



Water Rights Arrangements in Australia and Overseas

Annex B *New South Wales*

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Contents

Abbreviations	v
Preface	vi
1 The water sector	1
1.1 Surface water	1
1.2 Groundwater	3
2 Legal framework	5
2.1 Evolution of water law	5
2.2 Current legislative framework	8
3 Organisations	15
3.1 Minister for Natural Resources	15
3.2 Department of Infrastructure, Planning and Natural Resources	17
3.3 Water management committees	17
3.4 Community advisory committees	18
3.5 Water Advisory Council	19
3.6 Catchment management boards	20
3.7 Irrigation corporations	21
3.8 Private irrigation districts	22
3.9 Private drainage districts	23
4 Definition of water rights	25
4.1 Coverage	25
4.2 Specification	25
4.3 Record of title	28
4.4 Duration	29
4.5 Exclusivity	29
4.6 Detached from land title and use restrictions	31
4.7 Divisibility and transferability	31
5 Government involvement in water allocation	33

5.1	Allocation mechanisms	33
5.2	Resource planning	33
6	Administering water rights	41
6.1	Applications	41
6.2	Consultation	43
6.3	Assessment	44
6.4	Decision notification	46
6.5	Hearing appeals	46
6.6	Registration	46
7	Distribution management	47
7.1	Water accounting	47
7.2	Water distribution	49
8	Pricing	51
8.1	Pricing water as a scarce resource	52
8.2	Pricing water service provision	52
9	Monitoring and enforcement	55
9.1	Monitoring procedures	55
9.2	Enforcement procedures	56
	References	59

Abbreviations

CAC/AC	(Community) advisory committee
CMB	Catchment management board
DIPNR	Department of Infrastructure, Planning and Natural Resources
DLWC	Department of Land and Water Conservation
EIS	Environmental impact statement
EPA	Environment Protection Authority
EPAA 1979	Environmental Planning and Assessment Act 1979
GL	Gigalitres
IACSEA	Independent Advisory Committee on Socio-Economic Analysis
IDMP	Irrigation drainage management plan
IPART	Independent Pricing and Regulatory Tribunal
LPI	Land and Property Information NSW
MDBA 1992	Murray–Darling Basin Agreement 1992
SWMOP	State Water Management Outcomes Plan
WAA 1986	Water Administration Act 1986
WAC	Water Advisory Council
WAMC	Water Administration Ministerial Corporation
WMA 2000	Water Management Act 2000
WMC	Water management committee
WSP	Water sharing plan

Preface

Water Rights Arrangements in Australia and Overseas is a study that forms part of the Commission's program of benchmarking the performance of economic infrastructure industries. It continues previous work undertaken into the arrangements for setting drinking water quality standards. The study compares the legal, organisational and regulatory arrangements for managing water rights, against accepted best practice principles.

This annex is one of twelve case studies prepared to assist readers understand the complex legal, organisational and management arrangements of the jurisdictions studied. Case studies were prepared for the Murray–Darling Basin, NSW, Victoria, Queensland, South Australia, the ACT, the Colorado River Basin, California, Colorado, Chile, Mexico and South Africa. These case studies should be read in conjunction with the main report.

Research for the study and each of the annexes was undertaken by the Economic Infrastructure Branch, with Dr Neil Byron as mentoring Commissioner.

The Productivity Commission would like to thank the staff of the NSW Department of Infrastructure, Planning and Natural Resources for providing information on the activities of the organisation. Further feedback from readers would also be welcome.

1 The water sector

On average, NSW uses about 10 000 Gigalitres (GL) of water each year. About 9000 GL of this is sourced from surface waters, while the remainder comes from groundwater supplies (NHT 2001).

1.1 Surface water

The pattern of surface water supplies is dominated by the Great Dividing Range, which supplies the headwaters for most of the rivers in NSW. To the east of the Ranges, on the coastal plateau, are 22 short, high-gradient coastal rivers. These rivers supply about 75 per cent of all waters flowing in NSW rivers. To the west is a series of long, low-gradient rivers that form part of the Murray–Darling Basin, and only supply about 25 per cent of NSW’s river waters (EPA 2000) (see figure 1.1).

The difference between coastal and inland surface water supply patterns is due to a combination of factors. First, most rainfall occurs to the east of the Great Dividing Range — the coastal region receives between 800 and 1200 millimetres (mm) of rainfall each year and the inland regions receive less than 800 mm (EPA 2000).

Second, potential evaporation rates are higher in inland areas than along the coast, producing greater levels of runoff in coastal areas.¹ In the northwest of the state, potential evaporation rates are about 2700 mm per year and runoff rates are virtually nil. Conversely, evaporation rates along the coast average about 1000 mm per year and runoff can be up to 30 per cent of rainfall (EPA 2000).

Third, the geographical differences between coastal and inland rivers result in much higher losses of water in inland regions. The eight major inland rivers meander over wide, flat plains and lose a large volume of water through seepage into the ground or evaporation. In contrast, the coastal rivers are short and relatively fast-flowing, allowing less time for water loss (EPA 2000).

Many of the inland rivers are semi-permanent because of the seasonality of rainfall in the north and west of the state. The northern region receives most of its rainfall in

¹ Potential evaporation rates show the level of evaporation that would take place if there were a continuous water surface, such as a lake.

summer, while most of the rainfall in the southwest occurs in winter. Rainfall in the central and southeastern regions is distributed relatively evenly throughout the year (EPA 2000).

Figure 1.1 NSW river systems



Source: EPA (2000).

The rivers in NSW have extremely variable flows. For example, the Macquarie River has had annual flows ranging from just 2 per cent of the average to 940 per cent (Boughton undated).

Large dams and weirs have been constructed to match the variability of flows with usage patterns.² State Water, formerly a division of the NSW Department of Land and Water Conservation, now a division of the NSW Ministry of Energy and Utilities, manages large dams in the Border Rivers, and along the Gwydir, Namoi, Macquarie, Lachlan, Murrumbidgee and Hunter rivers. These dams control between 45 and 80 per cent of average annual flow, depending upon the river, and are used to regulate downstream flows to supply irrigators at specific times of the year (EPA 2000).

Large dams have also been constructed to supply urban centres and for use in power generation. There are also many small dams and weirs used by private individuals. However, these structures do not affect downstream flows in a controlled manner.

On-farm storages also play a role in the supply of water to rural water users. Water collected in these storages may be sourced from rainfall runoff or from captured floodwaters or pumped from rivers.

