

Issues Paper

Inquiry into Water Resource
Management and Planning Charges

30 April 2009

Economic Regulation Authority



WESTERN AUSTRALIA

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Foreword

The Treasurer of the State of Western Australia has requested the Economic Regulation Authority (**Authority**) to undertake an inquiry into water resource management and planning charges.

In accordance with the Terms of Reference, the Authority will provide the Government with a range of options and recommendations for the recovery of water resource planning and management expenses incurred by the Department of Water. The Authority is also required to recommend the most appropriate regulatory arrangements for the setting of service standards for the water resource manager, the setting of the charges and the subsequent recovery of those charges from water users.

The purpose of this issues paper is to provide background information and outline the issues to be reviewed. It is intended to assist stakeholders to understand the nature of the issues under review and to facilitate public comment and debate. Throughout this issues paper questions are raised, highlighted in boxes, that may be of particular interest to stakeholders.

Submissions on any matters, including those raised in this issues paper, should be submitted by 12 June 2009 to:

watercharges@era.wa.gov.au

Or addressed to:
Inquiry into Water Resource Management and Planning Charges
Economic Regulation Authority
PO Box 8469
Perth Business Centre
PERTH WA 6849

Section 1.4 of this issues paper provides further information regarding the process for making a submission.

Interested parties and stakeholders will have a further opportunity to make submissions following the release of the Authority's draft report. The final report for the inquiry is scheduled to be delivered to the Government by 2 January 2010, following which the Government will have 28 days to table the report in Parliament.

I encourage interested parties to consider the terms of reference and matters raised in this issues paper and prepare a submission to the inquiry.

LYNDON ROWE
CHAIRMAN

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1 Introduction

The Treasurer of Western Australia gave written notice to the Authority, on 2 April 2009, to undertake an inquiry into water resource management and planning charges in Western Australia.

The inquiry has been referred to the Authority under Section 32 of the *Economic Regulation Authority Act 2003 (Act)*, which provides for the Treasurer to refer the Authority inquiries on matters related to regulated industries (i.e. water, gas, electricity and the rail industry).

1.1 Terms of Reference

The Terms of Reference for the inquiry are provided in [Appendix A](#).

In accordance with the Terms of Reference, the Authority is to provide the Government with a range of options and recommendations for:

- the recovery of the water resource planning and management expenses incurred by the Department of Water; and
- the most appropriate regulatory arrangements for the setting of service standards for the water resource manager, the setting of the charges and the subsequent recovery of those charges from water users.

In considering the options, the Authority is to consider and develop findings on:

- the tasks or activities undertaken in the efficient management of the State's water resources by the Department of Water, that would appropriately be recovered from water users;
- the most appropriate level of cost recovery from water users; and
- the most appropriate allocation of costs between licence holders and other water users.

The options recommended to the Government are to include:

- the implementation impacts for various types of users, including a sensitivity analysis on capacity to pay assumptions; and
- opportunities for implementation under both the existing legislative responsibilities of the Department of Water as well as those specified by the National Water Initiative.

The Authority is also required to have regard to:

- the Government's social, economic and environmental policy objectives;
- the Government's obligations as a signatory to the National Water Initiative Intergovernmental Agreement; and
- any relevant pricing principles arising from the 1994 Council of Australian Governments water reform agreement and the National Water Initiative.

In undertaking the inquiry, the Authority recognises section 26 of the Act, which requires the Authority to have regard to:

- the need to promote regulatory outcomes that are in the public interest;
- the long-term interests of consumers in relation to the price, quality and reliability of goods and services provided in relevant markets;
- the need to encourage investment in relevant markets;
- the legitimate business interests of investors and service providers in relevant markets;
- the need to promote competitive and fair market conduct;
- the need to prevent abuse of monopoly or market power; and
- the need to promote transparent decision making processes that involve public consultation.

1.2 Background to the Inquiry

Attempts to introduce licence fees for water resource management and planning activities in Western Australia go back to 1991 when the Government endorsed, but subsequently withdrew, a proposal by the Water Authority to introduce fees to licensees abstracting groundwater. In 2003, the State Water Strategy included a commitment to investigate the applicability of water resource management charges and the Department of Environment subsequently developed a proposal for the Minister for the Environment to introduce fees to recover 86 per cent of administration costs. However, the Government did not endorse the proposal. In 2007, the Government gazetted regulations to apply water administration licence fees to recover administration costs. These regulations were subsequently disallowed by Parliament and a revised fee structure was gazetted. However, the revised fee structure was also disallowed.

The Government has had an obligation to recover the costs, at least partially, of water resource management and planning activities since signing the Council of Australian Governments (**CoAG**) Water Reform Agreement in February 1994. An important principle of the 1994 agreement was to signal to users the costs associated with managing water resources and any environmental costs caused through extractive use.

The 1994 CoAG Agreement was followed in 2004 by the National Water Initiative (**NWI**). Western Australia became a signatory to the NWI in 2006. Section 67 of the NWI states:¹

The States and Territories agree to bring into effect consistent approaches to pricing and attributing costs of water planning and management by 2006 involving:

- (i) The identification of all costs associated with water planning and management, including the costs of underpinning water markets such as the provision of registers, accounting and measurement frameworks and performance monitoring and benchmarking;
- (ii) The identification of the proportion of costs that can be attributed to water access entitlement holders consistent with the principles below;
 - (a) charges exclude activities undertaken for the Government (such as policy development and Ministerial or Parliamentary services)

¹ Intergovernmental Agreement on a National Water Initiative, between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory, 25 June 2004.

- (b) charges are linked as closely as possible to the costs of activities or products.

Section 67 of the NWI also states:

The States and Territories agree to report publicly on cost recovery for water planning and management as part of annual reporting requirements, including:

- (i) the total cost of water planning and management; and
- (ii) the proportion of the total cost of water planning and management attributed to water access entitlement holders and the basis upon which this proportion is determined.

The National Water Commission (**NWC**) is responsible for auditing the implementation of the NWI, which involves monitoring each jurisdiction's progress in fulfilling their NWI commitments. Western Australia, along with other States and Territories, is responsible for implementing the NWI. The NWC reports to CoAG on a biennial basis, with the next report due in 2009. In its first assessment in 2007, the NWC noted that an inter-jurisdictional working group had been established to develop a consistent set of pricing principles for the recovery of water resource management and planning costs.² However, it also stated that:

Cost recovery for water planning and management activities of governments still lags behind other NWI commitments in a number of states. There is little policy rationale for this. Such cost recovery not only brings a contribution to water planning and management activities from the water users who benefit most; it also should drive greater transparency in the costs, and efficiency, in the delivery of such activities.

The Commission considers that water planning and management activities by governments can be identified and recovery of costs can commence prior to agreement on consistency across states. (p 55, Part B, Biennial Assessment 2007, National Water Commission)

The pricing principles are understood to have been completed but have not yet been publicly released. The Authority will take these principles into account should they become available during the course of this inquiry.

1.3 Review Process

The recommendations of this inquiry will be informed by the following public consultation process:

- This Issues Paper invites submissions from stakeholder groups, industry, government and the general community on the matters in the Terms of Reference. Submissions are due by 12 June 2009.
- Following consideration of submissions, the Authority intends to publish a Draft Report in September 2009. Public submissions on the Draft Report will then be invited.
- The Final Report for the inquiry is to be delivered to the Treasurer by 2 January 2010 and the Treasurer will, in accordance with the Act, have 28 days to table the report in parliament.

² The Steering Group on Water Charges (**SGWC**), which reports to the NRM Ministers' NWI Committee, is progressing implementation of various parts of the best practice pricing element of the NWI, including the pricing of water resource management and planning charges. The SGWC is chaired by the Commission and consists of representatives of the NWI parties (State governments and the Australian Government) and economic regulators.

The Authority will also be consulting with its Consumer Consultative Committee during the course of the inquiry.

In accordance with section 45 of the Act, the Authority will act through the Chairman and members in conducting this inquiry.

1.4 How to Make a Submission

Submissions on any matter raised in this Issues Paper or in response to any matters in the Terms of Reference should be in both written and electronic form (where possible) and addressed to:

Inquiry into Water Resource Management Charges
Economic Regulation Authority
PO Box 8469
Perth Business Centre
PERTH WA 6849

Email: watercharges@era.wa.gov.au

Fax: (08) 9213 1999

Submissions must be received by 12 June 2009.

Submissions made to the Authority will be treated as in the public domain and placed on the Authority's web site unless confidentiality is claimed. The submission or parts of the submission in relation to which confidentiality is claimed should be clearly marked. Any claim of confidentiality will be dealt with in the same way as is provided for in section 55 of the *Economic Regulation Authority Act 2003*.

The receipt and publication of a submission shall not be taken as indicating that the Authority has knowledge either actual or constructive of the contents of a particular submission and, in particular, where the submission in whole or part contains information of a confidential nature and no duty of confidence will arise for the Authority in these circumstances.

Further information regarding this inquiry can be obtained from:

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Manager Projects
Economic Regulation Authority
Ph (08) 9213 1900

Media enquiries should be directed to:

Mr Paul Byrne
Byrne and Byrne Corporate Communications
Ph (08) 9336 2081;
Mb 0417 922 452

2 What is Water Resource Management and Planning?

The Authority invites interested parties to help identify key elements of water resource management and planning that the Authority can take into consideration as part of this inquiry.

It is important to identify the activities that fall within the scope of water resource management and planning because the purpose of the inquiry, as indicated in the Terms of Reference, is to:

provide the Government with a range of options and recommendations for the recovery of the planning and management expenses incurred by the Department of Water for the sustainable management of the State's water resources.

Any of the Department of Water's activities that do not fit within the scope of water resource management and planning activities would not form part of the inquiry.

Some guidance on the key elements of water resource management and planning is provided in the objects clause of that part of the *Rights in Water and Irrigation Act 1914 (RiWI Act)* which refers to the control of water resources:³

- (a) To provide for the management of water resources and in particular
 - 1) for their sustainable use and development to meet the needs of current and future users; and
 - 2) for the protection of their ecosystems and the environment in which water resources are situated, including by the regulation of activities detrimental to them;
- (b) To promote the orderly, equitable and efficient use of water resources;

This objects clause needs to be interpreted within the context that all water courses, wetlands and underground water sources are vested in the Crown unless they are allocated in accordance with a statutory function.⁴

Another act that provides guidance on what water resource management and planning involves is the *Water Agencies (Powers) Act 1984*. Section 9 of this act states:

- 1) The Minister [for Water] has the general functions of -
 - a) conserving, protecting and managing water resources;
 - b) assessing water resources;
 - c) planning for the use of water resources;
 - d) promoting the efficient use of water resources;
 - e) promoting the efficient provision of water services;
 - f) developing plans for and providing advice on flood management.

³ Two other objects are also included in the legislation: (c) to foster consultation with members of local communities in the local administration of this part, and to enable them to participate in that administration; and (d) to assist the integration of the management of water resources with the management of other natural resources.

⁴ Section 5A of the RIWI Act vests unallocated natural water in the Crown.

