

7. IMPROVED GOVERNANCE OF WATER RESOURCES IN WESTERN AUSTRALIA

7.1 AN URGENT NEED TO IMPROVE WATER GOVERNANCE

The Department of Environment has responsibilities for managing all water resources within the State (surface water and groundwater) to achieve sustainable economic development, while protecting ecosystems and the environment. Water use in Western Australia doubled between 1985 and 2000, and is expected to double again by 2020 (GoWA 2003). This situation occurred over a period when climate change caused a significant reduction in runoff into south-west storage dams, and when predictions were (and are) for this to persist for 100 years.

Management of water resources has not kept pace with the demands for and pressures being placed on water resources. Specifically:

- Growing demand from a number of sectors has resulted in competition for increasingly scarce water resources.
- There is insufficient detailed scientific knowledge to ensure that management, allocation, water market trading, and protection of environmental systems are carried out properly. Monitoring of water use through metering and the collation and use of metering/monitoring data has been limited. The inadequacy in data leads to an inability to manage the resource properly.
- The framework for water entitlements is deficient in that it does not include mechanisms for correcting over-allocated systems and therefore creates uncertainty among users.
- In certain policy areas the water resource manager is allowed to exercise too much discretion over the allocation and re-allocation of water entitlements.
- There is no high-level strategic plan for water.
- Water resource management policy is not as clear as it should be.
- Information on the status of water resources is not readily available to the public.
- Some of the water manager's systems and processes are inadequate.

7.2 ROLE OF DEPARTMENT OF ENVIRONMENT IN WATER RESOURCE MANAGEMENT

The Department of Environment was created in 2002 by amalgamating the environmental regulator (Department of Environmental Protection - DEP) with the water resource manager (Water and Rivers Commission - WRC).

As water resource manager, the DoE:

- evaluates water resources and determines quantities available for allocation;
- balances the sometimes conflicting needs of disparate user categories (e.g. environment and agriculture);
- allocates shares of a given water resource and issues licences to applicants;
- monitors the state of the resource; and
- ensures compliance by licensees with their licence conditions.

The DoE, in its other role of environmental regulator, takes responsibility for all water allocated to the environment and is, in effect, a de facto licensee. Clearly a potential conflict exists between these roles.

This is recognised in the report on the management and structure of the DoE (Carew-Hopkins 2003). When referring to potential for conflict of interest, the report states:

"Cases could occur where the WRC is the proponent and the Director General has compliance audit responsibilities for Ministerial conditions set on the Commission. These cases relate primarily to water allocation."

There is also a strong perception among a significant number of irrigators that a conflict does exist and this detracts from the credibility of Department of Environment as an independent water manager. There is also a view that the WRC is influenced unduly by the environmental regulator; has developed a "command and control" mentality and is reluctant to embrace water reforms of the type advocated by CoAG in the National Water Initiatives. This perception is detrimental to the WRC's operation.

The Steering Committee considers the dual roles of the DoE to be inappropriate and similar to the situation that existed prior to 1996 when water resource management was the responsibility of the (then) Water Authority of Western Australia. The situation eventually led to the creation of an independent Water and Rivers Commission. Therefore, the Steering Committee believes the Department of Environment's dual roles to be inappropriate.

7.3 MANAGEMENT STRUCTURE FOR WATER RESOURCE MANAGEMENT

The relations which existed between the various entities involved in water management in 2004 are presented in Figure 7. Apart from the existence of the new Minister for Water Resources, the current situation is a close approximation to that shown.