Irrigation accounts for 89 per cent of all surface water used within the state, with most of this usage occurring in the Murray–Darling Basin. Irrigation is concentrated in the Murray and Murrumbidgee catchments, which combined uses an average of 4226 GL per year. Total consumption in the remaining regulated valleys (Lachlan, Macquarie, Gwydir, Namoi, Border rivers and the Barwon–Darling rivers), is on average 2240 GL per year.

Urban and industrial use (10 per cent) and rural water use (1 per cent) account for the remaining 11 per cent of total surface water use (NHT 2001). The electricity and gas industry is the largest urban and industrial user; however, most of this water is used in the generation of hydroelectricity and is, therefore, returned to the environment for use (EPA 2000).

1.2 Groundwater

Groundwater is sourced from aquifers and underground water basins. Aquifers are mainly found in the deep sand and gravel deposits of some river valleys, particularly inland, and in fractured rock and sand deposits along the coastline.

Some aquifers are under stress from over-extraction (DLWC 2001b). For example, extractions from the Tomago and Tomaree aquifers, in the lower north coast of NSW, are at 110 and 125 per cent of sustainable yields (TTGMC 2002).

² In NSW, rivers with large dams and weirs owned and operated by State Water are termed regulated rivers because of the significant effects they have upon downstream flows.

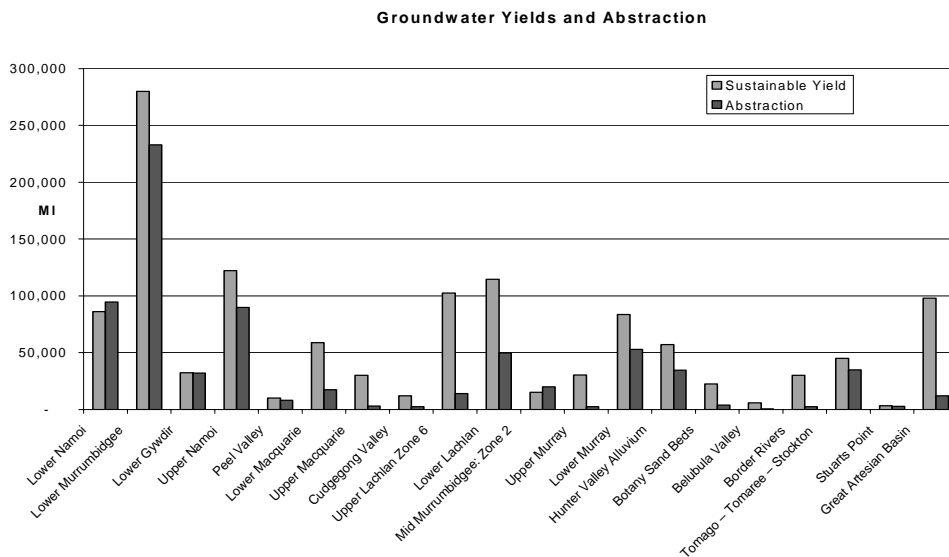
There may also be a significant volume of unlicensed extraction of groundwater. The Tomago Tomaree Groundwater Management Committee, for example, estimated that unlicensed usage of the Tomago, Tomaree and Stockton aquifers may be as high as 3 GL per year. This is about 8 per cent of total known usage of these aquifers, and increases the extraction rates from the Tomago and Tomaree aquifers to 115 and 142 per cent of sustainable yields respectively (TTGMC 2002).

Many of the aquifers in NSW have low rates of natural recharge (EPA 2000). The natural rate of recharge from rainfall, streamflows and percolation from the land surface is about 0.1 per cent of the storage (Boughton undated).

NSW overlies two of Australia’s major groundwater basins — the Great Artesian Basin in the north and the Murray Basin in the south. The Great Artesian Basin underlies one-fifth of the continent and extends beneath NSW, Queensland, South Australia and the Northern Territory. The Murray Basin lies beneath the bed of the Murray River and extends beneath NSW, Victoria and South Australia.

Irrigation accounts for about 65 per cent of groundwater use. Rural water supplies (20 per cent) and urban and industrial use (15 per cent) make up the remaining 35 per cent of groundwater use (NHT 2001; table 1.1).

Table 1.1 Groundwater yields and abstraction



Source: Department of Infrastructure, Planning and Natural Resources, pers. comm., 19 August 2003.

2 Legal framework

Originally, water rights in NSW were governed by the English common law riparian doctrine. Governments have replaced the common law with statutory arrangements for the sharing of water because of increasing conflicts over access to water as the agricultural industry expanded and intensive irrigation practices were introduced.

Environmental degradation flowing on from large-scale dam building and rapidly increasing water use resulted in changes to the legal framework governing water use in NSW. The original water sharing arrangements were replaced by arrangements that gave precedence to the environment as a major user of water.

2.1 Evolution of water law

NSW water law was based on the English common law riparian doctrine. The doctrine recognised that any person who held land title (or had legal access) to the bank of a river had a right to use the water in that source. The right was limited to the use of water only, and did not give the landholder ownership of the resource.

The common law doctrine limited the exercise of riparian rights to ‘ordinary uses’ — generally embracing traditional domestic use. Other uses were only permissible if no sensible diminution of volume or quality arose and downstream riparian users were not adversely affected (Drugan et al. 1986).

Uncertainty existed over:

...what constituted ‘ordinary use’ and what constituted a ‘sensible diminution’ of quantity and quality. With ‘ordinary use’, the consumption of the entire flow could be permitted and hence any tendency to expand the scope of this notion could have a most adverse effect on the theoretical rights of lower riparians (Drugan et al. 1986, p. 81).

Groundwater use was governed by the English common law principle that the owner of overlying land had absolute ownership of any undergroundwater. The only restriction was where an activity had a detrimental effect on the quality of water used by another (Drugan et al. 1986).

Water Act 1912

In the late 1800s and early 1900s, as population increased and the development of inland areas proceeded, competing demands for the water available prompted the introduction of administrative and legal arrangements for controlling water rights (Pigram 1986).

The *Water Act 1912* (the ‘1912 Act’) extinguished common law riparian rights. The Act declared that the Crown had the right to the control, flow and use of water in the state. The 1912 Act introduced three types of rights:

- domestic and stock rights;
- harvestable rights; and
- licences.

Statutory ‘domestic and stock rights’ were a direct replacement of riparian rights. The 1912 Act limited the volume of water that could be taken by domestic and stock right-holders. The right was defined for the watering of stock, irrigating gardens of less than two hectares for private use only and irrigating land of less than two hectares for the growing of fodder for domestic animals (1912 Act, s. 7). Riparian rights for ‘extraordinary uses’ no longer existed (Drugan et al. 1986).

In 1999, the 1912 Act was amended and harvestable rights were introduced. A harvestable right allowed landholders to capture at least 10 per cent of rainfall runoff in on-farm dams.

