,644				
Change in storage	117,218	70%			100%
Storage net evaporation (2)			7,782	5%	100%
Inflows					
Storage Inflows	14,255	9%			100%
Downstream tributaries (3)	34,904	21%			100%
Subtotal	49,159	30%			100%
Net Water diverted under water rights (4)					
Domestic and stock rights			1,936	1%	0%
Native title rights			-	0%	0%
Subtotal			1,936	1%	0%
Net Water diverted under access licences					
Domestic and stock			1,073	1%	100%
High security			380	0%	100%
General security			64,316	38%	100%
Local water utility			789	0%	100%
Major water utility			-	0%	100%
Supplementary water			-	0%	100%
Conveyance			-	0%	100%
Subtotal			66,559	40%	100%
Environmental water					
Net diversions to wetlands			-	0%	0%
End of system flows (5)			7,756	5%	100%
Subtotal			7,756	5%	100%
Other outflows (6)			1,944	1%	100%
Unaccounted difference (3)			80,401	49%	99%
TOTAL	166,377	100%	166,427	100%	99%

Notes

(1) Split Rock Dam, Keepit Dam and Mollee Weir

(2) Includes net evaporation from Split Rock and Keepit Dams

(3) Downstream tributaries include; Peel R, Mooki R, Coxs Ck, Brigalow Ck

(4) Water rights are not metered. Values presented are estimated from recommended values provided in the Water Sharing Plan.

(5) End of system flow - Namoi at Walgett

(6) Other outflows - stock and domestic replenishments of the Pian Ck.

(5) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows, theft and any measurement errors recording other components.



Lachlan Valley Water Balance 2006/07

Water Balance Component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage Volume					
Volume in storage at start of year	269,530				100%
Volume in storage at end of year	131,251				100%
Change in storage	138,279	55%			100%
Storage net evaporation (1)			30,280	12%	100%
Inflows					
Storage inflows	105,213	42%			100%
Downstream tributaries (2)	6,028	2%			100%
Subtotal	111,241	45%			100%
Net water diverted under water rights (3)					
Domestic and stock rights			4,211	2%	0%
Native title rights			0	0%	0%
Subtotal			4,211	2%	0%
Net water diverted under access licences					
Domestic and stock			7,067	3%	100%
High security			12,951	5%	100%
General security			24,699	10%	100%
Local water utility			8,747	4%	100%
Major water utility			0	0%	
Supplementary water			0	0%	
Conveyance			2,457	1%	100%
Subtotal			55,921	22%	100%
Environmental water					
Net diversion to wetlands			0	0%	100%
End of system flows (4)			15,995	6%	100%
Subtotal			15,995	6%	100%
Other Outflows (5)			6,918	3%	100%
Unaccounted difference (6)			136,195	55%	
TOTAL	249,520	100%	249,520	100%	

Notes:

(1) The evaporation figure includes net evaporation loss from Wyangala Dam and Lake Cargelligo. (Lake Brewster remained empty).

(2) Downstream tributaries include Boorowa R and Belubula R. Ungauged tributaries were estimated from the increase in mass balance between Wyangala Dam and Forbes.

(3) Water rights are not metered. Values presented are as specified in Water Sharing Plan.

(4) End of system flows at Booligal, above water orders. Flow at the homestead on Willandra Ck were zero.

(5) Other outflows - Replenishment flow into Booberoi Creek. There was no flow to Willandra Creek below Homestead, Merrowie Ck, Merrimajeel and Muggabah Creeks.

(6) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows and any measurement errors recording other components. This also includes the delivery losses in the regulated section of Willandra Ck.