The Department of Water has been established to support the Minister, and the CEO may act under delegated power, to undertake the following functions:

- *Country Areas Water Supply Act 1947*
 - under Part II, making by-laws for the prevention of pollution in catchment areas or water reserves;
 - under Part IIA, administering a scheme for clearing licences for certain controlled land and, where a licence is rejected, for payment of compensation for injurious affection;⁵
 - under Part VII, setting service charges for the functioning of country water supply systems.
- *Metropolitan Water Supply, Sewerage, and Drainage Act 1909*
 - under Part IV, making by-laws for the prevention of pollution in catchment areas or water reserves;
 - under Part VI, making by-laws for underground water pollution control areas in the metropolitan area; and licensing wells in public water supply areas in the metropolitan area.
- *Metropolitan Water Authority Act 1982*
 - planning for, and the administration of arterial drainage, and for the declaration of drainage courses.
- *Rights in Water and Irrigation Act 1914*
 - licensing, or giving directions as to, the use of surface waters; and
 - licensing artesian wells and, in certain areas, non artesian wells.
- *Waterways Conservation Act 1976*
 - a conservation and resource management function, and associated powers, in respect of waterways and adjoining land in management areas under that act.
- *Water Services Licensing Act 1985*
 - setting policy for the water industry, via regulations, exemptions and policies, whereas the Authority has powers to license water service providers.
- *Water Agencies Powers Act 1984*
 - conserving, protecting and managing water resources;
 - assessing water resources;
 - planning for the use of water resources;
 - promoting the efficient use of water resources;
 - promoting the efficient provision of water services; and
 - developing plans for and providing advice on flood management.

It is likely that if these acts pertaining to water resources management (or their equivalents) did not exist, then various problems would arise:

⁵ Injurious affection means the effect caused to neighbouring land from a public project.

- there would be no legislative check on the amount of water that could be taken, with the consequence that existing water users' security of supply and environmental flows could be compromised;
- similarly, unchecked water use could lead to major land impacts such as land subsidence;
- unchecked land-use and development activity could compromise the quality of the water resource, which would have a consequence for both environmental flows and other users;
- unchecked development activity could take place in unsuitable areas, with any development investment being negated due to flood activity or drainage issues;
- lack of available water due to inefficient and unchecked use could significantly increase the cost to the community of new drinking water sources;
- open access to a water resource would impact on investment because there would be uncertainty about the ongoing availability of the resource; and
- there would be little incentive to invest in water resource assessments because others would be able to free ride on that investment without having to pay.

Following discussions with the Department of Water, the Authority has categorised the Department's functions into the following five broad functions.

- The first is to allocate the Crown's water resources. This involves assessing the quantum and quality of a water resource, determining how much of the resource should be allocated to users and the environment, issuing licences that might include conditions on how the water can be taken and used, and then monitoring both the water resource and licence holders' compliance with licence conditions. Licence conditions also include measures to ensure that water is used efficiently. (Case studies 1 to 8 in section 3 illustrate this function).
- The second is to set the framework within which development can proceed in a way that is suitable to the area and does not inappropriately impact on the quantity and quality of the Crown's water resources. This involves the Department assessing, monitoring and managing flood and drainage activity, setting guidelines and industry standards in relation to development activities, setting water management plans and providing advice to developers, local government and other planning agencies, such as the Western Australian Planning Commission. (Case studies 9 and 10 in section 3 illustrate this function).
- The third is to manage the quality of Crown water resources. This includes water source protection planning, managing water quality in at-risk estuaries and improving the quality of water resources that have been adversely impacted in the past to be 'fit for purpose' for future needs. This involves measures such as developing plans to protect the quality of public drinking water supplies, managing nutrient build up in waterways and other related functions such as reducing the salinity of Wellington Dam. (Case studies 11 to 13 in section 3 illustrate this function).
- The fourth is to provide policy advice to the Minister for Water and implement national policy agendas (such as those of the NWI and CoAG). The Department can be called on to provide policy advice on any matter relating to the water sector. A significant policy project underway at present is the review of the State's legislative framework for the water sector.
- The fifth is to administer aspects of the *Water Services Licensing Act 1985* which addresses water service provision. This includes, administering exemptions for

water services licences; reviewing water service provider source plans to ensure suitable water is planned for and available; and dealing with customer complaints against service providers. Another role within this function is ensuring Indigenous communities have access to water services.⁶ (See case studies 14 and 15 in section 3).

The main activities within each of the five functions are summarised in Table 2.1. The table also shows the “overhead” activities associated with providing executive and corporate support. A detailed list of the Department of Water’s current activities is provided in [Appendix B](#).

⁶ According to the Department of Water, this includes: identifying communities requiring water services; negotiating with the water service providers on the extent of their involvement in Indigenous service provision; developing standards of service; undertaking service provision plans for Indigenous communities and prioritising service delivery.

Table 2.1 Main Activities Within Each Function of the Department of Water

Functions	Activities
1: Assess, allocate and licence	<ul style="list-style-type: none"> • Licensing • Allocation planning • Environmental water planning • Water recycling and efficiency • Rural water planning • Metering • Groundwater assessment, investigation and review • Surface water assessment • Spatial analysis (GIS) • Water information and management • Compliance and enforcement
2: Manage flooding and drainage	<ul style="list-style-type: none"> • Urban drainage planning • Urban water assessment • Water and land use co-ordination • Floodplain management
3: Manage water quality	<ul style="list-style-type: none"> • Water source protection • Salinity recovery and engineering • Waterways • Water quality and land use • Aquatic risk, chemistry and ecology
4: Policy advice and reform	<ul style="list-style-type: none"> • Water reform implementation and co-ordination • Strategic water planning • Strategic water issues • Legal service and legislation • Government relations
5: Support water service industry	<ul style="list-style-type: none"> • Water services and strategic industry policy • Indigenous and remote community service and support
Executive and corporate functions	<ul style="list-style-type: none"> • All Directors, the Director General, Regional Managers and support and administration staff • Corporate service functions, including finance, HR and information management • Land management functions • Corporate development • Communications

Source: Department of Water

Table 2.2 provides a guide to the approximate level of resources associated with each of the Department of Water's functions.

Table 2.2 Allocation of Employees to Each Function of the Department of Water

Function	Number of employees (full time equivalents)	%
Assess, allocate and licence	216	34%
Manage flood and drainage	80	13%
Manage quality	138	22%
Policy advice and reform	28	4%
Support water service industry	23.8	4%
Executive and corporate functions	145	23%
Total	631	100%

Source: Department of Water

According to the Department of Water's first annual report for 2008 and the Water and Rivers Commission's final annual report for January 2008, the total expenditure incurred for the financial year 2007/08 was \$109 million. In that year, approximately 74 per cent of the Department's revenue was provided by the State Government (\$23 million of revenue in 2007/08 came from other sources including for example grants from the Commonwealth Government, other State government departments and industry).

The Authority invites interested parties to comment on the categorisation of functions presented above including which of the functions or activities fall within water resource management and planning.

In addition, there may be sub-functions, as listed in [Appendix B](#), that may not constitute a water resource management and planning activity. For instance, should activities that influence how water is used (a sub-function of function 1) be included as water resource management and planning activities? (Licences can be allocated on the basis of merit selection and with conditions attached, such as requirements for licence holders to achieve efficiency targets for per capita use).

A related issue is the extent to which there is clarity between the roles of the Department of Water and the roles of large water users or service providers, such as the Water Corporation, mining companies and large agricultural proponents. It is understood that, generally, it is the Department's role to establish the sustainable level of abstraction from water sources. However, as part of the licence conditions, large water users are required to carry out investigations to support proposals for new large water abstractions, and to conduct or undertake detailed monitoring and assessments. In the case of licence applications from the Water Corporation, it is understood that the extent to which water resource investigations are carried out by the Department or the Water Corporation depends on the level of expertise and resources available to each organisation.

Issues

- What are the key elements of water resource management and planning?
- What activities of the Department of Water fall within the scope of water resource management and planning?
- Which planning and management expenses incurred by the Department of Water are for the sustainable management of the State's water resources?
- Which tasks or activities undertaken in the efficient management of the State's water resources, by the Department of Water, are appropriately recovered from water users?
- What is the role of the Department of Water in comparison to the role of other large water users and water service providers?

3 What is Involved in Undertaking Water Resource Management and Planning?

The Authority is particularly interested in understanding the nature of the activities carried out by the Department of Water, and the extent to which there is a case for recovering water resource management and planning costs from licensees and other water users.

Activities by the Department are likely to be most highly valued by licensees and other water users if they avoid licensees or water users having to undertake those activities themselves. (It is assumed that the objects of the relevant acts, referred to in the previous section, would need to be achieved irrespective of whether it is the Department or users who have the onus of demonstrating that water use does not unacceptably compromise the environment or other users' allocations.)

3.1 Water Licence Administration

3.1.1 Who Needs a Licence?

In Western Australia, activities to take water, build or alter non-artesian and artesian wells, or interfere with the beds and banks of watercourses, require licensing under the RiWI Act.⁷

- Section 5C licences allow licence holders to take water from a watercourse, wetland or underground source in proclaimed areas. All artesian wells require a Section 5C licence in both proclaimed and unproclaimed areas.
- Section 26D licences allow licence holders to commence, construct, enlarge deepen or alter any artesian well, or any non-artesian well in a proclaimed groundwater area.
- Permits are required to authorise the interference or obstruction of beds and banks of a watercourse or wetland associated with the taking of water:
 - in proclaimed areas (Section 11 permits);
 - in proclaimed areas where access is via a road or crown reserve (Section 17 permits); and
 - in unproclaimed areas where access is via a road or crown reserve (Section 21A permits).

There are also some groundwater licences in the Perth metropolitan area that were issued under section 57G of the *Metropolitan Water Supply, Sewerage, and Drainage Act 1909* in the 1970s and 1980s, for bores in areas declared by the Minister as Public Water Supply Areas. These bores are in particular areas close to major Water Corporation bores for public drinking water supplies. These licences were issued in perpetuity, and no new licences have been issued under this Act in the past decade. It is understood that the Department is now progressively issuing licences under the RiWI Act in these areas.

⁷ The RiWI Act defines an *artesian well* as a well from which water flows, or has flowed, naturally to the surface; and a *non-artesian well* as a well, including all associated works, from which water does not flow, and has not flowed, naturally to the surface, but has to be raised, or has been raised, by pumping or other artificial means. A well constructed into an artesian aquifer that is not flowing can be called a "non-artesian well" under the RiWI Act; however, this does not mean the aquifer is not artesian.

Some activities are exempt from licensing, including:

- water used for livestock and domestic purposes across the State, except for the Albany Groundwater Area and part of the Gascoyne Groundwater Area;
- water taken on the basis of “riparian rights” where a property abuts the water course or wetland (fire fighting, stock water, household use or irrigation within two hectares around a dwelling);
- domestic garden bores in the Perth metropolitan area; and
- dewatering activities with limited impact (e.g. construction).

Farm dams do not require licences if water is collected from overland flow or rainfall. However, farm dams do require licences if they are within an area proclaimed under Part III of the RiWI Act (a surface water area, irrigation district, or a single water course), and if the dam water is taken or pumped from a natural water course, and if the water is used for other than domestic purposes.

Through the RiWI Act, the Minister may include provisions in licences that limit the volumes and use of water taken from surface and underground sources. In the absence of metering, the use is often specified so as to limit the volume of water taken. The use may also be limited to ensure that water is not used in a way that will damage the water or land.

Licences are issued for a fixed term (usually ten years) and the Minister must renew the licence.⁸

The Minister has powers to amend, suspend or cancel licences.⁹ The circumstances in which these powers may be exercised are specified in the Act and compensation is payable in some circumstances.¹⁰ One ground for amending a licence is if the licence holder fails to take the water.¹¹

In circumstances of shortage of supply, damage to the ecosystem, or water resource, waste of water, or failure to maintain a bore, the Minister may issue directions to limit the water taken, including closing the bore.¹²

In general, the Minister’s powers are subject to appeal to the State Appeals Tribunal.¹³

3.1.2 Licensing Activities

For the licensing function, the Department has informed the Authority that the number and scale of activities increase with the size of the licence, as larger licences require fuller assessments, due to their larger impact on water resources.