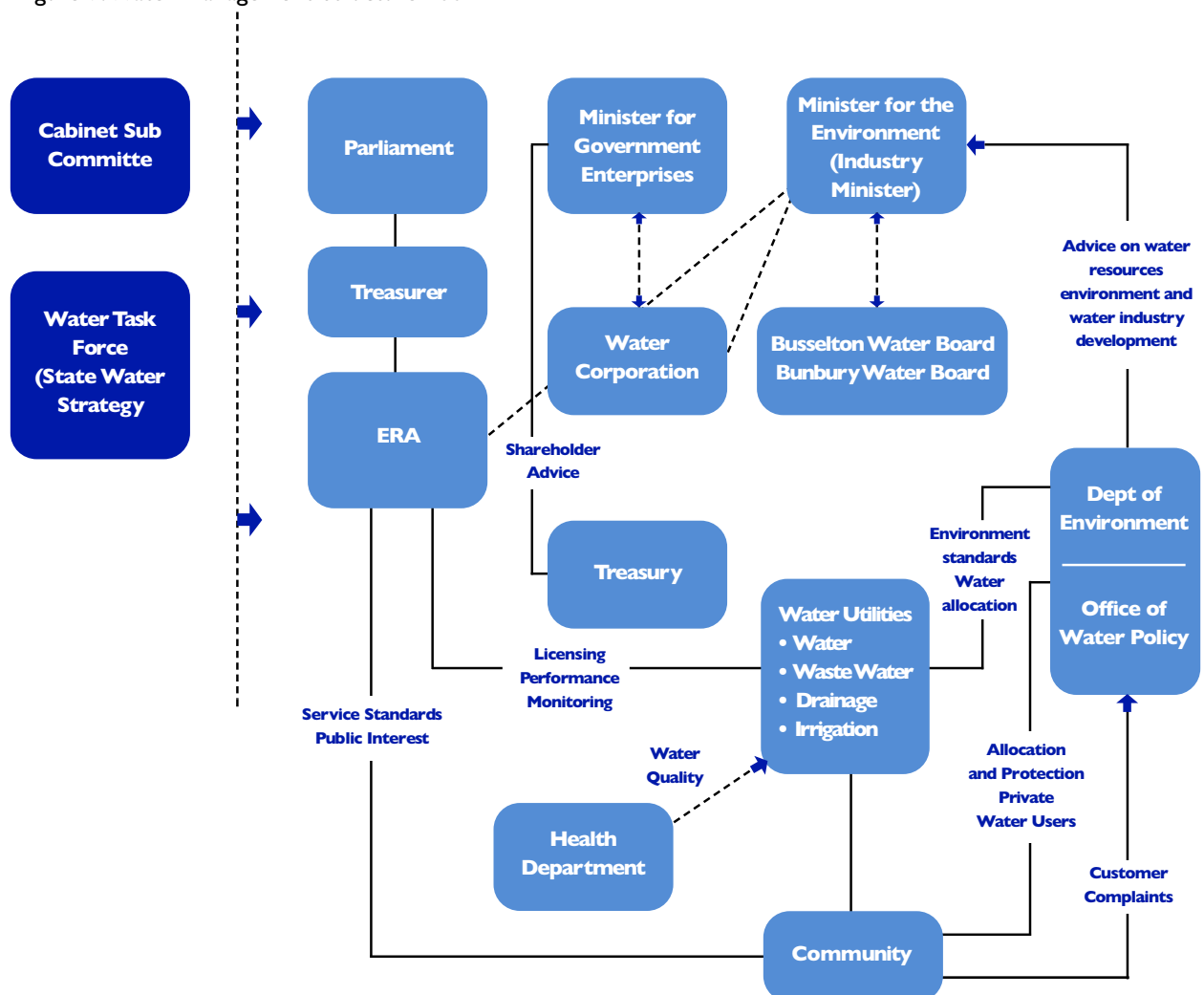
The features of the structure are:

- Four ministers (Treasury, Government Enterprises, Environment, Planning) are involved in water decision-making and management, making the coordination of the various aspects of governance and management difficult.
- The existence of a Water Resources Cabinet Sub-Committee, chaired by the Premier; demonstrates the commitment from the government to better coordination and management of water-related issues.
- The need for a Water Taskforce responsible for the State Water Strategy (this in part reflects the importance the government places on water; but it also reflects the difficulty of creating effective strategies within the existing structure).