All use not covered under domestic and stock rights or harvestable rights required the approval of the Minister, as owner of the resource, through the acquisition of a licence. Towns that operated works constructed prior to 1930, the Snowy Mountains Hydro-Electricity Scheme, and the Sydney and Hunter Water Corporations were excluded from the licensing scheme (Boughton undated). These users operated under separate arrangements with the NSW Government.

At the Minister’s discretion, licences were defined according to the purpose to which the water would be put, such as residential, industrial or irrigation use, with each class having a different level of security of entitlement. Licences were also accorded a priority of access, based on their purpose. Residential use, power generation, horticulture, mining, industrial or aquaculture licences were ‘high security’ licences and were granted first preference in the assignment of water every season.

Licences were tied to the work — such as a dam or flume — constructed to enable the exercise of the entitlement granted by the licence, and there was a requirement that the licensee had to be a landholder to possess a licence.

Irrigation licences were originally defined for an area of land to be irrigated. Licence holders could draw as much water as desired and apply it to an authorised area of land. For example, an irrigator holding a 200-acre licence could draw as much water as desired to irrigate those 200 acres. Licences could not be transferred between irrigators or users.

Increases in water scarcity brought about by increasing demand triggered a transformation in the licensing of water use. Escalating demand in the 1950s and 1960s meant that the resource could no longer be put to additional uses without compromising the security of existing licence holders (Sturgess and Wright 1993).

Licences were re-defined and area-based licensing was abolished and limits placed on the volume of water that could be extracted under a licence in non-drought periods. Volumetric limits were first introduced on the River Murray in 1981, although they had been unofficially in place there since 1974–75. Volumetric limits were introduced into other systems soon after (Sturgess and Wright 1993).

The government also introduced an embargo on the issue of new licences to prevent the exhaustion of water resources. The embargo prevented new users from obtaining a licence to extract water, and thus gave existing users greater security over their entitlement. Water trading was left as:

... the main mechanism for new enterprises to emerge, and for water to move from traditional uses to newer, higher value uses such as viticulture and mining (DLWC 1999, p. 8).

The power to impose or repeal an embargo was (and still is) a discretionary power available to the Minister. The possibility that the Minister could repeal the embargo at any time created uncertainty for existing users, because lifting the embargo would have been to their detriment (Sturgess and Wright 1993).

Despite conversion to volumetric entitlements and the imposition of embargoes on new licences, licensed surface and groundwater extraction remained at unsustainable levels in many parts of NSW. As a result, there was considerable environmental degradation, such as increasing algal blooms, salinity and loss of aquatic native plant and animal species (DLWC 1999).

Water Administration Act 1986

The other major piece of water legislation was the *Water Administration Act 1986* (WAA 1986). The WAA 1986 established the Water Administration Ministerial Council (WAMC). The WAA 1986 provided a framework for allocating and regulating water use. The Act gave the WAMC and the Department of Infrastructure, Planning and Natural Resources (DIPNR) the responsibility to:

- ensure that the water and related resources of the state are allocated and used in ways which are consistent with environmental requirements and provide the maximum long-term benefit for the state; and
- provide water and related resources to meet the needs of water users in a commercial manner consistent with the overall water management policies of the NSW Government.

The WAA 1986 was amended in 1999, introducing a requirement that the WAMC give consideration to ecologically sustainable development in the allocation and management of water resources (Boughton undated).

2.2 Current legislative framework

NSW water policy and its administrative arrangements are currently governed by the *Water Management Act 2000* (WMA 2000). This Act replaced the 1912 Act and the WAA 1986.

Also relevant to the water sector are the *Catchment Management Act 1989* and the *Catchment Management Regulation 1999* (that govern catchment management boards, see chapter 3), and the *NSW–Queensland Border Rivers Act 1947* and the *Murray–Darling Basin Act 1992* (PC 2003). There are also a number of pieces of legislation relating to water quality that are not considered here because they are outside the scope of this project.

The White Paper that was issued with the Water Management Bill identified several problems with the legislative arrangements that were then in place. These problems included:

- no explicit head of power for environmental needs;
- no explicit mechanism for broad community involvement;
- no community based planning provisions;
- licences that tied water entitlements to the land;
- water access entitlements needed definition;

-
- licences tied water entitlements to specific works;
 - access to water was not secure;
 - water use approvals needed streamlining;
 - special entitlements — those which allowed access to certain types of water — were loosely or poorly specified;
 - riparian users had unlimited use, and were having significant impacts on the availability of water for other users and environmental flows; and
 - difficulties in integrating water management across the water ecosystem (DLWC 1999)

The objectives of the WMA 2000 are:

... to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations (WMA 2000, s. 3).

As with the 1912 Act, the WMA 2000 vests to the Crown the right to the control, use and flow of all water in rivers, lakes and aquifers, whether occurring naturally on or below the surface of the ground, and water conserved by any works that are under the control of the Minister (WMA 2000, s. 392). The Act abolishes common law riparian rights (WMA 1989, s. 393.)

The WMA 2000 created a number of rights and licences:

- statutory rights (comprising domestic and stock rights, harvestable rights and native title rights);
- classes of environmental water; and
- access licences.

Statutory water rights

Domestic and stock rights have been carried over into the new framework, but the maximum volume provisions relating to the size of works has been removed. The volume of water taken is limited only by the purposes to which it is put (DLWC undated). The purposes for which domestic and stock rights can be used include normal household purposes and the watering of stock raised on the land. It does not include the use of water for intensive animal husbandry (WMA 2000, s. 52), nor does it include a right to irrigate fodder for domestic animals.

Domestic and stock rights entitle the landholder to:

- take water from any river, estuary or lake to which the land has frontage;

-
- take water from an aquifer underlying the land; and
 - construct and use a water supply work (with the exception of a dam or water bore) without a water works approval (WMA 2000, s. 52).

Harvestable rights have also been carried over into the new framework. Without need for a licence or works approval, landholders may construct and use a dam for the purpose of capturing and storing rainwater runoff, and use the water stored within that dam, in accordance with a harvestable rights order (WMA 2000, s. 53).

Harvestable rights orders are issued by the Minister for particular areas and specify the:

- proportion of the average rainfall runoff (being no more than 10 per cent of that average) that may be captured by landholders in the area; and
- procedures to be followed for calculating the average rainfall runoff (WMA 2000, s. 54).

The order may also deal with:

- the types and location of dams;
- the means by which the maximum capacity of a dam is calculated;
- the arrangements for adjoining landholders to share a single dam; and
- any other matters that may be necessary (WMA 2000, s. 54).