Macquarie Valley Water Balance 2006/07

Water Balance Component 2006-07	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage Volume					
Volume in storage at start of year	459,873				100%
Volume in storage at end of year	214,758				100%
Change in storage	245,115	59%			100%
Storage net evaporation			26,198	6%	100%
Inflows					
Storage inflows	133,663	32%			100%
Downstream tributaries (1)	39,937	10%			100%
Subtotal	173,600	41%			100%
Net water diverted under water rights (2)					
Domestic and stock rights			1,200	0%	0%
Native title rights			-	0%	0%
Subtotal			1,200	0%	0%
Net water diverted under access licences					
Domestic and stock			2,363	1%	100%
High security			15,526	4%	100%
General security			165,679	40%	100%
Local water utility			16,386	4%	100%
Major water utility			n/a		
Supplementary water			4,792	1%	100%
Conveyance			n/a		
Subtotal			204,745	49%	100%
Environmental water					
Net diversion to wetlands (3)			47,031	11%	100%
End of system flows (4)			2,616	1%	100%
Subtotal			49,647	12%	100%
Other Outflows (5)			7,025	2%	100%
Unaccounted difference (6)			129,900	31%	99%
TOTAL	418,715	100%	418,715	100%	99%

Notes:

(1) Downstream tributaries include the Bell R, Little R and Talbragar R. Ungauged tributaries were estimated from the increase in mass balance between Burrendong Dam and Baroona.

(2) Water rights are not metered. Values presented are estimated from recommended values as specified in the Water Sharing Plan

(3) The net diversion to wetlands include the flows into wetlands due to unregulated tributary flows, operational surplus, floods and rain rejections. This includes a net 8,599ML delivered to the wetlands while targetting the lower Macquarie Stock and Domestic replenishment. This figure also includes 3,481ML delivered into Gum Cowl during June 2007.

(4) End of system flows measured at Miltara

(5) Other outflows - Replenishment flows to Bogan R below Nyngan (600ML), Beleringar Ck downstream of the Albert Priest Channel (1000ML), Marra Ck (1425ML), Reddenville Break (1200ML), lower Bogan R (800ML in Jan 07, 2000ML in June 07).

(6) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows and any measurement errors recording other components.



Hunter Valley Water Balance 2006/07

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume					
Combined volume in storage at start of year	395,528				
Volume in storage at end of year	335,074				
Change in storage	60,454	4%			100%
Storage net evaporation			21,780	1%	100%
Inflows					
Storage Inflows (1)	90,927	6%			100%
Downstream tributaries (2)	1,496,278	91%			100%
Subtotal	1,587,205	96%			
Net Water diverted under basic rights					
Domestic and stock rights (3)			5,515	0%	0%
Native title rights					
Subtotal			5,515	0%	
Net Water diverted under access licences					
Domestic and stock			980	0%	100%
High security			16,013	1%	100%
General security			28,173	2%	100%
Local water utility			6,510	0%	100%
Major utility			35,592	2%	100%
Supplementary water			9,968	1%	100%
Conveyance					
Subtotal			97,236	6%	100%
Environmental water					
Net diversions to wetlands					
End of water source flows			1,518,590	92%	100%
Subtotal			1,518,590	92%	100%
Other outflows					
Unaccounted difference (4)			4,538	0%	99%
TOTAL	1,647,659	100%	1,647,659	100%	99%

Notes

(1) Storage inflows to Glenbawn Dam and Glennies Ck Dam.



North Coast Water Balance 2006/07

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume					
Volume in storage at start of year	10,964				
Volume in storage at end of year	9,359				
Change in storage	1,605	11%			100%
Storage net evaporation			790	6%	100%
Inflows					
Storage Inflows (1)	3,874	27%			100%
Downstream tributaries (2)	8,614	61%			100%
Subtotal	12,488	89%			
Net Water diverted under riparian rights					
Domestic and stock rights (3)			200	1%	0%
Native title rights					
Subtotal			200	1%	
Net Water diverted under access licences					
Domestic and stock					
High security			84	1%	100%
General security			971	7%	100%
Local water utility					
Major utility					
Off allocation					
Conveyance					
Subtotal			1,055	7%	
Environmental water					
Net diversions to wetlands					
End of system flows (4)			unknown		
Subtotal					
Other outflows					
Unaccounted difference (5)			12,048	85%	99%
TOTAL	14,093	100%	14,093	100%	99%