Additionally, although the Department of Environment is an operating entity, the legislation which authorises it to operate has yet to be passed by Parliament. Carew-Hopkins (2003) notes that this has some detrimental impact on operating efficiency in the areas of Corporate Services and Divisional Management. A similar situation exists for the Water Corporation where, under the current structure, ultimate responsibility is vested in the Minister for Government Enterprises. Legally, however, the Minister for the Environment is responsible for the management of water resources in Western Australia. Consequently, decision-making and communications are more complicated than is desirable.

The Steering Committee considers the current governance structure to be complicated, cumbersome, open to accusations of conflict of interest and therefore in need of change.

Figure 7. Water Management Structure 2004



Source: Economic Regulation Authority 2004.

7.4 EFFECTIVENESS OF WATER RESOURCE MANAGER

The effectiveness of water resource management within Western Australia as well as the effectiveness of the Department of Environment as a manager have been the subject of extensive comment and of a number of reviews and reports.^{14 15 16} All reports are consistent in asserting that water resource management in the State and the DoE's performance falls short of what is required.

It is also accepted that over a period of growing demand and water shortage due to climate change, funding for water resource management has fallen by approximately one-third in real terms.

Following the preliminary response by the Department of Environment to the Auditor General's report, the State Government has provided additional funding for the DoE to address specific issues (\$1.136 million for 2003-04, \$2.3 million for 2004-05, \$3.82 million for 2005-06, \$3.364 million for 2006-07, and \$3.446 million for 2007-08). A further \$1.97 million of additional funding has been provided to the DoE for 2004/05 and subsequent years. The Steering Committee understands that, as a consequence, backlogs in the processing of licence applications and in processing technical data are being reduced.

While recognising and applauding the steps taken to date, the Steering Committee also notes that much remains to be done before the DoE's performance and water resource management in Western Australia can be considered satisfactory. For example, irrigators in the Gnangara area continue to cite instances where licence renewals and transfers are delayed, although this in part may be due to the fact that the aquifer is under stress and managers are therefore reluctant to act expeditiously. It also indicates that water resource management systems have largely failed over an extended period of time. Hence, a comprehensive improvement in the efficiency and effectiveness of management systems and organisational processes is needed.

Carew-Hopkins (2003) stated:

"There is a general view that there has been some 'deskilling' of the DEP and WRC over a number of years, particularly in the areas of water resource investigation and planning"

He also identified the need for a "cultural rescue" and called for changes in style which:

".....influence how the Agency responds to the community and how staff within the Agency work together:"

The Steering Committee was also presented with anecdotal evidence of this during the community and industry consultation for the Irrigation Review. Clearly the correction of this situation will take time and be dependent on factors additional to funding.

Work has started on addressing this issue; however, irrigators' perceptions of the DoE suggest that this work needs to be ongoing and if anything intensified.

¹⁴Auditor General for Western Australia, *Second Public Sector Performance Report 2003, Report No.7 September 2003.*

¹⁵Water and Rivers Commission - *Preliminary Response to the Auditor General's Report on Management of Water Resources in WA, October 2003.*

¹⁶Department of Environmental Protection, *Water and Rivers Commission – Management and Structure Review, March 2003.*

7.5 IRRIGATION COOPERATIVES

Irrigation cooperatives, although separate from government, play an important role in the management of water in this State. Between them, the Harvey, Gascoyne and Ord Irrigation Cooperatives control two-thirds of the water allocated to irrigation and service almost half the land under irrigation in Western Australia.

Irrigation cooperatives are closed cooperatives owned by the irrigator members and managed by a board elected from and by irrigators. Typically, at least one additional board member (an independent director who has specific expertise in an area such as finance, engineering or corporate governance) is also appointed.

Cooperatives operate under a two-tiered structure:

- An entity which owns, maintains and upgrades the distribution system (asset cooperative).
- A second entity that distributes and charges for water and ensures members comply with the cooperative's regulations (management cooperative).