Table 3.1 sets out the activities associated with different licence entitlements, and the approximate number of hours involved in processing the licence application.

⁸ See *RiWI Act* s.22

⁹ See *RiWI Act* s.24-26 of Schedule 1

¹⁰ See *RiWI Act* s.29

¹¹ See *RiWI Act* s.24(2)(d)

¹² See *RiWI Act* s.26G

¹³ See *RiWI Act* s.26GG(1)(e)

Table 3.1 Indication of Time to Process Licence Applications By Entitlement Class

Entitlement Class (kL/Year)	Description	Administration Hours / Licence
0 – 5,000	Fast track assessments - small domestic, non-commercial activities, hobby farms. Includes all 26D licences (new, renew and amended), 11/17/21A permits (new, renew and amended) and all 5C licences for allocations less than 5,000 kL per annum (new, renew, amended, transfers, trades and agreements).	7
5,000 – 50,000	Some fast track assessments for 5C licences - generally commercial, large scale domestic.	11
50,000 – 100,000	Moderate assessment requirements for 5C licences, no fast track assessments.	20
100,000 – 500,000	Moderate assessment requirements for 5C licences, compulsory advertising and review of submissions.	40
500,000 – 1,000,000	Full assessment required for 5C licences, metering conditions, reporting requirements.	60
1,000,000 – 5,000,000	Full assessment required for 5C licences, operating strategies, hydrogeology reporting, metering.	80
> 5,000,000	Full assessment required for 5C licences, operating strategies, hydrogeology report, metering, DoW modelling and hydrology work.	100+

Source: Department of Water

Notes: Figures are based on new applications for water licences and not the renewal, amendment of existing licences. It also does not include applications for works approvals (drilling a bore, constructing a dam, etc).

3.1.3 Licence Applications: Case Studies

The following case studies were provided by the Department of Water as examples of what is involved in assessing a licence application. The case studies consider simple, medium and large licence applications.

Simple Licence Applications (0 – 500,000 kL per Year)

Case 1. Groundwater for road construction

The recent construction of the Perth to Bunbury Highway required water for road construction, dust suppression and dewatering purposes. The sites for abstraction of groundwater were over several groundwater management units and from different aquifers and therefore were required to be licensed separately. Volumes ranged from 50,000 to 441,500 kL/annum.

Along the highway route, a variety of issues were required to be addressed, including: close proximity to protected wetlands, the Serpentine River and protected thrombolites¹⁴; saline intrusion from deeper sections of the superficial aquifer; appropriate management of draw from the Leederville aquifer due to limited water availability and declining water levels; large extraction from individual bores; impacts on existing groundwater users; and a high risk of acid sulphate soils.

Due to the sensitivity of the environment to where the water was to be taken, an extensive assessment of the proposal was undertaken. Individual licences were issued with the requirement for compliance with operating strategies and for quarterly monitoring reports to be submitted to ensure any impacts are detected early. Departmental staff have been required to undertake regular review of the monitoring reports and also spot checks of licence compliance during the tenure of the licences.

The average time to process each new licence application was between 7 and 40 hours and involved staff between level 2 and level 6. In 2007-08, the Department issued, amended or renewed 286 surface water licences and 2113 groundwater licences of less than 500,000 kL.

Case 2. Surface water for a farm dam

A farmer applied to the Department to build a dam and capture 200,000 kL of surface water from the Upper Lefroy catchment in Manjimup. He also applied to transfer a water licence from the previous owners of the licensed property, to take water for an annual allocation of 110,000 kL.

On receipt of the application the Department:

- ran surface water runoff models to determine the available flows in the area he was wanting to build the dam;
- manually calculated existing licences above and below the proposed dam site to determine water availability; and
- using the information above, the proposal was assessed against Schedule 1 c7(2) of the *Rights in Water and Irrigation Act 1914* which included an assessment of environmental acceptability and ecological impacts.

These processes ensured that:

- the new dam will not mean that other farmers downstream cannot fill their dams (particularly in dry years); and
- that the total amount of water being used in the catchment is not more than is sustainable.

¹⁴ Thrombolites are microbial formations that have a clotted internal organisation, as opposed to stromatolites that have a laminated organisation.

As the Department approval to build a dam exempts persons from obtaining a clearing permit under the Environmental Protection Act, an assessment was made on the clearing of native vegetation along with associated impacts on stream ecology.

The application was also referred to the Warren Water Area Advisory Committee (**WWAAC**) for advice.

The Department, following advice from the WWAAC, deemed it suitable to approve the licence. The Department determined appropriate conditions for the construction permit, to manage the impact of the dam's construction on the watercourse. The licence to take water was also issued at that stage.

This licence application took 20 to 30 hours to complete and involved three staff throughout the assessment process.

Large Licence Application (More than 5 GL per Year)

Case 3. A licence for mine dewatering

A mining customer needed to pump around 40 GL per annum from an aquifer in order to dewater its mine. The dewatering was expected to lower the water table by around 180m, resulting in a reduction in the water in some local springs and a creek. Excess dewatering water was proposed to be discharged to the creek to sustain ecological requirements.

The springs have important cultural significance for the local indigenous people. After a thorough assessment of the application by the Department, as required by the *Rights in Water and Irrigation Act 1914*, concerns about impacts from the project were raised by the Conservation Council and the traditional owners regarding the impacts of the lower water table on the springs and the discharge of excess dewater into the creek. Extensive negotiations with the mining customer were undertaken to mitigate impacts of the groundwater drawdown and formalised through the issuing of groundwater licence for a period of three years. Strategies included the artificial supplementation of springs to maintain flows, and a commitment to maintain spring flows after mining ceases. During the tenure of the water licence, the mining customer will be investigating options to reduce the level of dewatering discharge into the environment.

In 2007/08, the Department issued, amended or renewed 48 water licences of more than 5 GL. The average time to complete such an application is around 100 hours.

3.2 Water Allocation Planning Activities

The Department of Water applies a risk-based approach to determine where effort is required to investigate and assess water resources and complete allocation plans. The level of management and planning response in a water management area depends on the category of risk to water resources and the consequences of further abstractions.

- Category 1 (C1) areas are those that have water resources which are relatively low in use (less than 30 per cent of the allocation limit), and where there is a low risk to the environment of further abstractions. Management of water resources (or response) is through licences in line with State-wide policy, with a periodic review of allocation limits in the area.
- Category 2 (C2) areas are those that have water resources which are at medium use (31-70 per cent of the allocation limit), or where there is a medium risk from

further abstractions. Alternatively, there may be the potential for water use to escalate to high use. In these areas, the response involves the development of a water allocation plan specific to that area, based on currently available information. Licences are issued in line with the water allocation limits set in the plan.

- Category 3 (C3) areas have water resources which are at high use (70-100 per cent of the allocation limit used), or where there is a high risk or high consequences if the level of use increases. In these areas, the response includes a new investigation commissioned to develop a water allocation plan and allocation limits for that area, and licences are issued in line with this plan.
- Category 4 (C4) areas have water resources which are over-allocated. In these areas, the management response is aimed at recovery for those areas that are over-allocated. The responses/approaches vary depending on circumstances, but may involve capping water use at current levels, initiating an active recovery program and developing targets for compliance and water efficiency strategies.

The following case studies provided by the Department of Water give examples of the type of work undertaken in order to assess the availability of water resources for entire catchments or regions.

Case 4. Gnangara area groundwater allocation plan

The Gnangara system is the single largest source of good quality, fresh groundwater in the Perth region and is of vital importance to the continuing social and economic development of the State. The system as a whole is approaching full allocation, with some aquifers over-allocated in some groundwater areas. The Department of Water's results from groundwater monitoring across the system highlight notable declines in groundwater levels.

In response, to high demand, reduced supply and declining groundwater levels the Department responded with a category 4 planning process. The current planning process began in 2006 with the final plan due for release this year.

To complete the planning process, the Department undertook a number of major projects including: assessing the groundwater dependent ecosystem; hydro-geological investigation and assessments; social value studies and use assessments. Once the assessment work was complete the Department:

- reviewed allocation limits, which resulted in the capping of allocations in most groundwater areas for most aquifers;
- made a commitment across government to reduce the abstraction of groundwater for public water supply and to the development of contingency supplies; and
- developed a set of assessment and planning actions for the Department to complete, ensuring the long term viability of supply for users.

The Gnangara groundwater allocation plan is a significant body of work for the Department. In completing this complex planning process, the Department will:

- reduce the total volume of water abstracted from the Gnangara system towards a level that better reflects the current rate of groundwater recharge;
- optimise the use of water through water use efficiency and demand management measures;
- protect groundwater-dependent ecosystems from direct impacts associated with abstraction;
- protect the quality of groundwater for public and self supply from impacts associated with abstraction and land use; and
- adapt management of the resource, based on the results of monitoring programs and condition of the resource.

The Gnangara groundwater allocation plan is a long-term, complex project with ongoing planning and updates required. The current phase of planning took around 2.5 years and involved three full time equivalent staff (from allocation planning, environmental water assessment, policy and hydrogeology). The cost of completing the plan was around \$800,000. This cost does not include the costs of long term drilling, monitoring, modelling and planning associated with EPA section 46 reviews, or the Gnangara Sustainability Strategy.

Case 5. Southwest groundwater areas allocation plan

The South West groundwater areas cover the proclaimed areas of Bunbury, Busselton–Capel, Blackwood and part of South West Coastal region. In 2004, the Department of Water began a major planning process for the South West groundwater area. The South West groundwater area includes the South West Yarragadee aquifer, which due to its size, demand and high quality is one of the State's most important resources.

The main drivers for the Department completing a major detailed planning process were:

- the Water Corporation's application for 45GL from the Yarragadee aquifer to supply the IWSS;
- high demand in the local area with over 50 per cent of sub-areas at full allocation;
- water trading being initiated in some areas that were at full allocation and there was pressure to confirm the allocation limit; and
- the results of previous major groundwater investigations being completed.

To complete the planning process, the Department undertook a number of major projects including: assessing the groundwater dependent ecosystem; hydro-geological investigation and assessments; social value studies and use assessments; and major consultation exercises. The key outputs that the Department produced as part of the plan include:

- a streamlined and transparent decision-making process for licensing;
- a clear and accountable monitoring program for the Department and water users in the area;
- clearly defined limits for allocating from each resource that are supported by extensive scientific modelling, monitoring and investigations; and
- an accountable review process for the Department to undertake to ensure that water users security of supply is not diminished.

There are a number of benefits in completing a complex and robust planning process, these benefits include:

- maintaining groundwater quality for fit for purpose use so that there is an acceptable level of risk to the environment and water users;
- protecting the security of supply for water users;
- recovering over-allocated groundwater resources;
- reserving groundwater for the public drinking water needs of South West communities; and
- providing licensees with consistent information on licensing requirements and decisions.

The South West groundwater areas plan had approximately six staff working on the project (across allocation planning, environmental water assessment, policy, hydrogeology, and communications). The project has taken five years.

Case 6. Whicher surface water areas water allocation plan

The Whicher area covers surface water along the Busselton Coast, Capel River and Lower Blackwood river basins. There are a large number of self-supply water users, who access surface water mainly through direct pumping from the rivers and on-stream dams. The Department of Water began work for the Whicher surface water allocation plan in 2002. The plan was initiated in response to increasing pressure and demand for surface water resources in the context of changing land use and a drying climate.

Due to resource priorities, the Department put the plan on hold following the application from the Water Corporation for 45GL from the South West Yarragadee aquifer. In late 2006, the Department re-initiated the plan, due to increasing pressure to actively manage the area through licensing.

In response to this pressure from increasing water use, the Department proclaimed¹⁵ the surface water areas in September 2007.