Notes

- (1) Calculated from Toonumbar Dam volume change, plus evaporation and releases, less rainfall.
- (2) Tributaries. Eden Ck inflows were estimated from the increase in mass balance between Toonumbar Dam and Eden Ck.
- (3) Supplied under riparian right and not metered. Values presented are estimated only.
- (4) No gauge at or near end of system.
- (5) Would include end of system flows, instream evaporation, seepage, theft, metering and gauging errors.



South Coast Water Balance 2006/07

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume					
Volume in storage at start of year	6,130				
Volume in storage at end of year	9,842				
Change in storage			3,712	6%	100%
Storage net evaporation			529	1%	100%
Inflows					
Storage Inflows (1)	11,961	20%			100%
Downstream tributaries (2)	46,439	80%			100%
Subtotal	58,400	100%			
Net Water diverted under riparian rights					
Domestic and stock rights (3)			300	0%	0%
Native title rights					
Subtotal			300	0%	
Net Water diverted under access licences					
Domestic and stock					
High security			464	1%	100%
General security			4,312	7%	100%
Local water utility (all high security)					
Major utility					
Off allocation			1,047	2%	100%
Conveyance					
Subtotal			6,423	10%	100%
Environmental water					
Net diversions to wetlands					
End of system flows (4)			unknown		
Subtotal					
Other outflows					
Unaccounted difference (5)			51,148	82%	99%
TOTAL	58,400	100%	62,112	100%	99%

Notes

- (1) Calculated from Brogo Dam volume change, plus evaporation and releases, less rainfall.
- (2) Tributaries includes Bega R. No estimate made of other ungauged tributaries.
- (3) Supplied under riparian right and not metered. Values presented are estimated only.
- (4) No gauge at or near end of system and barrage operates under control conditions.
- (5) Would include end of system flows, instream evaporation, seepage, theft, metering and gauging errors. High because end of system flows not measured.



Border Rivers Water Balance 2006/07

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume (1)					
Volume in storage at start of year	280,296				
Volume in storage at end of year	106,712				
Change in storage	173,584	52%			100%
Storage net evaporation (2)			18,090	5%	100%
Inflows					
Storage Inflows	77,049	23%			100%
Downstream tributaries (3)	80,744	24%			100%
Subtotal	157,793	48%			100%
Net Water diverted under water rights (4)					
Domestic and stock rights			8,000	2%	0%
Native title rights			-	0%	0%
Subtotal			8,000	2%	0%
Net Water diverted under access licences (5)					
Domestic and stock			2,640	1%	100%
High security			-	0%	100%
General security			129,295	51%	100%
Local water utility			-	0%	100%
Major water utility			-	0%	100%
Supplementary water			-	0%	100%
Conveyance			-	0%	100%
Subtotal			131,935	52%	100%
Environmental water					
Net diversions to wetlands			-	0%	100%
End of system flows (6)			27,363	8%	100%
Subtotal			27,363	8%	100%
Other outflows (7)			9,445	3%	100%
Unaccounted difference (8)			136,544	29%	98%
TOTAL	331,377	100%	331,377	100%	98%

Notes

(1) Includes volume in Pindari Dam Glenlyon Dam and Boggabilla Weir

(2) Include net evaporation from Pindari Dam and Glenlyon Dam

(3) Downstream tributaries include gauged flows from Severn R, Mole R, Beardy R, Macintyre Brook. Ungauged tributaries were estimated from the increase in mass balance between Glenlyon Dam and Roseneath.

(4) Water rights are not metered. Values presented are estimated from recommended values provided by the draft Water Sharing Plan.

(5) Includes diversions by both NSW and Qld

(6) End of system flow is measured at Mungindi.

(7) Other outflows - stock and domestic replenishments of Boomi R.