There are provisions in the WMA 2000 that can limit domestic and stock and harvestable rights in critical situations. These situations can include protecting the environment, preserving existing domestic and stock and harvestable rights or overcoming a threat to public health (WMA 2000, s. 328).

A new class of rights — native title rights — has been created that permits native title holders to take and use water on the land to which they hold title without the need for a licence or use approval. The maximum volume of water that can be taken and used is prescribed in regulation (WMA 2000, s. 55).

Domestic and stock rights, harvestable rights and native title rights are given second priority of use after the environment. Licensed extractions must not compromise the fulfilment of these basic rights.

Environmental water

The WMA 2000 gives first priority in water use, in all but extreme circumstances, to the environment, and establishes a planning process that aims to manage the

volume of water taken from each water source to within environmental requirements.

Three classes of environmental water are created:

- environmental health water — committed for fundamental ecosystem health at all times, and may not be taken or used for any other purpose;
- supplementary environmental water — committed for specified environmental purposes at specified times or in specified circumstances, and may be taken and used for other purposes at other times or circumstances; and
- adaptive environmental water — committed to a specific environmental purpose by an entitlement holder (WMA 2000, s. 8).

Access licences

Licences created under the 1912 Act were redefined and separated into separate licensing arrangements under the WMA 2000. There are now access licences, use approvals, works approvals, controlled activity approvals and aquifer interference approvals.

The access licence specifies the share of the available resource that the holder can take and the rate of extraction (WMA 2000, s. 56). A use approval confers a right on its holder to use water for a particular purpose at a particular location (WMA 2000, s. 89). A water works approval entitles its holder to construct and use a specified water supply work at a specified location (WMA 2000, s. 90). A controlled activity approval confers a right on its holder to carry out a specified controlled activity, such as landfill or the removal of material, at a specified location in, on or under waterfront land. An aquifer interference approval enables its holder to carry out an activity that affects an aquifer (WMA 2000, s. 91).³

Access licences may be held without any of the four types of approvals. However, possession of an access licence alone will not permit the water to be extracted or used. Separate approvals are required for works to be constructed and water to be used.

The separation of the access licences from works and use approvals has the aim of:

- achieving clearer arrangements for controlling land-based activities that affect the quality or volume of available water sources; and

³ Other than the taking of water from an aquifer which is governed by the access licence and the use or works approval.

-
- streamlining the process for water trading as it is the access licence that is the tradeable commodity (DLWC 2001c).

Access licences are linked to the water management plans developed by the Water Management Committees (WMCs). These plans determine how the available resource is shared between extractive users within environmental requirements. Hence, they quantify the share and extraction components of the licence.

The WMA 2000 creates many classes of access licences, including:

- local water utility access licences;
- major utility access licences;⁴
- domestic and stock access licences;
- regulated river (high security) access licences;
- regulated river (general security) access licences;
- regulated river (supplementary water) access licences;⁵
- unregulated river access licences;
- aquifer access licences;
- estuarine access licences; and
- coastal water access licences (WMA 2000, s. 57).

Different classes of licences have different priorities of access to water and are defined for different uses and water sources. Other licence types may be established under regulation.

All pre-existing licences, including sleeper and dozer licences, are being converted to the new access licence regime.⁶ Activation of previously inactive licences has the potential to increase total extractions from a water source.

Procedures for managing the activation of previously unexercised rights will be included in the water management plans for each source. Generally, if the activation of sleeper and dozer licences threatens environmental flow requirements, then the

⁴ Major utilities include Delta Electricity, Eraring Energy, Hunter Water Corporation, Macquarie Generation, Sydney Catchment Authority and Sydney Water Corporation.

⁵ Supplementary water refers to natural flows that result in dams overflowing or above average flows in regulated rivers. When these uncontrolled flows exceed any immediate water needs and any specific environmental requirement, they may be made available to licence holders on regulated rivers.

⁶ Sleeper and dozer licences are issued licences that have either not been exercised or exercised only infrequently.

volume of water made available to all licences issued for a source (with the exception of local water utility and domestic and stock licences) must be reduced.

Water resource planning

The WMA 2000 formally incorporates a three-level planning framework for the purpose of managing and sharing water between competing uses, such as the environment and access licensees.

The first level comprises the State Water Management Outcomes Plan (SWMOP). The SWMOP sets out the overarching policy context, targets and strategic outcomes for the management of the state's water sources.

The second level comprises Minister's and water management plans. These are prepared by the Minister on advice from a Community Advisory Committee (CAC) or by a WMC, for a specified area such as a catchment or aquifer. The objectives and strategies set out in these plans must be consistent with the SWMOP.

Minister's and water management plans set out the rules and objectives that guide water management for a specified area. They may address any issue related to water management, including water sharing, water use, water source protection, controlled activities, aquifer interference activities or drainage and floodplain management.

Where Minister's and water management plans address water sharing arrangements, they must:

- establish environmental water rules for the water source;
- identify the water requirements for satisfying the needs of domestic and stock right-holders, harvestable right-holders and native title holders;
- identify the water requirements for extraction under access licences;
- establish a bulk access regime for the extraction of water under access licences, having regard for environmental water rules and the needs of domestic and stock right-holders, harvestable right-holders and native title holders; and
- establish transfer rules for the water source (WMA 2000, s. 20).

When establishing a bulk access regime, Minister's and water management plans must:

- be consistent with any limits to the availability of water that are set (for example, the Murray–Darling Basin Cap);

-
- establish rules according to which access licences are to be granted and managed, and how available water determinations are made;
 - recognise the effect of climatic variability on the availability of water; and
 - establish rules for prioritising access to water.

Minister's plans are being progressively developed for all water sources in the state, starting with the stressed rivers and groundwater systems. It is envisaged that Minister's plans will be in place for all water sources by 2005.

Minister's plans and water management plans are implemented by the DIPNR through an implementation program for each specified area. Implementation programs formally set out the daily operation of the water sharing rules identified in the plans.

3 Organisations

The Minister for Natural Resources (hereafter, the Minister) is NSW's main water manager. The Minister controls the state's water on behalf of the people of NSW through the administration of the WMA 2000. The Minister carries out several of his/her functions in consultation or agreement with the Minister for the Environment.

Water management committees, CACs and the Water Advisory Council (WAC) provide the Minister with advice in the performance of the Minister's duties. The Land and Environment Court is the primary place of review for government decision-making.

There are also a number of other agencies and corporations involved in the delivery of water to users. State Water is responsible for the management of government-owned dams and the delivery of bulk water supplies on inland rivers. Irrigation water businesses purchase these supplies under licence on behalf of their member irrigators, and some provide supplies to rural communities. Urban water authorities, such as Sydney Water Corporation, may operate their own dam facilities and supply water to urban communities. The Independent Pricing and Regulatory Tribunal (IPART) oversees the prices charged for bulk water supplies and those charged to households and businesses by urban water authorities.