The Whicher surface water allocation plan is currently being finalised. The degree of allocation of water resources in the plan is classified as category 2, moving to category 3 (see above for an explanation of these classifications). It is a moderately complex plan with some high levels of use or over-allocation. The Department's aim, through the plan, is to set formal limits on surface water availability. The main benefits from completing this plan are that:

- the impacts of new surface water developments on existing water users are minimised;
- key ecological, cultural and social values are protected from over abstraction; and
- commercial use in proclaimed areas will now be managed through licensing, offering much better security on the commercial investments made in the area.

The plan took 2.5 – 3 years to complete and involved three full-time equivalent staff. The cost of the plan was approximately \$750,000, including \$500,000 for environmental water planning and \$250,000 for water allocation planning. This does not include the costs of hydrological investigations.

3.3 Water Resource Investigation and Assessment

Surface water and groundwater monitoring, assessment and science support:

- water resource use activities such as allocation planning and water licensing,
- water quality activities such as river action plans, and
- urban water management activities such as drainage planning.

Water resource assessment is a core function of the department under the *Water Agencies Powers Act 1994*. It also provides essential information for the Department to issue licences and complete allocation planning under the *RiWI Act 1914*.

¹⁵ Proclamation is a legal process allowing the Department to manage the water resources and issue licences to water users under the *RiWI Act 1914*.

Case 7. Investigating groundwater availability in the Cowaramup area

Recently, the Department of Water had begun to refuse groundwater licences in the Cowaramup area due to full allocation of the Leederville aquifer in the western portion of the Busselton-Capel groundwater area. As demand for further water resources was high, the Department decided to undertake further groundwater investigation between 2005 and 2008. This investigation comprised drilling and installing monitoring bores, dating the age of the groundwater and numerical groundwater modelling. The intent was to determine whether additional groundwater resources were available to meet demand for future water allocations.

The Department's Cowaramup investigation improved the understanding of the Leederville aquifer as well as created a better groundwater monitoring network in a previous knowledge gap. Through this work, the Department confirmed that there is an additional 1.5 GL/year of groundwater available for licensing and allocation.

Over the three years of the investigation, approximately 4.5 full-time staff were required. The total cost of the project was \$900,000.

Case 8. Groundwater modelling on the Gngangara Mound

As part of managing the water resources on the Gngangara and Jandakot Mounds, the Department developed a model of the hydro-geological processes in the area, known as the Perth Regional Aquifer Modelling System (**PRAMS**). The model covers the area from the Darling Scarp to offshore and from Lancelin to Mandurah (around 9,100 km²) and comprises twelve hydro-geological layers, with seven aquifers to a depth of 3,000m.

PRAMS significantly improves the capability to predict the impact on groundwater resources of changes in climate, land-use and abstraction. It is a powerful predictive management tool in constant use to determine sustainable allocation limits, impacts on wetlands, urban development and drainage options. PRAMS provides crucial insight when developing allocation plans and water source protection plans. PRAMS is also used extensively in assessing new licence applications.

The PRAMS project is a large scale project. Major effort in groundwater drilling, monitoring and review is required to support the development and operation of PRAMS. The modelling work is ongoing and involves 2 to 3 full time staff. The cost of the PRAMS project is around \$2 million to date.

3.4 Land Drainage and Flood Management Activities

3.4.1 Drainage

The Department of Water's drainage function is defined under Part IX of the *Metropolitan Water Authority Act 1982*. Integral to this function is the development of drainage water management plans to guide future urban development and deliver informed urban planning outcomes in relation to water resources.

The Department undertakes drainage planning in particular areas on an as-needs basis, linked to land developers' and planning agencies' proposals. The criteria to determining priority areas and timing include:

- the nature and complexity of water issues in the area such as waterlogging, flooding, high groundwater and/or high nutrient levels;
- the size and type of development;
- the expected timing of developments and planning processes (ideally where the decision making process for rezoning will be able to accommodate the 12-18 month lead times for a drainage plan);
- the number of developers involved in a specific area; and
- the capacity of individual local governments and the resources available in the Department of Water.

Case 9. Drainage planning in the Murray area

The Murray area is located on the Swan Coastal Plain, roughly defined by Nambeelup Brook catchment (near Keysbrook) in the north, to the Fauntleroy's Drain catchment (south of Pinjarra) in the south. It is anticipated by 2031 an additional 10,000 housing lots will be required to accommodate the projected population growth in the area.

Developing urban areas in this location presents significant water resource management challenges due to waterlogging and a high risk of riverine flooding. It also presents a significant opportunity to properly align land and water planning so that land planning decisions for the area adequately address water resource management issues.

To develop the Murray drainage water management plan, the Department is currently undertaking several contributing studies. These studies include a floodplain development study (made up of rainfall, runoff and flow assessments and floodway definition); a groundwater study looking at groundwater levels and waterlogging; ecological water requirements and a nutrient risk assessment for the Peel-Harvey area. Each of these scientific studies provide the foundation for the drainage water management plan.

It is expected that the plan will take around 18 months to complete. It will involve 5 full-time staff working on the project and \$2 million in funding to complete the scientific, policy and consultation components of the project.

When complete, the drainage plan will provide technical and policy guidance to developers, local government and planning agencies on how water quantity and quality will need to be managed to minimise any adverse impacts on the environment and ensure that the areas identified for development can be managed sustainably.

The plan will set out:

- principles for best management practices in water sensitive urban design for stormwater management;
- surface water flow rates that need to be maintained and accommodated in a given landscape, and strategies for flood plain management and flood protection;
- guidance on how water quality and quantity needs to be managed to minimise adverse impacts on the environment;
- principles for water conservation, water resource use and protection of public drinking water supplies;
- groundwater management strategy;
- social considerations for planning and development; and
- current catchment conditions, including soil topography and acid sulphate soils.

3.4.2 Floodplain Management and Planning

The Department of Water's floodplain management function is defined under *Water Agencies (Powers) Act 1984* - Section 9.

The Department of Water, in carrying out its role in floodplain management, provides advice and recommends guidelines for development on floodplains with the object of minimising flood risk and damage. The Department has advised that it prioritises its floodplain management activities on a flood risk basis. According to the Department it:

- completes floodplain mapping and floodplain management studies for existing and future urban areas which are flood prone; and
- provides advice to planning agencies, local government and other agencies on flooding with the object of minimising flood risk and damage.

Case 10. Flood plain management and planning in the town of Moora

In response to the major flood event in Moora in March 1999, when two thirds of the town was evacuated and the total flood damage came to \$17 million, the Department of Water undertook a study to review the town's flooding activity and to develop appropriate floodplain management strategies. This study involved assessing flood hydrology, hydraulic floodplain modelling, a flood damage assessment and evaluation of a number of structural and non-structural flood management measures that would lessen the impact of major flooding in the town.

The Department's result was a report, *Moora Flood Management Study (September 2000)*, recommending that appropriate planning, development controls and emergency response measures would be the most cost-effective measure to reduce the town's potential flood damages. Structural flood mitigation works were not considered cost beneficial. The non-structural measures that were recommended by the Department and adopted by the Shire of Moora Council included appropriate land use zoning, development controls, flood-proofing of existing houses, an improved flood warning network and increased community flood awareness and education.

The report took the Department around 18 months to complete and involved 0.5 full-time staff plus \$150,000 in consultancy work. This work is still being used today by the Shire of Moora to guide future development and to ensure potential flood damage is minimised.

Western Australia has an average annual flood damage bill of around \$20 million. Studies indicate that for every \$1 spent on mitigation, between \$2 to \$3 are saved in the response and recovery phases. The Department has traditionally found that most effective strategy for reducing the long-term impact of natural hazards, such as flooding, is to promote mitigation activities.

3.5 Water Quality Management Activities

3.5.1 Protecting Public Drinking Water Sources

The Department of Water is responsible for implementing the *Metropolitan Water Supply Sewerage and Drainage Act 1909*, the *Country Areas Water Supply Act 1947*, and their related by-laws. By-laws created under these Acts enable the Department to protect surface and groundwater resources classified as public drinking water source areas. This water is then made available to licensed water service providers for appropriate treatment before being distributed to consumers.

The Department protects public drinking water resources through proclaiming drinking water source areas, controlling potentially polluting activities, regulating land use, inspecting premises and taking the necessary steps to prevent or clean up pollution.

The Department is completing drinking water source protection plans for all public drinking water areas across the State. Plans are prioritised by considering:

- land use planning and development pressures;
- advice from water service providers on identified drinking water sources;
- information and advice from water service providers relating to sanitary surveys or sampling analyses indicating that water is being contaminated or at risk of contamination; and
- strategic or government requirements based on allocation planning and/or resource assessment work.

Case 11. Water source protection planning in Brookton

In 2008, the Department of Water completed the Brookton Happy Valley drinking water source protection plan. This drinking water source was characterised as a shallow unconfined aquifer, meaning it is highly vulnerable to contamination from land uses and activities within proximity. The vulnerability of this important water resource meant that the Department had to review current rural land uses in the water reserve and determine how best to reduce risks to water quality.

The Plan was developed in consultation with the local shire and landowners. The outcome of this protection plan was to change the boundary and reduce the overall size of the old water reserve to better reflect up to date hydrogeological information.

Using the planning process, the Department defined strategically important, highly vulnerable locations in the water reserve as priority 1 (P1) areas. Priority 2 (P2) areas were defined for other land within this water reserve.

The Department is now:

- working with land owners in P1 areas to purchase land to maximise the protection of water quality and avoid the risks posed by the current land uses to water quality and potentially public health; and
- mapping out a risk minimisation approach to help farmers minimise water quality contamination risks. This work includes determining best practice land use management and developing a number of guidelines and brochures suitable to the P2 areas.

The initial drinking water source protection plan took 12 months to complete with half a full-time staff member working on the project. The Department would complete between 10 to 15 of these low-demand plans each year.

Case 12. A medium demand drinking water source protection plan

The Jurien Water Reserve is a groundwater source that services the coastal town site of Jurien. Proposed future expansion resulted in a proposed ten-fold increase in the size of this water reserve. That increased size meant substantial amounts of private land would be within the water reserve and possibly subject to land use planning constraints to protect water quality. The Department completed investigations of the water reserve and showed it to be a shallow unconfined water source vulnerable to contamination from surface land uses.

The Department released the draft drinking water protection plan for public comment and held an open day to discuss the issues with local stakeholders. Following on from this, the Department considered all public submissions and released the final plan with changes to provide for development opportunities on private land. Following on from that, additional consultation with the local Shire was required to determine conditions that could be applied at the land use planning subdivision application and approval stages.

This plan required one full-time staff member for a 12 month period. Although Jurien was a high profile protection plan, the costs and time were contained because the issues were not different to many others raised across the State for which the Department already had information. The benefit has been to the public for the protection of water quality and supply for now and in the future, and to landowners who can still consider land development proposals.

The Department completes two to three of these medium-complexity plans each year.

3.5.2 Salinity Recovery

In 2000, the State Government through the State Salinity Strategy re-confirmed five catchments (Denmark River, Kent River, Warren River, Helena River and Collie River) with a high-value water resource at risk, or already affected, from increasing salinity levels. These catchments have been gazetted as Water Resource Recovery Catchments, with the *Country Areas Water Supply Act 1947* providing controls for the management of catchment areas since the late 1970s.

The main criteria for assessing which catchments are defined as water resource recovery catchments included:

- the potential for future use of the water resource;
- the viability of salinity recovery; and
- social and environmental attributes of the catchment.