(8) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows, theft and any measurement errors recording other components.



Murray Lower Darling Draft Water Balance 2007/08

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume					
Volume in storage at start of year	481,550				
Volume in storage at end of year	899,170				
Change in storage			417,620	25%	100%
Storage net evaporation			97,760	6%	100%
Inflows					
Storage inflows	1,282,670	77%			100%
Downstream tributaries (1)	388,270	23%			100%
Subtotal	1,670,940	100%			100%
Net Water diverted under water rights					
Domestic and stock rights (2)			5,845	0.3%	0%
Native title rights (2)			-	0.0%	0%
Subtotal			5,845	0.3%	0%
Net Water diverted under access licences					
Domestic and stock			8,184	0.5%	100%
High security			87,140	5.2%	100%
General security			45,054	2.7%	100%
Local water utility			15,780	0.9%	100%
Major water utility			-	0.0%	100%
Supplementary water			25	0.0%	100%
Conveyance			70,000	4.2%	100%
Subtotal			226,183	14%	100%
Environmental water					
Net diversions to wetlands			-	0.0%	100%
End of system flows (3)			568,470	34.0%	100%
Subtotal			568,470	34%	100%
Other outflows			-	0%	100%
Unaccounted difference (4)			355,062	21%	99%
TOTAL	1,670,940	100%	1,670,940	100%	99%

Notes

(1) Downstream tributaries include gauged flows from the Kiewa R (NSW share), Murrumbidgee R and Billabong Ck.

(2) Water rights are not metered. Values presented are estimated from recommended values provided in the Water Sharing Plan.

(3) End of system flow is the NSW share of the flow across the South Australian border after adjustment for water trades.

(4) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows, theft and any measurement errors recording other components.



Murrumbidgee Valley Draft Water Balance 2007/08

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume (1)					
Volume in storage at start of year	738,533				
Volume in storage at end of year	1,040,614				
Change in storage			302,081	25%	100%
Storage net evaporation			4,733	0%	100%
Inflows					
Storage inflows	1,065,155	87%			100%
Downstream tributaries (2)	156,260	13%			100%
Subtotal	1,221,415	100%			100%
Net Water diverted under water rights					
Domestic and stock rights (3)			4,560	0.4%	0%
Native title rights (3)			-	0.0%	0%
Subtotal			4,560	0.4%	0%
Net Water diverted under access licences					
Domestic and stock			30,374	2.5%	100%
High security			179,076	14.7%	100%
General security			75,350	6.2%	100%
Local water utility			11,544	0.9%	100%
Major water utility			-	0.0%	100%
Supplementary water			-	0.0%	100%
Conveyance			175,067	14.3%	100%
Subtotal			471,412	39%	100%
Environmental water					
Net diversions to wetlands			14,512	1.2%	100%
End of system flows (4)			173,846	14.2%	100%
Subtotal			188,358	15%	100%
Other outflows (5)			-	0%	100%
Unaccounted difference (6)			250,271	20%	99%
TOTAL	1,221,415	100%	1,221,415	100%	99%

Notes

(1) Includes Burrinjuck Dam, Blowering Dam, Berembed Weir, Budidgerry Storage, Tombullen Storage, Gogelderie Weir, Hay Weir, Maude Weir, Redbank Weir. Volume varies from 2005/06 closing balance, which only included Burrinjuck and Blowering Dams.

(2) Downstream tributaries include gauged flows from the Goobragandra R, Jugiong Ck, Muttama Ck, Adjungbilly Ck, Adelong Ck, Tarcutta Ck, Kyemba Ck, Billabong Ck and the Finely Escape. Ungauged tributaries were estimated from the increase in mass balance

(3) Water rights are not metered. Values presented are estimated from recommended values provided in the Water Sharing Plan.

(4) End of system flows include Balranald, Darlot and Warriston Weir. This includes 91,200 ML of Inter Valley Transfers

(5) Other outflows are flows to Lowbidgee, excluding those Lowbidgee flows reported under 'Net diversions to wetlands'.