3.1 Minister for Natural Resources

The Minister has responsibility for the control and management of NSW's water resources, and, as such, must meet the objectives and carry out the functions and duties specified in the WMA 2000.

The Minister's functions and duties include, among other things:

- implementing national and inter-state agreements and policies on water management, including the Murray–Darling Basin Agreement 1992 (MDBA 1992);

-
- reviewing the state and condition of water resources, and developing and implementing water management plans for the management and sharing of that water;
 - administering, monitoring and enforcing access licences and water use approvals; and
 - distributing water in accordance with water sharing arrangements, including for the environment, and to contracted users as negotiated (WMA 2000).

The Minister has the authority to:

- make regulations and orders;
- delegate functions to the DIPNR and coordinate its activities;
- prepare water management plans by appointing or abolishing advisory committees, setting out the work agenda for appointed committees, and approving and amending plans and water sharing arrangements;
- administering water rights by declaring an embargo on the issuance of new licences and approvals, approving and refusing applications for new access licences or water use approvals, imposing, changing or revoking conditions attached to a water access licence, suspending or cancelling a licence or approval;
- require the provision of information; and
- direct that water use cease or be restricted (WMA 2000).

The Minister serves as the WAMC when undertaking functions where a legal entity is required. The WAMC is a statutory entity created to carry out the Minister's commercial functions and, as such, can enter into contracts and own, lease and mortgage property.

The Minister may delegate any function, including those carried out under the WAMC (WMA 2000, s. 389). The DIPNR carries out many functions on behalf of the Minister.

As a Minister of the Crown, the Minister is responsible to the NSW Parliament. The Minister's work and activities under the WMA 2000 must be reported in the DIPNR's annual report.

The Minister, officers of the DIPNR or members of an agency or committee carrying out functions under the WMA 2000 are not personally responsible for loss or damage arising from the exercise of those functions (WMA 2000, s. 397). Also,

the Crown is not responsible for any action, liability or claim arising from any unavailability or reduction in the volume or quality of water (WMA 2000, s. 398).

3.2 Department of Infrastructure, Planning and Natural Resources

The DIPNR (formerly the Department of Land and Water Conservation, DLWC) is a NSW Government agency accountable to the NSW Parliament through the Minister for Natural Resources. The department was established to integrate the management of the land, water, soil, vegetation and coastal resources of NSW, and is the state's primary natural resources manager.

The DIPNR carries out many of the Minister's functions, as mentioned earlier. The DIPNR also provides administrative support to other agencies, such as the Water Management Committees, involved in water resource management.

The DIPNR is responsible in all its activities to the Minister and, ultimately, the NSW Parliament. The DIPNR must provide an annual report to the Parliament its activities and outcomes against its stated objectives in its annual report.

3.3 Water management committees

The Minister may appoint a WMC to prepare a water management plan in a water management area. The responsibilities of the WMC may be to:

- prepare a draft water management plan for a specified area;
- review an existing plan already in force;
- investigate matters affecting the management of water resources in a specified area;
- report to the Minister on matters affecting the management of a water management area; and
- advise the Minister on such matters (WMA 2000, ss. 12 and 14).

WMCs must exercise their functions consistently with the principles of ecologically sustainable development (WMA 2000, s. 14). They must also comply with the relevant provisions and sections of the WMA 2000, and:

- have due regard to the socio-economic impacts of the proposals in their draft plans; and

-
- take all reasonable steps to do so in accordance with, and so as to promote, the water management principles of the WMA 2000 (DLWC 2001d).

WMCs comprise between 12 and 20 members, each of whom is appointed by the Minister. They include representatives from: environmental protection groups (2); water users (2); local councils (2); Aboriginal groups (2); catchment management boards (1); the DIPNR (1); a nominee of the Minister for the Environment (1); other persons that the Minister considers require representation; and an independent chairperson who may not be a member of the DIPNR. As far as is practicable, these members must reside within the water management area.

The aim of such a diverse range of members was to ensure that a WMC's recommendations were consistent with Government policy and that a WMC would consider a broad range of interests (DLWC 1999).

Unless the Minister determines otherwise, WMC members must disclose any pecuniary interests in a matter under consideration, except where that interest pertains to the holding of a water licence or use approval.

Members of a WMC must strive for consensus upon issues, although in the absence of this, the support of the majority is sufficient. Decisions of WMCs are not open to appeal.

The DIPNR provides WMCs with a range of services including:

- information to assist them to develop their objectives, strategies and performance indicators;
- advice on policies and proposals on specific strategies and rules applicable to the type of plan being prepared;
- technical support on inter-state agreements, national or state policy, and general requirements of the WMA 2000;
- drafting the water management plan in accordance with a WMC's requirements; and
- general administrative support.

The DIPNR also develops plans for the implementation of the water management plan, as directed by the Minister.

3.4 Community advisory committees

The Minister may appoint an advisory committee (Community Advisory Committee (CAC) for the purposes of this study) as an alternative to the appointment of a WMC. The CAC's role is to provide advice to the Minister for the preparation of a water management plan in a water management area (WMA 2000, s. 388). CACs advise the Minister on the formation of water management plans (or any other matter determined by the Minister).

At June 2003, all but one of the 31 committees that had been established to develop draft water management plans were constituted as CACs rather than WMCs. The draft plans prepared by the CACs were Gazetted as Minister's Plans.

3.5 Water Advisory Council

The WAC is the peak advisory group to the Minister on matters relating to water management. It has an ongoing role to advise the Minister on water resource management, water management reform and the development of water resource policy (DLWC 1999).

The WAC's functions are to:

- review draft water management plans and implementation programs referred to it by the Minister; and
- investigate, report and advise the Minister on matters affecting the management of water sources throughout the state, including such matters as the Minister refers to it (WMA 2000, s. 370).

The Minister can appoint the WAC in accordance with the WMA 2000. The WAC comprises between 13 and 20 members, including: environmental representatives (2); water user representatives (2); local councils (2); representatives of catchment management boards (2); Aboriginal representatives (2); a person with such technical qualifications in environmental protection as the Minister considers appropriate (1); a person with such qualifications in ecology as the Minister considers appropriate (1); and a person appointed as an independent chairman (1) (WMA 2000).

The WMA 2000 requires that council members strive for consensus in reaching decisions. However, decisions have effect if they are supported by a majority of members (WMA 2000, Schedule 6, s. 12).