Case 13. Salinity recovery in the Collie River

In 2001, the predecessor to the Department of Water produced a Salinity Situation Statement for the Collie River. This extensive report identified the trends and status of water quality in the Wellington Reservoir. The Department's water quality monitoring and assessment found that since the 1960's, the Collie River had become increasingly saline as a consequence of land clearing in the catchment. As a result, Wellington Reservoir could no longer be used by Water Corporation for public water supply and was becoming unsuitable for Harvey Water's irrigation purposes.

Since the early 1980s, Department of Water's predecessors have purchased over 18,000 ha of land, mostly remnant native vegetation, but also includes 5,500 ha of plantations.

More recently, the Department has identified a range of engineering and land management options that could be put in place to remediate the water quality in the Wellington Reservoir to 500mg/L total dissolved solids by 2015.

One of these options is diverting saline river flows before they reach the Wellington Reservoir. As part of a trial to evaluate this option, the Department diverted approximately 6 GL of early winter saline river flows over 2005, 2006 and 2007 from the eastern part of the Collie River catchment to store in a nearby mine void. Other activities that the Department has rolled out to successfully reduce salinity in Wellington have included tree and perennial plantings.

The Department has had around 7 FTE working on salinity monitoring, recovery and land management within the Collie River catchment with an annual budget of approximately \$700,000 including operational expenses (staff salary). The diversion project is an externally funded project of \$30 million made of equal contributions from the Commonwealth Government's National Action Plan for Salinity and Water Quality and the Water Corporation.

Salinity recovery in the Collie River catchment has a history of policy approvals by successive governments, and has involved extensive stakeholder consultation. Work to date has reduced salinity from a predicted 1800 mg/L to a current average of around 900 mg/L. The diversion project is projected to reduce salinities even further and make Wellington Reservoir usable for industry and more viable for irrigation.

Given the high demand for water in the Collie area from power producers, local industry and irrigation, improving the quality of water in Wellington will provide ongoing benefits to water users into the future. With the quality of Wellington restored, there is also potential for the water in the catchment to be used once again for public water supply.

3.6 Water Services Industry Activities

The Department operates a number of water service industry functions relating to water utilities such as the Water Corporation, irrigation cooperatives, and the provision of services to remote Indigenous communities.

The Department has functions under the *Water Services Licensing Act 1995*, such as dealing with customer complaints against water service providers and advising the Minister on matters like water pricing, setting targets for efficiency and the development of codes for the planning of secure supplies.

The Department also has functions under the *RiWI Act* to manage water service providers, as large water users. The Department uses the Act to ensure that water service providers abstract water sustainably.

Case 14. Managing customer complaints against service providers

Currently, the Department of Water manages unresolved complaints or disputes between customers and water service providers. The Department investigates complaints, acts as an intermediary between customers and service providers and seeks to reach a mutually agreed resolution. The Department only becomes involved when the water service provider is unable to resolve the complaint and reach a mutual agreement itself. However, the Department cannot make decisions that are binding on the service providers.

Last year, a water service provider customer received a large water use account for \$1532.15 for water use of 1,180 kilolitres to their holiday home, over six-months. Whilst the customer advised the water service provider that the property had a leak in the toilet, it would have to be a very bad leak to account for the amount of water used. The customer's claim was that water meter had been tampered with. The customer was then referred to the Department to investigate this further.

The Department investigated the claim by obtaining further information from the customer and the water service provider. The water service provider found that the property had a "stop" at the water meter, which is usually used to facilitate short-term repairs. The Department then found that the customer was using an isolating valve which was installed on the internal service indicating that they were trying to do the right thing. Although there was no evidence to support the customer's claim, the Department found that the house was usually vacant and a meter was previously removed by unknown persons.

The Department arbitrated between the water service provider and the customer and the service provider offered an allowance of 50 per cent of the estimated wastage. This reduced the account by around \$1,000. The customer accepted this offer and the Department arranged with the water service provider for the adjustment to be carried out and issued with a revised account.

Last year the Department addressed around 100 of these types of complaints. The complaints can take anything from one day to three months to resolve and involve between one and two staff members.

Case study 15. Issuing exemptions for water services licences

In accordance with section 18 of the Water Services Licensing Act 1995, the Governor can issue a licence exemption for a service provider in a controlled area as long as it is not contrary to public interest to do so. In considering the application for an exemption, one of the Department of Water's roles is to undertake a public interest assessment on a licence exemption by taking into consideration environmental, social welfare, equity, economic and regional considerations as well as competition factors in the water industry. The Department subsequently provides a recommendation to the Minister of Water.

The Shire of Northampton previously held a water service licence for the provision of non-potable water to approximately 47 property owners plus holiday visitors occupying the caravan park or rental accommodation. In 2006, the Shire sought a licence exemption from the Minister for Water.

The Department followed the exemption process of:

- completing a public interest assessment, lasting around 4 weeks and involving consultation with the proponent, and relevant agencies such as the Economic Regulation Authority and the Department of Health;
- advising the Minister and Parliamentary Counsel in the drafting of an Exemption Order;
- publishing the Order in the Government Gazette; and
- ensuring the proponent provided adequate information to all parties.

The Department concluded that the public interest benefits of exempting the service (in this case a service involving small asset base and few customers) were greater than those of licensing it.

In its assessment of the exemption, the Department considered that exemption should be granted with the following conditions, to ensure that the public interest is not compromised:

- the Shire must write to residents twice a year advising that the service is non-potable;
- the Shire must undertake quarterly reporting to the Department on customer complaints, service delivery performance and financial information which the Department assesses; and
- the Shire must maintain a standard of service consistent with existing levels.

In late 2007, the Governor granted a licence exemption to the Shire of Northampton for the provision of non-potable water in the community of Port Gregory for two years.

Using the above information, the Department will formally reassess the public interest after the first two years of the exemption.

Currently, there are six licence exemptions granted. Each assessment takes around two to three months and requires review at a stated time period. An exemption usually involves one to two staff members.

4 What Water Resource Management and Planning Costs Should be Allocated to Users?

The Authority has been asked to consider and develop findings on:

- the tasks or activities undertaken in the efficient management of the State's water resources by the Department of Water, that would appropriately be recovered from water users; and
- the most appropriate level (or percentage) of cost recovery from water users.

Water resource management and planning activities are likely to lie on a spectrum from activities that are undertaken entirely because a person applies for a licence, such as processing a licence application, through to activities that cannot be traced to one particular licence applicant. An example of an activity that cannot be traced to a particular licence applicant is the provision of expert scientific support to water resource management decision making throughout the State.

A previous investigation into water resource management charges by the Water and Rivers Commission in 2003 used the "spectrum" framework for allocating the water resource management and planning activities to users.¹⁶ It involved considering each activity separately and determining to what extent the activity could be attributed to individual users, to the community more generally, to future users, and to past users in the event that the activity is addressing a water quality issue caused in the past.

Costs were allocated in proportion to the estimated contribution of an individual or group to the need for the costs to be incurred ("impactor pays"). A further guide to the allocation of costs was the expenditure that would have been incurred by the group or individual if the Commission did not carry out that activity (e.g. for reasons of private benefit or legal obligation). According to the consultants, ACIL Tasman:

It is readily acknowledged that there is inevitably a degree of subjectivity in the allocation ratios and that there is scope for alternative valid judgements to be made. In addition, it should be borne in mind that the allocation ratios themselves may change over time if the nature of the underlying activity changes.¹⁷

The cost allocation exercise determined that around half of the Commission's \$46 million expenditure on water resource management in 2002-03 could be attributed to current water users, and around \$15 million to water service providers.

The method applied by ACIL Tasman in its report to the Water and Rivers Commission, was applied in a similar way in New South Wales. Costs are allocated on the basis of who caused the costs to be incurred, such as individual users, the Government representing the community, or past users (in which case the Government pays for the activity). The cost allocation exercise involves allocating costs on a source by source basis (e.g. regulated rivers, unregulated rivers and groundwater sources). In 2006/07, 65 per cent of the Department of Natural Resources expenditure on water planning and management activities was attributable to water users. The remaining 35 per cent, which includes the costs of activities caused by past users, was funded by the Government. A

¹⁶ ACIL Tasman (2003), *A Financial Charging Model for Water Resource Management*. A report prepared for the Water and Rivers Commission.

¹⁷ ACIL Tasman (2003), *op.cit.* p26.

recent determination by the economic regulator in NSW (IPART), applies the 65 per cent allocation to users for the period to 30 June 2010.

No other jurisdiction has set water resource management charges on the cost-allocation approach applied in NSW and, as such, are currently not in compliance with the National Water Initiative. The proportion of costs recovered from users in other States is generally less than in NSW.

- In Victoria, the costs of water resource management and planning activities carried out the Department of Sustainability and Environment (DSE) and catchment management authorities are only partially recovered.¹⁸ The government levies an environmental contribution on water service providers, aimed at recovering the cost of programs to improve the sustainable management of water and addressing environmental impacts related to water use. The environmental contribution is currently set at five per cent of revenue for urban water authorities and two per cent of revenue for rural water authorities, which are passed on to customers.
 - Preparation of streamflow management plans and groundwater management plans is led by four regional water corporations, who undertake much of the work and consultation in developing the plans. The corporations also licence groundwater users and self-supply surface water diverters (as well as their own retail irrigation service customers).
 - The corporations' costs in undertaking these activities form part of their regulatory revenue requirements. The corporations charges include fees for licence assessments and transfers of entitlements.
- In Tasmania, 20 per cent of the costs of water assessments are recovered from water users on the basis that these costs provide direct private benefits to users. The charges differ across eight pricing regions to reflect the cost of servicing users throughout the State.
- Queensland recovers less than five per cent of water resource management and planning costs from users. The charges are in the form of set fees for various activities associated with the administration of licences and water allocations.
- In South Australia, recovery of the Department of Water, Land, Biodiversity and Conservation's costs is generally limited to the Save the River Murray Levy. This levy is added to South Australian Water customers' bills and ranges from \$8 per year to residential customers and \$36 per year to commercial customers and large farms (greater than 10 hectares). The Department also charges fees for water licence applications, transfers and variations.
 - In South Australia, water allocation planning is undertaken by regional Natural Resource Management (NRM) boards. One of the sources of revenue for the boards is a NRM levy on licensed water users, under the *Natural Resource Management Act 2004*. The levy varies between locations and user types and is calculated based on water allocation volumes.
- In the Australian Capital Territory, the ACT Government sets a water abstraction charge, which is added to the usage charges of water customers.¹⁹ The charge is aimed at recovering the costs of catchment management and planning activities incurred by government. However, it is not clear to what extent the charge reflects

¹⁸ The DSE recovers some costs through transaction fees and charges set in regulations and by-laws under the Victorian *Water Act 1989*.

¹⁹ The charge is currently set at \$0.51 per kL for licensees taking water for urban water supply (ActewAGL) and \$0.25 per kL for other licensees.

the costs of water resource management and planning activities. The charge also includes components reflecting environmental costs imposed on downstream users, and water scarcity.

Issues

- What costs of the Department of Water's resource management and planning activities should be allocated to users?

5 How Should Water Resource Management and Planning Charges be Designed?

The Authority is required by the Terms of Reference to consider and develop findings on:

- the most appropriate allocation of costs between licence holders and other water users (licensed entitlement or actual use).

The Terms of Reference require the options to be designed with regard to the impacts on users:

- the implementation impacts for various types of users, including a sensitivity analysis on capacity to pay assumptions;

The most recent proposal by the Government to recover licence administration costs applied a schedule of fees with one-off application fee of \$200, no additional charge if the entitlement was less than 1,500 kL per year and then fees that increased in steps with the entitlement. The fee structure was to apply to all licensees across the State. The guiding principle was that the administration costs of licensing increased with entitlement. The schedule of fees is provided in Table 5.1.