(6) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows, theft and any measurement errors recording other components.



Gwydir Valley Draft Water Balance 2007/08

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume					
Volume in storage at start of year	148,335				
Volume in storage at end of year	298,543				
Change in storage			150,208	46%	100%
Storage net evaporation			6,384	2%	100%
Inflows					
Storage Inflows	269,069	82%			100%
Downstream tributaries	60,875	18%			100%
Subtotal	329,944	100%			100%
Net Water diverted under water rights					
Domestic and stock rights (1)			6,000	2%	0%
Native title rights (1)			-	0%	0%
Subtotal			6,000	2%	0%
Net Water diverted under access licences					
Domestic and stock			1,311	0%	100%
High security			6,488	2%	100%
General security			26,278	8%	100%
Local water utility			2,339	1%	100%
Major water utility			-	0%	100%
Supplementary water			42,725	13%	100%
Conveyance			-	0%	100%
Subtotal			79,141	24%	100%
Environmental water					
Net diversions to wetlands (2)			76,280	23%	100%
End of system flows (3)			43,391	13%	100%
Subtotal			119,671	36%	100%
Other outflows (4)			25,263	8%	100%
Unaccounted difference (5)			-56,723	-17%	99%
TOTAL	329,944	100%	329,944	100%	99%

Notes

(1) Water rights are not metered. Values presented are estimated from recommended values provided in the Water Sharing Plan.

(2) Flows measured into the Gingham Wetland and to the Lower Gwydir

(3) End of system flows include the Carole Ck at Galloway and the Mehi R at Collarenebri

(4) Other outflows - stock and domestic replenishments of the Mallowa Ck, Thalaba Ck and Ballinboora Ck

(5) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows, theft and any measurement errors recording other components.



Namoi Valley Draft Water Balance 2007/08

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume (1)					
Volume in storage at start of year	37,644				
Volume in storage at end of year	119,972				
Change in storage			82,328	41%	100%
Storage net evaporation (2)			7,350	4%	100%
Inflows					
Storage Inflows	86,859	43%			100%
Downstream tributaries (3)	114,112	57%			100%
Subtotal	200,971	100%			100%
Net Water diverted under water rights (4)					
Domestic and stock rights			1,936	1%	0%
Native title rights			-	0%	0%
Subtotal			1,936	1%	0%
Net Water diverted under access licences					
Domestic and stock			1,185	1%	100%
High security			283	0%	100%
General security			20,607	10%	100%
Local water utility			440	0%	100%
Major water utility			-	0%	100%
Supplementary water			28,691	14%	100%
Conveyance			-	0%	100%
Subtotal			51,206	25%	100%
Environmental water					
Net diversions to wetlands			-	0%	0%
End of system flows (5)			38,665	19%	100%
Subtotal			38,665	19%	100%
Other outflows (6)			1,944	1%	100%
Unaccounted difference (3)			17,542	49%	99%
TOTAL	200,971	100%	200,971	100%	99%

Notes

(1) Split Rock Dam, Keepit Dam and Mollee Weir

(2) Includes net evaporation from Split Rock and Keepit Dams

(3) Downstream tributaries include; Peel R, Mooki R, Coxs Ck, Brigalow Ck

(4) Water rights are not metered. Values presented are estimated from recommended values provided in the Water Sharing Plan.

(5) End of system flow - Namoi at Walgett

(6) Other outflows - stock and domestic replenishments of the Pian Ck.

(5) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows, theft and any measurement errors recording other components.