Charges are set to cover operating and maintenance costs, future replacement of distribution assets and their progressive upgrading.

Although the four cooperatives are at different stages of maturity (Harvey was formed in 1996), all have had a positive impact on their areas of responsibility. In particular, the Irrigation Review has found that:

- Well-planned ongoing maintenance programs are now in place, and maintenance costs for scheme areas are declining.
- Distribution assets have been upgraded.
- Operating efficiency and compliance by irrigators have both improved.

The Steering Committee believes the concept of self-management by irrigators to be successful and where appropriate should be applied elsewhere within the State.

7.6 THE PLANNING ROLE IN WATER RESOURCE MANAGEMENT

7.6.1 WATER RESOURCE PLANNING

Water resource planning is carried out by the DoE to establish the availability and status of the resource, and to facilitate management and allocation of water. Water resource planning provides a mechanism for government and the community to understand and balance economic, social and environmental objectives (Freehills – Gardner 2004). Allocation takes place within a planning framework that determines the sustainable yield for consumptive usage from a water source after accounting for important environmental and social water requirements. Allocations for purposes such as public water supply, mining, industry and agriculture are made from the estimated sustainable yield.

7.6.1.1 THE NEED FOR BETTER INFORMATION IN PLANNING

These water allocation and planning processes need to be based on detailed scientific knowledge which pertains to the availability and status of the water resource (Freehills-Gardner 2004), and allocation plans should be prepared with comprehensive community input in order to ensure fairness and equity in allocation decision-making. Efficient allocation and management of water requires a robust and consistent water allocation system (Young and McColl 2003). Water resource plans also need to be statutory-based in order to support a market-based system for water trading. (Freehills – Gardner 2004)

7.6.1.2 THE NEED FOR MORE CONSISTENCY IN ALLOCATION

The DoE's preliminary response to the Auditor General's Report¹⁷ notes that immediate action is required in the area of water resource planning. This involves setting:

".....sustainable allocation limits, determined with appropriate certainty for all of the State's groundwater and surface water resources in the Department's water allocation database....."

¹⁷Auditor General for Western Australia, Second Public Sector Performance Report 2003, Report No.7 September 2003.

This is a priority which the Steering Committee supports strongly. The Steering Committee notes the words "appropriate certainty" in the above response. At times the DoE has used insufficient understanding of certain aquifers as a reason for not moving towards the general principles of good water resource management as outlined in the principles of the National Water Initiative (as agreed by CoAG, including Western Australia, in August 2003).

While the amount and detail of information needed is a matter of judgement, the Steering Committee notes that the DoE's policy of 'erring on the side of caution' will have significant associated costs in the form of loss of the benefits which would otherwise have resulted had reforms been introduced sooner.

7.6.1.3 THE VALUE OF PARTNERSHIP

Partnerships between government and water users in water resource planning are essential in order to capture community and industry values in resource management plans, and in decision-making on resource allocation. Water resource management committees are one mechanism for achieving this partnership between government and community. However, only two committees (Whicher and Gingin) have been established to date, with no comprehensive water resource management plans completed through these groups. An increased focus on developing these comprehensive water management plans is needed, with possibly increased resources and funding to support this work.

7.6.2 STRATEGIC PLANNING FOR WATER

Although the needs to improve water resource planning and to better determine sustainable allocation limits are both critically important, the absence of adequate strategic planning for water is even more critical. An important role of the water resource manager is to:

- Take a state-wide strategic view of the future demand for water.
- Evaluate the range of reasonable options for meeting each sector's demand for water.
- Establish, from an overall State perspective, how best each segment of demand will be satisfied or managed.

Unless this is done, competition will develop between industry sectors trying to optimize their own outcomes. As a result, the outcome from the State perspective will be sub-optimal.