Table 5.1 Water Licence Administration Fees Gazetted December 2007 and Subsequently Disallowed By Parliament in April 2008

Licence Class	Entitlement Class (kL per Year)	Suggested Fee	Frequency
	Application fee	\$200	On application
	0 – 1500	Free	
1	1,501 - 5,000	\$100	Annual
2	5,001 - 50,000	\$150	Annual
3	50,001 – 100,000	\$250	Annual
4	100,001 – 500,000	\$700	Annual
5	500,001 – 1,000,000	\$1,600	Annual
6	1,000,001 – 5,000,000	\$2,500	Annual
7	5,000,001 – 10,000,000	\$4,000	Annual
8	> 10,000,000	\$6,000	Annual

It is understood that licensed entitlement was used rather than actual usage because of the large number of unmetered users.

Activities that do not require a licence were not to be charged, including water used for livestock and domestic purposes, water taken on the basis of “riparian rights” (firefighting, stock water, household use or irrigation within two hectares around a dwelling); domestic garden bores in the Perth metropolitan area; and dewatering activities with limited impact (e.g. construction).

The following table summarises the current licence allocations for groundwater and surface water in Western Australia.

Table 5.2 Water Licences Issued (as at April 2009)

Region	Licences under the <i>Rights in Water and Irrigation Act 1914</i>						Licences under the <i>Metropolitan Water Supply, Sewerage and Drainage Act 1909</i>	
	Licences to Construct Bores (s.26D)	Groundwater Licence (s.5C)	Permits to Interfere with Beds or Banks	Surface Water Licence (s.5C)	Groundwater Licence (s.57G)			
	No. of Licences	No. of Licences	Licensed Allocation (kL/year)	No. of Licences	No. of Licences	Licensed Allocation (kL/year)	No. of Licences	Licensed Allocation (kL/year)
Perth	0	45	153,700,000	4	17	291,650,000		
Goldfields	60	229	260,784,260	0	0	0		
Kimberley	30	279	80,873,611	17	72	364,058,520		
Kwinana Peel	133	2,057	93,373,869	13	76	37,430,177	814	4,038,940
Midwest	66	721	194,294,192	11	12	175,185		
Pilbara	107	245	356,977,229	110	13	16,033,210		
South Coastal	21	482	12,993,103	2	3	2,000,000		
Swan Avon	106	4,067	287,984,436	24	175	7,569,447	1,521	2,556,745
South West	93	2,416	204,820,855	53	510	193,545,179		
Total	616	10,541	1,645,801,555	234	878	912,461,718	2,335	6,595,685

Source: Department of Water

The following Table 5.3 shows the different types of users in different categories of licence allocations.

Table 5.3 Range of Licence Allocations and Examples of Licence Holders

Allocation Range (kL/annum)	Statewide Groundwater Allocation*		Statewide Surface Water Allocation		Examples of Users in Each Allocation Range
	No. of Ground Water Licences	Licensed Allocation (kL/annum)	No. of Surface Water Licences	Licensed Allocation (kL/annum)	
0 to 5,000	6,291	10,104,618	134	303,669	Hobby farms, light industrial, community services
5,001 to 100,000	5,413	150,439,848	538	19,480,849	Small dairy farm, small horticulture, aquaculture, agriculture, small mining operation, dewatering, local government authority, schools, Water Corporation
100,001 to 500,000	742	175,147,653	150	33,114,900	Agriculture, horticulture, aquaculture, local government authority, schools, Water Corporation, dewatering, medium mining operation, utilities
500,001 to 1,000,000	154	112,694,267	17	13,271,900	Agriculture, horticulture, local government authority, heavy industry, medium mining operation, dewatering, Water Corporation, utilities
> 1,000,000	276	1,204,010,854	39	846,290,400	Large mining, aquaculture, horticulture, heavy industry, Ord River Co-operative, dewatering, Water Corporation, utilities, local government authority
Total	12,876	1,652,397,240	878	912,461,718	

Source: Department of Water

In New South Wales, separate water management charges are set for each water source and river valley or aquifer. Charges reflect the different types of activities and costs incurred in each area, and consist of both an access charge and a usage charge, and a minimum charge of \$60 in each case. For example, for regulated rivers access charges vary from \$0.73-\$2.19 per ML of entitlement or per unit share, and usage charges range from \$0.26-\$1.99 per ML.

In Queensland, charges apply to particular activities associated with licence administration; e.g. \$93.35 for an application for a water licence or amendment to a water licence; \$420.90 for an application for a bore driller's licence. There is also an annual licence fee of \$58 per licence, and water harvesting charges for metered licence holders (which vary by water management area, but are generally around \$3.52 per ML). Fees and charges are administered by the Department of Environment and Resource Management and are set out in regulations under the *Queensland Water Act 2000*.²⁰

²⁰ Queensland Water Regulations 2002, Schedules 14 and 16.

Issues

- What is the appropriate method of cost recovery?

6 What Form of Regulatory Arrangements Would Be Appropriate?

The Terms of Reference require the Authority to provide the Government with a range of options and recommendations for:

the most appropriate regulatory arrangements for the setting of service standards for the resource manager, the setting of the charges and the subsequent recovery of those charges from water users.

The regulatory arrangements that govern the resource manager are important because they influence the efficiency of the resource manager and can provide confidence that there is alignment between the service standards that users are willing to pay for and the service standards that are achieved.

Currently in Western Australia, the Department of Water carries out water resource management and planning activities on behalf of the Minister for Water. There are no charges set for the recovery of these activities; all costs are funded from consolidated funds. Service standards for the Department are developed by the Department and reviewed and approved by the Government's Outcome Structure Review Group.

By comparison, in NSW, which has the most formalised regulatory arrangements for water resource management and planning charges, the resource manager is the Department of Water and Energy (formerly the Department of Natural Resources). Charges for the recovery of some of these costs are regulated by the economic regulator, IPART, which also developed the charging principles. Service standards for the Department are also set by IPART as part of the price reviews.

Many of the current arrangements in the eastern states regarding the recovery and regulation of water resource management and planning costs may be subject to change over the next few years. The Australian Competition and Consumer Commission (**ACCC**) is currently reviewing the water charging rules associated with water resource management on the Murray-Darling Basin. The review arises out of the recent Commonwealth *Water Act 2007*, which establishes new institutional and governance arrangements for the management of Murray-Darling water resources, including a new role for the ACCC to provide advice to the Minister for Climate Change and Water on regulated water charges. This will impact on the arrangements in each of the jurisdictions in the Murray-Darling Basin regarding the setting and regulation of charges for water resource management and planning.

6.1 Current Service Standards and Efficiency Indicators for the Department of Water

The Department provided a performance framework and various indicators in its Annual Report 2007/08 to show how the Department achieved the Government's two desired outcomes for the Department's services:

- Desired Outcome One – Development of water resources to support State development; and
- Desired Outcome Two – Protection of water resources within sustainable limit.

Table 6.1 Performance Indicators for Desired Outcome One – Development of Water Resources to Support State Development

Performance Indicators for Desired Outcome One	Quantity	Total Expenditure (\$)	Average Unit Cost (\$)
Effectiveness			
Number of sedimentary water resources with licensed allocation within assessed sustainable yield	511	-	-
Efficiency			
Average cost per allocation plan or policy developed	10	8,883,000	888,300
Average cost per water resource assessment	146	23,187,000	158,815
Average cost per gigalitre of water licensed	2,774	21,382,000	7,708

Source: Department of Water, Annual Report 2007/08

Table 6.2 Performance Indicators for Desired Outcome Two – Protection of Water Resources within Sustainable Limits.

Performance Indicators for Desired Outcome Two	Quantity	Total Expenditure (\$)	Average Unit Cost (\$)
Effectiveness			
Number of contamination occurrences exceeding drinking water standard in public drinking water source areas	0	-	-
The number of catchments conforming with designated targets	8	-	-
Efficiency			
Average cost per protection plan developed	16	2,792,000	174,500
Average cost per km ² of designated catchments where management measures are implemented	12,255 km ²	6,555,000	535
Average cost per km of river managed in designated catchment	567,750 km	23,697,000	42

Source: Department of Water Annual Report 2007/08

The Authority will assess whether these activities can be effectively benchmarked against other water resource managers in Australia. In addition, the Authority will be seeking technical advice from a consultant on the appropriate level of cost recovery of the Department's water resource management and planning operations.

The Authority notes the recently released report from the Auditor General, which indicated that the workload for the Department has increased by 45 per cent since 2003, due to growing pressure on WA's water resources, with groundwater use increasing.²¹ At the

²¹ Western Australian Auditor General (April 2009), *Public Sector Performance Report 2009 – Report 1. Management of Water Resources in Western Australia*, pp5-18. The previous report by the Auditor General on the management of water resources in Western Australia was in 2003.

same time water resources are at increasing risk from changes to land use and climate. Amendments to the RiWI Act had also increased the workload of the Department. However, the funding for water resource management had declined in real terms.

The Auditor General's key findings suggested that, since the previous review, the Department has:

- developed a coordinated, risk-based program to guide core water resource management and regulation activities;
- upgraded and expanded the groundwater measurement network;
- improved aspects of planning for water resource management, including the rate at which plans were developed and released for public water drinking water sources and prioritised ground and surface water allocation planning; and
- improved its water licensing processes.

However, the Auditor General noted that the Department has not:

- determined whether the surface water measurement network is sufficient for its information needs;
- ensured adequate planning for all public drinking water source areas;
- ensured that water allocation plans were adequate for nine groundwater resources where the water was in great demand;
- kept to the completion schedule for 13 other plans; or
- developed a systematic compliance program for ensuring that water is not taken unlawfully.

Issues

- What regulatory arrangements should be considered to assist the Department of Water achieve high service standards and efficiency in operations?

7 Implementation

The Terms of Reference require the Authority to report on:

- Implementation impacts for various types of users, including a sensitivity analysis on capacity to pay assumptions; and
- Opportunities for implementation under both the existing legislative responsibilities of the Department of Water as well as those specified by the National Water Initiative.

7.1 Impacts on Users

The Authority is intending to establish an understanding of the financial impacts that various charging approaches would have on licensees. The Authority welcomes any information that can be provided in submissions on this matter.

7.2 Legislative Requirements

The current legislation provides for the setting of fees and charges in relation to the setting, amendment and renewal of licences.

The *Rights in Water and Irrigation Act 1914* allows for the power conferred by section 37 of the *Water Agencies (Powers) Act 1984* to make regulations regarding:

- 27(1)(g) the forms to be used and the fees payable in respect of applications and the grant, variation and renewal of licences under section 26D; [and]
- ...
- 27(1)(h) the fees or charges payable in respect of licences under section 5C.

The RiWI Act allows for the fees and charges for section 5C licences to be set on the basis of allocation volumes.

- 27(3) Without limiting the generality of paragraph (h) of subsection (1) the fees or charges referred to in that paragraph may be set by reference to the volume of water allocated under a licence.

However, there is no provision under the *Metropolitan Water Supply, Sewerage, and Drainage Act 1909* for the setting of fees or charges for groundwater licences that were issued under section 57G of that Act (i.e. licences to construct, alter or take water from wells in declared public water supply areas).

Future legislation governing the management of water resources would need to provide for the recovery of the costs of water resource management and planning from water users.

Issues

- How would water resource management and planning charges impact on different types of users?
- What issues would need to be considered in implementing water resource management and planning charges under the existing legislation?
- What provisions would any future legislation need to make for the possible implementation of water resource management and planning charges?