Members of the WAC are appointed for 3 years, and are eligible for re-appointment. The Minister determines member remunerations, and each member must disclose any direct or indirect pecuniary interest in a matter being considered or thing being done. Such a disclosure excludes the member from participating in deliberation of the matter in question, although this does not apply where the interest consists of the holding of an access licence or approval. Contravention of the disclosure requirements does not invalidate decisions taken by the WAC.

The WAC reports to and is directly responsible to the Minister. In carrying out its functions, the WAC may consult with and receive submissions from interested parties.

3.6 Catchment management boards

Catchment management boards (CMBs) are established under the *Catchment Management Act 1989* and the *Catchment Management Regulation 1999* (CMR 1999). The CMR 1999 reconstituted the 43 catchment management committees, that had existed previously, into 18 new CMBs. The Minister is responsible for the appointment of members to the boards.

The objective of a CMB is to promote a healthy and productive catchment for which the CMB is established, by:

- encouraging the protection, and where appropriate, the restoration of the catchment; and
- promoting and facilitating the ecologically sustainable use, development and management of natural resources (CMR 1999, s. 5).

CMBs must carry out their functions in a manner consistent with the principles of ecologically sustainable development (CMR 1999, s. 5). Each CMB has the following functions in relation to the natural resources and communities existing within its area:

- identify the critical opportunities, problems and threats associated with the use of natural resources so as to support rural production and to protect the environment;
- identify the critical first order objectives and targets for the management of natural resources, having regard to any legislation or relevant government policy;
- develop management options, strategies and actions to address the identified objectives and targets;

-
- assist in developing a greater understanding within the community of the issues identified and action required to support rural production and protect the environment; and
 - initiate proposals for projects to achieve those functions and assess projects submitted for funding under Commonwealth and state natural resource management grant programs, having regard to targets identified by the CMB (CMR 1999, s. 7).

Each CMB must report to the Minister on the progress of the CMB in the performance of its functions.

CMBs have no authority to raise revenue or spend money. Rather, the CMBs work with the water supply agencies, such as the irrigation corporations, within their area in order to achieve their objectives.

3.7 Irrigation corporations

Irrigation corporations are privately-owned entities that own and operate water supply infrastructure for the provision of water to shareholders in their area. They operate within defined geographical boundaries and are constituted under Commonwealth Company Law. Although irrigation corporations are primarily constituted to serve irrigation farmers, some also supply water to towns and other utilities.

Each corporation has established its own objectives. The objectives of Murray Irrigation, the largest of the irrigation corporations, include to:

- draw water from the Murray and Edward rivers to supply irrigators at an acceptable level of service;
- promote the efficient use of water;
- maintain and manage the infrastructure needed to supply water efficiently;
- administer the allocation of water to irrigators and the running of the business;
- comply with specific drainage requirements for the region;
- manage the environmental needs of the region; and
- involve the community in all aspects of proper water management (MIL 2002).

In 1995, government-owned irrigation assets were privatised and landholders rescinded their private water rights to irrigation corporations. Irrigation corporations receive water under a bulk entitlement licence from the DIPNR for the supply of

water to the area which they serve. Individual users contract with the irrigation corporation for the supply of water.

Irrigation corporations operate according to an operating licence granted by the NSW Government. Operating licences have effect for the term specified in the licence and may include such terms and conditions as the NSW Government considers appropriate. Examples of the terms and conditions that may be included are:

- a requirement that the irrigation corporation will (in accordance with any applicable management program and the corporation's business plan) provide, construct, maintain, manage and operate efficient, co-ordinated and commercial supply and drainage infrastructure;
- a requirement that the irrigation corporation must be the holder of all relevant licences or other authorities;
- a requirement that the irrigation corporation comply with the provisions of any applicable management program, either in all respects or in certain respects;
- a requirement that, in supplying water to its members, the irrigation corporation is to give priority to certain councils or other local water utilities for domestic water supply; and
- a requirement as to how the irrigation corporation is to spend and otherwise deal with any money provided to it out of money appropriated from the Consolidated Fund or other public money (WMA 2000, s. 123).

As part of their licence conditions, irrigation corporations are subject to pollution control licensing by the Environment Protection Authority (EPA). These licences require improved management practices in line with Land and Water Management Plans, to minimise the impact of discharges of water to creeks, rivers and groundwater (EPA 1995).

There are five irrigation corporations — Coleambally Irrigation; Jemalong Irrigation; Western Murray Irrigation; Murray Irrigation and Murrumbidgee Irrigation. The largest of these is Murray Irrigation, which provides water to over 2400 farms covering over 716 000 hectares of land in southern NSW.

3.8 Private irrigation districts

Private irrigation districts are legal entities established under the WMA 2000. They are constituted by landholders for the construction, maintenance and operation of water supply works.

To form a private irrigation district, landholders within the proposed district must petition the Minister for its formation. This petition must contain the names and addresses of the landholders, and be signed by all petitioners.

Landholders, subsequent to the formation of a district, may apply to the Land and Environment Court to excise themselves from the district. Such an application is only granted if the Court is satisfied that there are exceptional circumstances that warrant acceptance of the application (WMA 2000, s. 146).

Each private irrigation district must be governed by a board of management. The board is constituted as a corporation, and consists of between 3 and 10 members. Board members are elected to their positions by landholders within the district.

Private irrigation districts have the power to levy rates and charges, and to determine the volume of water to be allocated for irrigation to each holding within the district.

Generally, a private irrigation board is responsible for:

- supplying water for domestic and stock purposes (in such volumes as it may determine); and
- in the case of a board for a private water supply and irrigation district, supplying water to irrigators (WMA 2000, s. 177).

Private irrigation boards may discontinue supply if the board is of the opinion that the land to be irrigated is not properly prepared for irrigation or there are any rates or charges outstanding for a period of 2 months or more (WMA 2000, s. 178).

3.9 Private drainage districts

Private drainage districts are legal entities established under the WMA 2000. They are constituted by landholders for the construction, maintenance and operation of water drainage infrastructure.

Private drainage districts are governed by a board of between 3 and 7 directors, elected by landholders within the drainage district. If any Crown lands are included within the district, one of the directors must be appointed by the Minister.

A private drainage board is generally responsible for:

- maintaining and renewing existing drainage works;
- constructing, altering, or extending any drainage works;

-
- preparing, reviewing and implementing a management program for its drainage district; and
 - setting and collecting levies and rates (WMA 2000, s. 202).

Private drainage boards also have the powers to:

- manage the affairs of the drainage district;
- appoint such officers and employees as may be required;
- institute legal proceedings for the recovery of outstanding rates or other amounts; and
- perform any other functions necessary to fulfilling their functions (WMA 2000, s. 202).