There is evidence that this situation has occurred in Western Australia as illustrated by:

- The Gngangara Mound, where competition exists between irrigators, the Water Corporation, the DoE and the forestry industry. In the absence of a clear strategy, it is hard to find a definite solution.
- The failure to recognize in time the true potential for excess water from the Harvey/Wellington dam area to be a viable source of water for Perth.
- The continuing debate over the Kimberley as a potential source of water for Perth together with the progressive emergence of new ways of transporting water from Kimberley to Perth.
- The inability to evaluate and prove the potential of the South West Yarragadee in time to possibly defer the desalination plant.

The Steering Committee recommends that the capability to carry out strategic water planning be increased substantially

7.6.3 COORDINATION OF LAND USE PLANNING WITH AVAILABILITY OF WATER

The further development of irrigated agriculture within Western Australia will require areas which possess suitable land and adequate water to be identified. This implies the need for the planning of land use and the planning and management of water to be integrated closely.

During the review, the Steering Committee was presented with clear evidence of the need to improve the degree of co-ordination between the water resource manager, industry and planning authorities both at State and Federal level.

7.7 RECOMMENDATIONS FOR GOVERNANCE AND MANAGEMENT OF WATER RESOURCES

7.7.1 STRUCTURE

- Create a new Ministry for Water Resources with responsibilities for water resource management, water policy, strategy and planning and the water utilities.
- Establish a new Department of Water Resources (DWR) by combining
 - the water resource management functions of the Department of Environment;
 - the State Water Strategy Unit;
 - the Office of Water Policy; and
 - relevant functions within the Water Corporation
 into a single department which is completely separate from the environmental protection component of the DoE (See Figure 8).
- Structure the proposed DWR so that Operational Management and Strategy, and Policy and Planning are carried out in two distinct divisions with each function having its own management structure and dedicated budget.
- Retain the SWSTF to oversee the implementation of these recommendations.
- Develop a State Water Plan and so establish a strategic framework within which the future demand on the State's water resources can be determined and managed effectively.

7.7.2 WATER RESOURCES STAKEHOLDER REFERENCE GROUP

- Realign the Water Resources Stakeholder Reference Group as an advisory group to the Minister for Water Resources.
- Ensure that the members of the Water Resources Stakeholder Reference Group not only understand the views of their stakeholders but also are knowledgeable about modern water management and the issues associated with water reform.

7.7.3 WATER RESOURCES CABINET SUB-COMMITTEE

- Regularly review the need for the Water Resources Cabinet Sub-Committee. As the new ministry becomes effective, it is anticipated that the need for the Sub-Committee will diminish, and possibly disappear.

7.7.4 EXTENSION OF SELF-MANAGEMENT BY USERS

- Investigate how self-management might be applied to self-supply areas with a high density of irrigated agriculture. The final option may or may not involve creation of new irrigation cooperatives.
- Investigate appropriate mechanisms for community, industry and other stakeholder partnerships in water resource management, including a review of the role and effectiveness of water resource management committees in providing community, water user and industry input into the water allocation and planning process.

7.7.5 OPERATION OF THE PROPOSED DEPARTMENT OF WATER RESOURCES

- Ensure that the DWR is funded to an appropriate level and that at all times at least equal emphasis is placed on strategic matters as on operational issues.
- Establish within the DWR a group of experts with the appropriate skills to evaluate and determine a long-term water strategy (and plan) for the State.
- Give a high priority to water resource planning within the DWR.
- Continue to work on the development of a positive, customer-oriented and participative culture within the DWR.

7.7.6 INTEGRATION OF WATER RESOURCE PLANNING WITH LAND USE PLANNING

- Require the proposed DWR to effectively engage industry, community, planning authorities and other agencies to ensure land and water resource planning are integrated.
- Investigate opportunities to encourage the development of long-term, large-scale, sustainable, and water-efficient agricultural enterprises by creating horticultural precincts.

7.7.7 WATER RESOURCE MANAGEMENT CAPACITY BUILDING

- Develop and implement programs specifically aimed at building an efficient and competent water resource management capability within relevant government agencies, water resource management committees and stakeholder groups.

Figure 8. Recommended Organisation Structure