APPENDICES

8 Appendix A. Terms of Reference

INQUIRY INTO WATER RESOURCE MANAGEMENT AND PLANNING CHARGES

TERMS OF REFERENCE

I, TROY BUSWELL, Treasurer, pursuant to section 32(1) of the *Economic Regulation Authority Act 2003*, request that the Economic Regulation Authority (ERA) undertake an inquiry and provide the Government with a range of options and recommendations for:

- the recovery of the planning and management expenses incurred by the Department of Water for the sustainable management of the State's water resources; and
- the most appropriate regulatory arrangements for the setting of service standards for the resource manager, the setting of the charges and the subsequent recovery of those charges from water users.

The options are to include:

- the implementation impacts for various types of users, including a sensitivity analysis on capacity to pay assumptions; and
- opportunities for implementation under both the existing legislative responsibilities of the Department of Water as well as those specified by the National Water Initiative.

In doing so, the Authority is requested to consider and develop findings on:

- the tasks or activities undertaken in the efficient management of the State's water resources, by the Department of Water, that would appropriately be recovered from water users;
- the most appropriate level (or percentage) of cost recovery from water users; and
- the most appropriate allocation of costs between licence holders and other water users (licensed entitlement or actual use).

In developing its recommendations, the Authority will have regard to:

- the Government's social, economic and environmental policy objectives;
- the Government's obligations as a signatory to the National Water Initiative Intergovernmental Agreement; and
- any relevant pricing principles arising from the 1994 Council of Australian Governments water reform agreement and the National Water Initiative.

The Authority will release an issues paper as soon as possible after receiving the reference. The paper is to facilitate public consultation on the basis of invitations for written submissions from industry, government and all other stakeholder groups, including the general community.

A draft report is to be available for further public consultation on the basis of invitations for written submissions.

The ERA will complete a final report no later than nine months after receiving the Terms of Reference.

**TROY BUSWELL MLA
TREASURER, MINISTER FOR COMMERCE;
SCIENCE AND INNOVATION; HOUSING AND WORKS**

9 Appendix B. Activities of the Department of Water

This outline of the Department of Water's primary and support services and associated activities for 2009/10 estimates the Full Time Equivalent (FTE) allocation for that year. In reality, the average FTE usage at any given time may be less than that (perhaps in the order of 600) which reflects vacant positions.

Table 9.1 Activities of the Department of Water

Services	Program	Sections	Activities	Area	FTE
Urban Water Management and Services	Water Services	Water Services Policy	<p>Establish monitoring and review procedures/processes for the prudent management of water service licensing exemptions.</p> <p>Identify and document the policies, procedures and guidelines that fall within the responsibility of the WSP Sub-program.</p> <p>Plan and implement a program of policy review.</p> <p>Determine preferred policy positions.</p> <p>Draft policy position papers for discussion with major stakeholders.</p> <p>Advise Minister on his responsibilities under WSLA 1995.</p>	Service Providers	9
		Indigenous and Remote Community Water Services	<p>Together with other stakeholders, identify communities requiring water services.</p> <p>Negotiate with the Water Corporation on the extent of its involvement in service provision.</p> <p>Develop standards of service, plan and prioritise service delivery.</p> <p>Develop a servicing model and undertake negotiations to secure funding for model implementation.</p> <p>Develop Strategic Water Issue Plans for Indigenous Water Services and Small Community Water Services.</p> <p>Develop a long term plan to service all required communities to the agreed standard, and be involved in managing and monitoring implementation.</p>	Service Providers	2.5
		Strategic Water Industry Policy	<p>Support for the Minister for Water in his roles:</p> <ul style="list-style-type: none"> in setting water and wastewater tariffs and pricing policy -as shareholder minister for Government owned water utilities <p>Development of pricing policies, through participation in:</p> <ul style="list-style-type: none"> Economic Regulation Authority inquiries into water pricing matters and development of associated Government responses national discussions on pricing matters. <p>Consideration and review of governance arrangements and competitive neutrality issues.</p> <p>Competition in the water industry and the potential for expanding the role of the private sector</p> <p>Advice on the application of market instruments in water resource management.</p> <p>General economic advice on emerging issues and published policy papers.</p> <p>Provision of economic advice on COAG/NWC policy development.</p>	Service Providers	2

Services	Program	Sections	Activities	Area	FTE
	Urban Water Management	Urban Drainage Planning	As below.	Flood & Drainage	40.27
		Urban Water Assessment	Develops drainage and water management plans for urban and coastal areas. Leads development of urban water best management practices; industry guidelines and research and development. The plans lay the foundation for future urban development.	Flood & Drainage	
		Water and Land Use Coordination	Leads land use planning initiatives to deliver sound and sustainable water, waterways and drainage management outcomes in particular by better aligning land and water planning. Provide advice to decision making authorities for example WAPC on planning proposals that have water management implications. Develop strategic planning guidance on how the development industry can meet water management requirements. Co-operation with other government departments and the development industry on streamlining approvals processes.	Flood & Drainage	
	Surface Water Assessment	Floodplain Management	Prepares floodplain mapping and floodplain development strategies to minimise flood damage. Assists with flood forecasting and warning.	Flood & Drainage	6
	Water Source Protection	N/A	Prepares and implements drinking water source protection plans for new and existing water sources. Prepares land and water use activity guidance documents.	Quality	25.5
	Salinity Recovery	Salinity recovery and catchment research	Builds on the Salinity Action Plan, progresses work on key catchments to recover “fit for purpose” water supplies. Management of plantation estates and clearing regulations in water resource recovery catchments. Scientifically assesses land use change, vegetation and climatic impacts on key water resources.	Quality	32.29
	Water Recycling and Efficiency	Water Recycling and Efficiency	Develop policy, guidelines and scientific knowledge to support recycling. Provide support to Local Government Authorities in developing water conservation plans. Provision of advice to water allocation planning and licensing functions.	Allocate & License	7.8
Water Use Allocation and Optimisation	Water Allocation Planning	Environmental Water Planning	Manage projects to investigate environmental water dependency and understand potential impacts of water use. Set water resource objectives to maintain groundwater and surface water systems. Set water regimes which will maintain renewability of supply and maintain in-situ social, cultural and environmental values to the resource objectives. Monitor water resources and dependent systems to inform environmental water planning, and to meet compliance criteria. Provide advice to support licensing to reduce impacts of water use on environments.	Allocate & License	12
		Water Allocation Planning	Develop standard process for water allocation planning. Project manage water allocation planning process. Source, commission and coordinate information needed for water allocation planning Setting prioritising program for water allocation plans. Advise on Public Water Supply source development planning.	Allocate & License	17.3

Services	Program	Sections	Activities	Area	FTE
			Advise on licensing decisions on the context of allocation plans.		
	Water Services	Rural Water Planning	<p>Provision of on-property water grants</p> <p>Strategic Development of emergency community water supplies</p> <p>Development of emergency farmland water response plans in partnership with local government</p> <p>Enhancement of technical competencies in the water industry in dryland areas of the state</p> <p>Review of overall water demands in dryland area including broadacre, intensive and small commercial farming industries</p> <p>Development of water resource management plans for strategic farmland water supplies</p> <p>Introduction of new water management and water efficiency initiatives</p> <p>Greater emphasis on water planning</p> <p>Ministerial advice on rural water situation (non-potable)</p>	Allocate & License	5.3
	Water Licensing	Water Licensing Policy	Develop policies and processes that underpin the department's water resource management and licensing decisions. Policy development activities include: consultation with stakeholders, obtain legal opinion to ensure enforceability of the policy, review policy intent to ensure it meets government and the department's strategic direction and not contradictory to other pieces of legislation or departmental policies.	Allocate & License	4
		Water Licensing	<p>Assessment of applications for licences in accordance with clause 7(2) of the RiWI Act. Assessment includes the determination of licence conditions for how water is to be extracted including the quantity, timing, water use and management of any impacts of such use. Large complex licence applications may involve stakeholder engagement.</p> <p>Granting new, amended or renewed licences and associated construction of works permits.</p> <p>Approving applications for trading of water licences / entitlements.</p> <p>Ongoing management of licences including monitoring report reviews, compliance with licence conditions, property inspections.</p> <p>Preparation of case briefs for the defence of licensing decisions in the State Administrative Tribunal.</p>	Allocate & License	67.34
		Water Reform Implementation	<p>Development of policies and systems enhancements to implement elements of water reform agenda under the existing legislation.</p> <p>Development of transitional arrangements and new system design to transition the existing licensing function to the new unbundled water entitlement system.</p> <p>Development of procedures for the administration of entitlements and facilitation of water trading.</p>	Policy & Reform	3
		Water Licensing and Support	<p>Development of licensing process enhancements.</p> <p>Consultation with industry representatives.</p> <p>Undertake internal QA audits.</p> <p>Staff training, education and maintenance of systems user manuals and procedural</p>	Allocate & License	9

Services	Program	Sections	Activities	Area	FTE
			handbook. Maintenance and administration of water licence information systems. Undertakes State wide water use audits in priority areas. Coordination of reviews of licensing decisions by the State Administrative Tribunal with relevant areas of the Department of Water.		
		IWSS Licensing and Special Projects	Assessment of applications for licences from the Water Corporation in accordance with clause 7(2) of the RiWI Act . Assessment includes the determination of licence conditions for how water is to be extracted including the quantity, timing, water use and management of any impacts of such use. Granting new, amended or renewed Water Corporation licences and associated construction of works permits. Ongoing management of Water Corporation licences including monitoring report reviews, compliance with licence conditions. Annual negotiations with Water Corporation to determine the annual water source allocations for th IWSS (groundwater, surface water and desalinated) and the subsequent licensing modifications to authorise. Provision of advice to regional offices on how to manage large complex licensing projects which are of State significance.	Allocate & License	3
	Water Recycling and Efficiency	Metering	Assess sites for installation. Manage contractors for the design supply installation and maintenance of water meters. Collect meter readings and report on data. Develop metering policy and guidelines and provide expert metering support for the State. Further information on the planned roll-out of meters state wide is available on request.	Allocate & License	11
Catchments and Waterways Health	Wheatbelt Salinity	Salinity Engineering	Develop drainage and water management plans for the Wheatbelt area, based on scientific evaluation and demonstration of potential impacts on waterways.	Quality	24.5
	Waterways	Waterways		Quality	
	Groundwater Resource Assessment	Groundwater Assessment	Undertakes technical assessments of the State's groundwater resources for use by water managers & water users	Allocate & License	34.6
		Groundwater Investigation	Ongoing exploration and investigation of the State's groundwater resources through the State Groundwater Investigation Programme	Allocate & License	
		Groundwater Review	Conducts annual reviews of the status and performance of groundwater resources across the State	Allocate & License	
	Surface Water Assessment	Surface Water Assessment	Undertakes surface water hydrology studies to support allocation planning and determine climate change impacts.	Allocate & License	