Lachlan Valley Water Balance 2007/08

Water Balance Component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage Volume					
Volume in storage at start of year	131,251				100%
Volume in storage at end of year	138,540				100%
Change in storage			7,289		100%
Storage net evaporation (1)			29,968	16%	100%
Inflows					
Storage inflows	153,483	80%			100%
Downstream tributaries (2)	37,216	20%			100%
Subtotal	190,699	100%			100%
Net water diverted under water rights (3)					
Domestic and stock rights			4,211	2%	0%
Native title rights			0	0%	0%
Subtotal			4,211	2%	0%
Net water diverted under access licences					
Domestic and stock			4,605	2%	100%
High security			7,156	4%	100%
General security			7,772	4%	100%
Local water utility			7,436	4%	100%
Major water utility			0	0%	
Supplementary water			0	0%	
Conveyance			892	0%	100%
Subtotal			27,861	15%	100%
Environmental water					
Net diversion to wetlands			7,000	4%	100%
End of system flows (4)			11,959	6%	100%
Subtotal			18,959	10%	100%
Other Outflows (5)			8,757	5%	100%
Unaccounted difference (6)			93,654	49%	
TOTAL	190,699	100%	190,699	100%	

Notes:

(1) The evaporation figure includes net evaporation loss from Wyangala Dam and Lake Cargelligo. (Lake Brewster remained empty).

(2) Downstream tributaries include Boorowa R and Belubula R. Ungauged tributaries were estimated from the increase in mass balance between Wyangala Dam and Forbes.

(3) Water rights are not metered. Values presented are as specified in Water Sharing Plan.

(4) End of system flows at Booligal, above water orders. Flow at the homestead on Willandra Ck were zero.

(5) Other outflows - Replenishment flow into Booberoi Creek. There was no flow to Willandra Creek below Homestead, Merrowie Ck, Merrimajeel and Muggabah Creeks.

(6) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows and any measurement errors recording other components. This also includes the delivery losses in the regulated section of Willandra Creek.



Macquarie Valley Water Balance 2007/08

Water Balance Component 2006-07	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage Volume					
Volume in storage at start of year	214,758				100%
Volume in storage at end of year	326,315				100%
Change in storage			111,557	36%	100%
Storage net evaporation			19,219	6%	100%
Inflows					
Storage inflows	261,514	83%			100%
Downstream tributaries (1)	52,544	17%			100%
Subtotal	314,058	100%			100%
Net water diverted under water rights (2)					
Domestic and stock rights			1,200	0%	0%
Native title rights			-	0%	0%
Subtotal			1,200	0%	0%
Net water diverted under access licences					
Domestic and stock			1,160	0%	100%
High security			8,320	3%	100%
General security			8,493	3%	100%
Local water utility			11,856	4%	100%
Major water utility			n/a		
Supplementary water			1,038	0%	100%
Conveyance			n/a		
Subtotal			30,867	10%	100%
Environmental water					
Net diversion to wetlands (3)			65,365	21%	100%
End of system flows (4)			2,170	1%	100%
Subtotal			67,535	22%	100%
Other Outflows (5)			7,615	2%	100%
Unaccounted difference (6)			76,065	24%	99%
TOTAL	314,058	100%	314,058	100%	99%

Notes:

(1) Downstream tributaries include the Bell R, Little R and Talbragar R. Ungauged tributaries were estimated from the increase in mass balance between Burrendong Dam and Barooka.

(2) Water rights are not metered. Values presented are estimated from recommended values as specified in the Water Sharing Plan

(3) The net diversion to wetlands include the flows into wetlands due to unregulated tributary flows, operational surplus, floods and rain rejections. This includes a net 8,599ML delivered to the wetlands while targetting the lower Macquarie Stock and Dom

(4) End of system flows measured at Miltara

(5) Other outflows - Replenishment flows to Bogan R below Nyngan (600ML), Beleringar Ck downstream of the Albert Priest Channel (1000ML), Marra Ck (1425ML), Reddenville Break (1200ML), lower Bogan R (800ML in Jan 07, 2000ML in June 07).

(6) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows and any measurement errors recording other components.