4 Definition of water rights

All users of water must possess either a statutory right to water, such as a stock and domestic right, or an access licence to take water from any source, including the harvesting of overland flows.

4.1 Coverage

The WMA 2000 covers any river, lake, estuary or any place where water occurs naturally on or below the surface of the ground. This includes overland flows collected in a dam only where the volume collected exceeds 10 per cent (or greater if so prescribed) of average runoff. However, the WMA 2000 does not address land-use change in upper catchments. Moreover, the Act does not explicitly allow for the conjunctive management of surface and groundwater in areas where these might be hydrologically connected.

4.2 Specification

The qualities of an access licence are specified in legislation and the water sharing plan (WSP) that comprises part of a Minister's plan and water management plan. With the exception of local water utility licences, access licences have both a share component and an extraction component.

Year-to-year

Water sharing rules set out the rules and procedures for quantifying how much water will be available for distribution to water users. The rules determine how much water will be available to each class of rights and access licences. Typically, water is assigned to each class based on the priority of that access licence. The priority is defined in the plan. The order of priorities, from highest to lowest is: environment; domestic and stock rights; native title holders; high security access licences; low security access licences; and access licences for supplementary licences.

The share component of an access licence confers to water users a right to a share of the water made available to each class.

The extraction component sets the conditions as to where and when the share component can be accessed, such as location and extraction rate.

Environmental management

Minister's and water management plans have effect for 10 years, at the end of which a new plan is developed. The new plan can make available more or less water to the environment. Whether additional water is allocated to the environment depends upon whether the initial allocation to the environment was sufficient to achieve the environmental objectives specified in the plan.

According to the provisions of the WMA 2000, compensation is available to licensees if a change is made to a plan during the life of a plan and that change results in a reduction in the volume of water that their share assigns. No compensation is payable if the water available is reduced as a result of changes brought about by a revision of the plan at the end of the 10-year period.

Local water utility licences must be expressed as a specified volume per year (WMA 2000, s. 56). The volume of water that a local water utility receives must be based on one of the following:

- the existing volume allocation (which many towns already have);
- the volume calculated with reference to the demographic and geographic characteristics of the town, assuming reasonable demand management strategies are in place; or
- the volume of water calculated on the basis of the current yield of the water management works (DLWC 2001c).

However, where the volume calculated for the licence exceeds the volume currently used, the local water utility may need to seek the Minister's consent before using the extra water (DLWC 2001c).

Demand for water from new industries within a local water utility supply area may be met through surplus water from the utility's existing allocation, water efficiency gains or the industry obtaining an access licence through the normal processes. However, additional water sought by existing industries will not be accommodated through expansion of the town's allocation.

Licences held by local water utilities are reviewed every five years and varied according to changes in population and associated commercial activities. These commercial activities do not include rural activities being supplied via a utility's infrastructure. However, a local water utility's allocation may be reviewed at any time where the area is experiencing rapid growth.

Share component

The way in which the share component of an access licence is specified varies with the type of water source.

In regulated river systems, the share component denotes the portion of dam inflows declared available at any time that the licensee may access, and is set taking into account environmental requirements and the requirements of other users (DLWC 1999).

In unregulated river systems, the share component sets the annual water diversion limit for a licensee, and is set at the river sub-catchment level. In groundwater systems, the share component specifies the share of sustainable yield of the aquifer (DLWC 1999).

The share of the resource specified under the old licences is being translated across into the new access licences. In regulated and groundwater systems, the share component of an access licence will be based upon the old volumetric entitlements. In unregulated rivers or where the old licences did not specify a volume, existing licences will be converted into a volume and used as a basis for specifying the share component of the access licence (DLWC 1999).

Extraction component

The extraction component of an access licence sets the conditions as to where and when the share component can be accessed, such as location and rate of extraction. These conditions may include annual extraction limits, daily extraction limits, flow trigger levels and approvals for the design and operation of bores, pumps, weirs or other works.

The extraction component is of most significance in unregulated river systems as it quantifies the volume of water that may be accessed by a licensee at any given time (DLWC 1999). In regulated rivers, the extraction component only becomes significant where there are delivery constraints, such as a natural choke or channel limitation (DLWC 2001e). In groundwater systems, the extraction component is

only relevant where there is a need for pumping limits in particular instances to protect other users and the environment (DLWC 1999).

4.3 Record of title

The WMA 2000 (s. 113) makes provision for the establishment of a registry for access licences. It is intended that on this registry, a record will be kept of:

- every application for an access licence;
- every access licence that is granted, renewed, transferred, surrendered, suspended or cancelled; and
- any legal or equitable interest held in a licence as the holder of that interest requests.

The register will include details of the access licence including the share and extraction components, and the expiry date of ownership. It is also proposed that any interest registered against an access licence can be entered into the register, except where this is not practicable. The register will also carry links to relevant water management plans or provide direction as to where these plans may be located (DLWC 2002).

The DIPNR has proposed that a time-based priority system apply to access licences. This means that licences registered, or financial interests registered against a licence, at an earlier date will have priority in any legal dispute over entitlement (DLWC 2002).

Land and Property Information NSW (LPI) is the intended administrator of the register. LPI is a NSW state government business enterprise providing land, property and valuation information and services. These services were previously provided by the Land Titles Office, the Land Information Centre and the Valuer General's Office (DLWC 2002).

For each access licence, an account must also be kept of the water allocations that are acquired or accrued under the licence, or that are used or transferred. The water allocation account is not intended for public inspection.

4.4 Duration

Access licences are issued for up to 20 years for local and major utility licences, 2 years for regulated river (supplementary water) licences and 15 years for all other licences (WMA 2000, s. 69).

Use approvals (and aquifer interference approvals) are issued for up to 10 years (WMA 2000, s. 104) and for up to 20 years where the use approval is held by the major utility (WMA 2000, s. 105). Major utilities may apply to the Minister to extend the duration of the approval by 5 years at the end of each 5-year period (WMA 2000, s.105).

The Minister may suspend or cancel an access licence if:

- the holder has failed to comply with the licence conditions, or has been convicted of an offence against the provisions of the WMA 2000 (see chapter 9); or
- any charges payable in respect of a licence have not been paid (WMA 2000, s. 78).

Prior to suspending or cancelling a licence, the Minister must give written notice to the licensee and give the licensee a reasonable opportunity to make a submission to the Minister upon the proposed action. The Minister must take any submission received into consideration (WMA 2000, s. 78).

Use approvals may be suspended or cancelled by the Minister for the same reasons as the Minister can suspend or cancel an access licence (WMA 2000, s. 109). In the case of a major utility, the Minister, instead of suspending or cancelling an approval, may impose a civil penalty of up to \$500 000 and up to \$20 000 for each day for which an offence continues (WMA 2000, s. 109).