Services	Program	Sections	Activities	Area	FTE
Underpinning Support Service - Water Resources Assessment, Measurement and Science	Water Science	Water Quality and Land Use	Integrated land use and water quality modelling to support development approvals and catchment management decisions with a focus on the South West of WA. Developing and implementing river and estuary restoration activities	Quality	33
		Aquatic Ecology and Chemistry	Estuary condition assessment and science for estuary management in support to SRT. River Health assessment through the NWC Framework for Assessment of River and Estuary Health Assess aquatic impact of Acid Sulphate Soil drainage Coordinates statewide water quality monitoring	Quality	
		Aquatic Risk	Statewide algal Management Strategy Toxicity assessment approaches to rivers and estuaries and water for reuse and waste water Assess water contamination	Quality	
	Water Measurement and Information	Spatial Analysis (GIS)	GIS data capture and management of 126 custodial datasets including those for floodplains, public drinking water supplies, and for foreshore assessment. GIS products such as publication maps, 3d visualisations of the aquifers in the Perth and the South West regions and fly-through models of river systems (eg Blackwood river) are prepared and maintained. GIS data is exchanged with other government departments and industry in accordance with WALIS policies, procedures and practices.	Allocate & License	10
		Water Information Management	Data from the State Reference Network and other sources is captured into enterprise database systems. This capture incorporates quality control procedures to ensure that base data is fit for purpose. The data is managed on an ongoing and consistent basis. The data in the WIN database forms a valuable asset for the State which is in constant demand from a wide range of stakeholders.	Allocate & License	10.3
		Water Information Collection	In the field water data collection activities are undertaken during each year from the State Reference Network of 3,000 bores and 350 gauging stations spread throughout the State. Data analysis and interpretation is performed on the information collected. An expert technology centre provides statewide instrument support and a specialist team provides asset management capabilities. Base hydrography training and documentation services are also undertaken.	Allocate & License	65
		Water Information Provision	Base water quality, quantity and availability data is provided from the enterprise water information systems to a wide range of interested stakeholders. Up to 3,000 data requests per annum are serviced from private and public interests. Telemetry data is used on a constant basis for WA's flood warning sites providing an important service to the State and to Emergency service agencies. River levels are published on the web and are accessible free of cost. The department operates a popular depth to groundwater hot-line particularly for positioning new private groundwater bores.	Allocate & License	5.2

Services	Program	Sections	Activities	Area	FTE
Underpinning Support Service - Strategic Policy and Planning	Strategic Policy and Planning	Water Reform Coordination	<p>Coordination of National Water Initiative reporting including conducting a review of Western Australia's Implementation Plan for the National Water Initiative</p> <p>Project management function for implementing the National Water Initiative</p> <p>Intergovernmental relations, including the COAG water reform agenda: Correspond with DPC; DEC; DAFWA; WC mainly within WA and the NWC and DEWHA mainly at Commonwealth level</p> <p>Preparation of briefing notes for DG and the Minister in response to papers for meetings or out of session papers for COAG, COAG Working Group on Climate Change Water Sub Group, Natural Resource Management Standing Committee and the Natural Resource Management Ministerial Council</p> <p>Coordination of funding applications for external funds from Federal government to WA state projects (not just DoW, includes Harvey Water, Gascoyne etc.)</p>	Policy & Reform	4
		Strategic Water Management	<p>Ensure implementation of core State Water Planning actions, review plan by 2012 and determine new five-year priority actions</p> <p>Implementation and maintenance of a strategic water policy framework for the department and the state water planning framework for consistency and efficiency of plan/policy delivery</p> <p>Writing of policy to enable water reform</p> <p>Core input/expertise into operational policy development and allocation planning</p> <p>Manage a comprehensive economic forecasting model to provide advice on future demands for water across the state to focus planning and management</p> <p>In each region (where appropriate - Perth/SW/Pilbara as urgent):</p> <ul style="list-style-type: none"> - Scope the needs for regional planning - Develop comprehensive background papers on key issues - Engage stakeholders and govt agencies in strategic issues - Develop regional Plans that identify where water should be used and moved, links land and water planning (i.e. not just allocation but water services, drainage, waterways protection), and provides strategic direction on all water issues in that region to improve the efficiency of operational management where resources do not allow regional planning, develop Strategic Issue Plans on the key and urgent issues in that region to ensure responsible management and guide operational planning and management (i.e. allocation) until a wider regional plan can be developed <p>Develop stand alone and concise strategic policy (statewide, geographic, issue based depending on need) on key issues to provide clear positions to other decision making authorities and DoW decision makers until such time as operational plans/policies can be developed with supporting science/technical work</p>	Policy & Reform	6.6
		Strategic Water Issues	<p>Identify the top strategic water issues facing the DoW in the short, medium and long term</p> <p>Coordinate groups in the department to determine how to resolve strategic and cross-divisional issues</p>	Policy & Reform	2.3

Services	Program	Sections	Activities	Area	FTE
			Carry out the work and resolve those strategic issues that are allocated to this branch		
	Legislation and Legal Services	Legal Services	Ad hoc legal advice for licensing, allocation planning, other planning, land use stat referrals Supporting information for SAT appeals Dealing with contracts and funding deeds	Policy & Reform	1.5
		Legislation	Planning and implementing a program of reform for Western Australia's water legislation Preparation of documents necessary for the drafting of legislation and obtaining necessary Cabinet approvals Preparation of policy documents that guide the drafting of legislation Preparation of documentation to support the passage of the legislation through Parliament Discussion with stakeholders to ensure legislation is effective, comprehensive and supported Reporting to the Minister, Director General and others on the progress of legislative reform	Policy & Reform	3.5
Underpinning Support Service - Regional Management	Kimberley Region, Kwinana/Peel Region, Mid-West Region, South Coast Region, South West Region, Swan-Avon Region, Pilbara Region	N/A	Provides a central executive management and support service to the entire region. Assists in the implementation of an integrated program delivery service to regional stakeholders. Management of the OSH and Training requirements of all regional staff.	Regions	20
	Regional Coordination	Compliance and Enforcement	Supporting water resource management regulation compliance and enforcement including: Undertaking a key role in ensuring consistency across the Department. Improving the department's commitment towards enforcement against non-compliance of licences, and offences committed against the legislation. 2. Decision Making Function for Enforcement Actions: - Continuing the development of policy and guidelines to ensure the department undertakes best practice in enforcement and compliance. - Ensuring the ongoing improvement of enforcement and compliance practices of the department in accordance with best practice - Conducting investigations and providing advice in relation to investigations into breaches of statutes to ensure sufficient evidence is gathered to support any required enforcement action	Allocate & License	7
		Indigenous Support	Further developing the capacity in the department to engage with Indigenous people in water resource planning and management Ensure DoWs legal obligations are met.	Service Providers	2

Services	Program	Sections	Activities	Area	FTE
		Land Management	<p>Managing the DoW's land assets to meet the strategic priorities of the department where:</p> <ul style="list-style-type: none"> - Water resources are of significance for current or future public water supply. - Groundwater or surface water dependent ecosystems have ecological or social values. - Water resources or water related infrastructure or relics have indigenous or other cultural heritage. <p>Land Asset Management - further developing an ongoing program of land management and risk mitigation for the land it does own or manage.</p> <p>Land Acquisition - continuing a program of acquiring land which meets DoW's strategic priorities and which cannot be accommodated via alternate means (restrictive covenants, easements, ownership by other agency etc). Capital funding approx \$1M per annum</p> <p>Land Asset Disposal - transferring land to another entity where land can be managed by alternate means (and still meet strategic priorities) or dispose of land to another entity where strategies priorities do not apply.</p> <p>Strategic Use of Land Asset Revenues - ensuring that Capital Funds generated from disposal of any of its land estate are best used as a Capital Investment in key initiatives for the strategic benefit of the DoW and provide long term benefit to the State of Western Australia.</p>	Corporate Service and Development Total	6
	Land Management	N/A		Corporate Service and Development Total	
	Finance and Administration	Finance Administration and Assets	<p>Provision of the Department's vehicle fleet and the management of general accommodation and fixed asset matters</p> <p>Provides general administrative support services, as required, including the provision of reception for the Department.</p> <p>Financial and administration management for Department of Water</p>	Corporate Service and Development Total	25
		Financial Planning	<p>Coordinate the agency's budget submission to parliament, including the annual Bi-lateral process, preparation and submission of agency's strategic asset plan and annual review of fees and Coordination of departmental financial reporting internally and to the Department of Treasury and Finance</p> <p>Financial management against Resource Agreement commitments</p> <p>Provide financial modelling and general budgetary advice</p> <p>External funds management and development</p>	Corporate Service and Development Total	
		Financial Services	<p>Manages and prepares annual financial statements, Business Activity Statements (BAS), and Fringe Benefits tax returns for the whole of the organisation</p> <p>Implementing and maintaining all finance and asset related policies and procedures;</p> <p>Prepares whole of government reporting returns; and</p> <p>Oversees the development, maintenance and enhancement of financial management</p>	Corporate Service and Development Total	

Services	Program	Sections	Activities	Area	FTE
Underpinning Support Service - Corporate Services			systems across the organisation. Liaise with government agencies, external finance groups and internal employees on finance, system development and policy related issues		
	Human Resources	Human Resources Operations	The Operations Program has specific responsibility for the delivery of effective services in the HR functions of payroll and recruitment. It also provides assistance in the area of classification management.	Corporate Service and Development Total	24
		Organisational Development	The major output of the Organisational Development Section is to assist in providing support and advice to the Department on organisational change and development and to implement a range of program and structural reforms which will impact on service delivery and staff roles and responsibilities.	Corporate Service and Development Total	
		Workforce Planning and Development	The major output of the Workforce Planning Section is to ensure sound workplace practices are maintained. This Section has specific responsibility for workforce planning, business analysis, organisational structuring and HR Consultancy, including case management managerial coaching and support.	Corporate Service and Development Total	
		Workplace Planning and Development	The major output of the Workplace Planning Section is to ensure sound workplace practices are maintained. This Section has specific responsibility for Industrial Relations advice, Occupational Safety and Health management, EEO and Diversity and HR Consultancy, including case management.	Corporate Service and Development Total	
	Information Services	Information systems	Strategic information planning Policy setting Standards and compliance	Corporate Service and Development Total	32
		Information Management	Records and document management Mail services Library services Web site management	Corporate Service and Development Total	
		Information Communication and Technology	Management of Information & Communication Technology (ICT) including backup and recovery services, ICT purchase requests, system and network administration, Helpdesk services Disaster Recovery Telecommunication services ICT asset management	Corporate Service and Development Total	
		Information - Business	Management of systems development and maintenance Template management	Corporate Service and	

Services	Program	Sections	Activities	Area	FTE
		Improvement	Software licence management Management of GIS infrastructure	Development Total	
Underpinning Support Service - Office of the Director General	Corporate Communications	N/A	Manage the department's corporate positioning and corporate reputation; Strategic management of the department's communications service and delivery strategies including public and stakeholder relations, issues and events management; Communicate the department's function and role; Manage the department's relationship with the news media; Manage the department's internal communications.	Office of Director General Total	6
	Government Relations	N/A	Ministerial Issues: i. Finalise up-dating of Ministerial Handbook; ii. Promote improved handling of Ministerials and associated issues within the Department; iii. Ensure that Ministerials are dealt with in a timely manner, consistent with the CEO's performance agreement; iv. On-going improvement of communication between the Department and Minister's Office. Freedom of Information (FoI): i. ensure applications are processed according to statutory requirements; ii. enhance FoI understanding across the agency. Governance and Customer Complaints: i. Finalise roll-out of ethics and good governance training; ii. Promote implementation of ethics and good governance training in agency operations; iii. Ensure complaints are processed according to policy and other whole of government requirements.	Policy & Reform	7
	Corporate Development	N/A	Coordinate 2009/10 business planning; Develop and implement business continuity plan; Manage the strategic audit plan; Develop and implement performance management framework; Develop Project Management Office capability.	Corporate Service and Development Total	3

10 Appendix C. Glossary

ACCC	Australian Competition and Consumers Council
Act	<i>Economic Regulation Authority Act 2003</i>
CoAG	Council of Australian Governments
DSE	Department of Sustainability and Environment (Victoria)
GL	Gigalitre, which is one billion litres
IPART	Independent Pricing and Regulatory Tribunal (NSW)
kL	Kilolitre, which is one thousand litres
ML	Megalitre, which is one million litres
NWC	National Water Commission
NWI	National Water Initiative
PRAMS	Perth Regional Aquifer Modelling System
RiWI Act	<i>Rights in Water and Irrigation Act 1914</i>