Hunter Valley Draft Water Balance 2007/08

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume					
Combined volume in storage at start of year	335,074				
Volume in storage at end of year	573,351				
Change in storage			238,277	26%	100%
Storage net evaporation			29,906	3%	100%
Inflows					
Storage Inflows (1)	255,417	28%			100%
Downstream tributaries (2)	668,888	72%			100%
Subtotal	924,305	100%			
Net Water diverted under basic rights					
Domestic and stock rights (3)			5,515	1%	0%
Native title rights					
Subtotal			5,515	1%	
Net Water diverted under access licences					
Domestic and stock			634	0%	100%
High security			8,225	1%	100%
General security			19,149	2%	100%
Local water utility			5,675	1%	100%
Major utility			7,734	1%	100%
Supplementary water			64,435	7%	100%
Conveyance			19,971	2%	
Subtotal			125,823	14%	100%
Environmental water					
Net diversions to wetlands					
End of water source flows			783,031	85%	100%
Subtotal			783,031	85%	100%
Other outflows					
Unaccounted difference (4)			-258,247	-28%	99%
TOTAL	924,305	100%	924,305	100%	99%

Notes

- (1) Storage inflows to Glenbawn Dam and Glennies Ck Dam.
- (2) Downstream tributaries were estimated from the increase in mass balance between the dams and the end of system at Greta.
- (3) Basic rights are not metered. Values presented are those in the Water Sharing Plan.
- (4) All flows accounted as the mass balance increased at the end of system - Greta.



North Coast Draft Water Balance 2007/08

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume					
Volume in storage at start of year	9,359				
Volume in storage at end of year	11,090				
Change in storage			1,731	1%	100%
Storage net evaporation			1,215	1%	100%
Inflows					
Storage Inflows (1)	83,243	35%			100%
Downstream tributaries (2)	151,583	65%			100%
Subtotal	234,826	100%			
Net Water diverted under riparian rights					
Domestic and stock rights (3)			200	0%	0%
Native title rights					
Subtotal			200	0%	
Net Water diverted under access licences					
Domestic and stock					
High security			58	0%	100%
General security			729	0%	100%
Local water utility					
Major utility					
Off allocation					
Conveyance					
Subtotal			787	0%	
Environmental water					
Net diversions to wetlands					
End of system flows (4)			unknown		
Subtotal					
Other outflows					
Unaccounted difference (5)			230,893	98%	99%
TOTAL	234,826	100%	234,826	100%	99%

Notes

- (1) Calculated from Toonumbar Dam volume change, plus evaporation and releases, less rainfall.
- (2) Tributaries. Eden Ck inflows were estimated from the increase in mass balance between Toonumbar Dam and Eden Ck.
- (3) Supplied under riparian right and not metered. Values presented are estimated only.
- (4) No gauge at or near end of system.
- (5) Would include end of system flows, instream evaporation, seepage, theft, metering and gauging errors.



South Coast Draft Water Balance 2007/08

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume					
Volume in storage at start of year	9,842				
Volume in storage at end of year	8,910				
Change in storage	932	1%			100%
Storage net evaporation			1,125	1%	100%
Inflows					
Storage Inflows (1)	41,508	49%			100%
Downstream tributaries (2)	42,941	50%			100%
Subtotal	84,449	99%			
Net Water diverted under riparian rights					
Domestic and stock rights (3)			300	0%	0%
Native title rights					
Subtotal			300	0%	
Net Water diverted under access licences					
Domestic and stock					
High security			433	1%	100%
General security			2,515	3%	100%
Local water utility (all high security)					
Major utility					
Off allocation			2,675	3%	100%
Conveyance					
Subtotal			5,623	7%	100%
Environmental water					
Net diversions to wetlands					
End of system flows (4)			unknown		
Subtotal					
Other outflows					
Unaccounted difference (5)			78,333	92%	99%
TOTAL	85,381	100%	85,381	100%	99%

Notes

- (1) Calculated from Brogo Dam volume change, plus evaporation and releases, less rainfall.
- (2) Tributaries includes Bega R. No estimate made of other ungauged tributaries.
- (3) Supplied under riparian right and not metered. Values presented are estimated only.
- (4) No gauge at or near end of system and barrage operates under control conditions.
- (5) Would include end of system flows, instream evaporation, seepage, theft, metering and gauging errors. High because end of system flows not measured.



Paterson River Draft Water Balance 2007/08

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume					
Volume in storage at start of year	20,370				
Volume in storage at end of year	20,360				
Change in storage	10	0%			100%
Storage net evaporation			3,016	1%	100%
Inflows					
Storage Inflows (1)	263,080	56%			100%
Downstream tributaries (2)	205,428	44%			100%
Subtotal	468,508	100%			
Net Water diverted under riparian rights					
Domestic and stock rights (3)			548	0%	0%
Native title rights					
Subtotal			548	0%	
Net Water diverted under access licences					
Domestic and stock					
High security			2	0%	100%
General security			560	0%	100%
Local water utility			-	0%	
Major utility			-	0%	
Supplementary			380	0%	
Conveyance			-	0%	
Subtotal			942	0%	
Environmental water					
Net diversions to wetlands			-	0%	
End of system flows (4)			464,012		
Subtotal			464,012	99%	
Other outflows					
Unaccounted difference (5)			-	0%	99%
TOTAL	468,518	100%	468,518	100%	99%

Notes

- (1) Calculated from Toonumbar Dam volume change, plus evaporation and releases, less rainfall.
- (2) Tributaries. Eden Ck inflows were estimated from the increase in mass balance between Toonumbar Dam and Eden Ck.
- (3) Supplied under riparian right and not metered. Values presented are estimated only.
- (4) No gauge at or near end of system.
- (5) Would include end of system flows, instream evaporation, seepage, theft, metering and gauging errors.



Border Rivers Draft Water Balance 2007/08

Water balance component	Sources of water		Distribution of water		% of volume measured
	Volume (ML)	% of total	Volume (ML)	% of total	
Storage volume (1)					
Volume in storage at start of year	106,712				
Volume in storage at end of year	186,195				
Change in storage			79,483	16%	100%
Storage net evaporation (2)			19,360	4%	100%
Inflows					
Storage Inflows	165,363	33%			100%
Downstream tributaries (3)	342,648	67%			85%
Subtotal	508,011	100%			95%
Net Water diverted under water rights (4)					
Domestic and stock rights			8,000	2%	0%
Native title rights			-	0%	0%
Subtotal			8,000	2%	0%
Net Water diverted under access licences (5)				0%	
Domestic and stock			1,874	0%	100%
High security			-	0%	100%
General security			56,534	11%	100%
Local water utility			-	0%	100%
Major water utility			-	0%	100%
Supplementary water			53,861	11%	100%
Conveyance			-	0%	100%
Subtotal			112,269	22%	100%
Environmental water				0%	
Net diversions to wetlands			-	0%	100%
End of system flows (6)			137,210	27%	100%
Subtotal			137,210	27%	100%
Other outflows (7)			2,444	0%	100%
Unaccounted difference (8)			149,245	29%	98%
TOTAL	508,011	100%	508,011	100%	98%

Notes

(1) Includes volume in Pindari Dam Glenlyon Dam and Boggabilla Weir

(2) Include net evaporation from Pindari Dam and Glenlyon Dam

(3) Downstream tributaries include gauged flows from Severn R, Mole R, Beardy R, Macintyre Brook. Ungauged tributaries were estimated from the increase in mass balance between Glenlyon Dam and Roseneath.

(4) Water rights are not metered. Values presented are estimated from recommended values provided by the draft Water Sharing Plan.

(5) Includes diversions by both NSW and Qld

(6) End of system flow is measured at Mungindi.

(7) Other outflows - stock and domestic replenishments of Boomi R.

(8) Unaccounted difference is estimated as the difference between inflows, outflows and change in storage. This includes river evaporation, seepage, overbank flows, theft and any measurement errors recording other components.