Licence or approval holders may apply for renewal 12 months prior to the licence expiring. The term is then extended until the date of the final decision or such later date as the Minister may determine (WMA 2000, s. 69). The processes governing the renewal of an access licence are given in chapter 6.

4.5 Exclusivity

An access licence is exclusive if, at the margin, it ensures that the benefits and costs of accessing and using water accrue to the right or licence holder. There are at least two approaches employed in NSW to ensure exclusivity:

-
- provision of environmental flows; and
 - processes for approving water use and the construction and operation of water works.

Environmental flows

As mentioned, environmental health water is reserved for the maintenance or restoration of surface and groundwater systems and dependent ecosystems. Environmental health water possesses first priority in water use over all other claims upon a water source. As such, it is non-transferable and cannot ever be converted for extractive use (DLWC 1999).

Supplementary environmental water is committed for specified environmental purposes, such as for flushing blue-green algae. However, if, in the course of implementing the program, it is found that too much or too little water has been allocated for this purpose, supplementary water may be reallocated.

Adaptive environmental water is committed to a specific environmental purpose by an entitlement holder (WMA 2000, s. 8). Adaptive environmental water provides the opportunity for water entitlements to be purchased by private or community interest groups and dedicated to a specific environmental purpose, such as the rehabilitation of wetlands. The water is protected along the whole system, but is tradeable and may be converted back to an extractive use.

Works and use approvals

A water use approval confers a right on its holder to use water for a particular purpose at a particular location (WMA 2000, s. 89). A works approval (for a water supply work) authorises its holder to construct and use a specified water supply work at a specified location (WMA 2000, s. 90).

The specified approval of uses is described in the use provisions of Minister's and water management plans (WMA 2000, s. 23).

These approvals seek to address the associated third-party effects that might arise from the construction of works and use of water. Use approvals can be linked to a requirement for irrigators to adopt farm-level management plans and irrigation drainage management plans.

The processes guiding works and use approvals are described in the *Environmental Planning and Assessment Act* (EPAA 1979, s. 91).

4.6 Detached from land title and use restrictions

As noted previously, basic landholder rights, such as stock and domestic rights and indigenous rights, are incidental to the ownership of certain stretches of land. As such, they are not separate from land title.

Basic landholder rights are also attached to particular types of uses in order to limit the volume of water taken from a source under these rights. Stock and domestic rights may only be used for normal household purposes and the watering of stock, excluding intensive animal husbandry.

Any person or legal entity may hold an access licence,⁷ and there is no requirement for a licence holder to be a landowner. However, in order to use the volume of water granted by an access licence, the licensee must hold a use approval. Use approvals are linked to land ownership or occupancy, because they are issued for specific tracts of land.

The holder of a water use approval is either:

- the owner of the property associated with the approval; or
- the occupier, provided the occupier is a tenant under a written tenancy agreement.

Any sale or lease of a property results in the transfer of the approval from the original owner (or occupier) to the new owner (or occupier).

As mentioned earlier, the extraction component specifies when and where the share component can be exercised. As such, the extraction component is also site specific — as it reflects characteristics such as natural delivery constraints. The share component of an access licence can be issued separately from the extraction component, and there is no requirement upon a licensee to hold both components simultaneously.

4.7 Divisibility and transferability

With the exception of regulated river (supplementary water) licences, both the share and extraction components of an access licence are divisible and transferable. Trades may be permanent or temporary, except in the case of major utility or local

⁷ A local water utility licence may only be granted to a local water utility, and a major utility access licence may only be granted to a major utility. A regulated river (supplementary water) licence may only be held with some other type of access licence.

water utility licences that may only be traded for a maximum of one year. Domestic and stock rights may not be transferred separately from land.

5 Government involvement in water allocation

5.1 Allocation mechanisms

Trading of access licences between individuals is the principal mechanism by which existing access licences are re-allocated between water users. In contrast, the WMA 2000 confers onto the Minister the authority to administratively re-allocate water between consumptive water users and the environment through the preparation of Minister's and water management plans.

The WMA 2000 prohibits the payment of compensation by the government for injury to licence holders for reductions to their water allocations if the variation in a bulk access regime is the result of:

- the introduction of a management plan that has been made in relation to a water management area for which a bulk access regime has not been established or for which a draft management plan has been submitted to the Minister; or
- an amendment by the Minister of a management plan, if the amended is in accordance with provisions of the legislation (WMA 2000, s. 82).

5.2 Resource planning

Resource planning, as mentioned earlier, consists of:

- the SWMOP, which applies to the entire state of NSW;
- Minister's and water management plans, prepared for each catchment or aquifer; and
- implementation programs, prepared for each Minister's and water management plan.

Resource assessment

An assessment of water resources is not undertaken in the preparation of the SWMOP. Such assessments were undertaken during the preparation of water sharing provisions of Minister's and water management plans.

Assessment guidelines are provided in the water policy advisory notes and more specific scientific guidelines are contained in the Pressure Biota Habitat and Multi-Attribute River Assessment framework. This framework contains a consistent method for the identification of significant riverine bio-physical attributes and for evaluating river ecosystem responses.

Objectives

The objectives of the SWMOP are to:

- set the overarching policy context, targets and strategic outcomes for the management of the state's water sources, having regard to relevant environmental, social and economic considerations and the results of any relevant monitoring programs;
- promote the water management principles established by the WMA 2000; and
- give effect to any government policy statement in relation to salinity strategies (WMA 2000, s. 6).

The SWMOP must be consistent with:

- government obligations arising under any inter-governmental agreement to which the NSW Government is a party, such as the MDBA 1992 referred to in the *Murray–Darling Basin Act 1992*;
- government obligations arising in connection with any international agreement to which the Commonwealth Government is a party; and
- government policy, including government policy in relation to the environmental objectives for water quality and river flow.

Minister's and water management plans also specify objectives, and these are required to be consistent with the targets and outcomes established under the SWMOP. The SWMOP is intended to guide the formulation of Minister's and water management plans and decisions made by public authorities exercising functions under the WMA 2000.

The WMA 2000 requires that any draft Minister's and water management plan be consistent with:

-
- the SWMOP;
 - any state environmental planning policy under the EPAA 1979;
 - any protection of the environment policy under the *Protection of the Environment Operations Act 1997*;
 - any regulations under the *Sydney Water Catchment Management Act 1998* or the *Googong Dam Catchment Area Act 1975*; and
 - any government policy, including government policy in relation to the environmental objectives for water quality and river flow (WMA 2000, s. 16).

Impact assessment

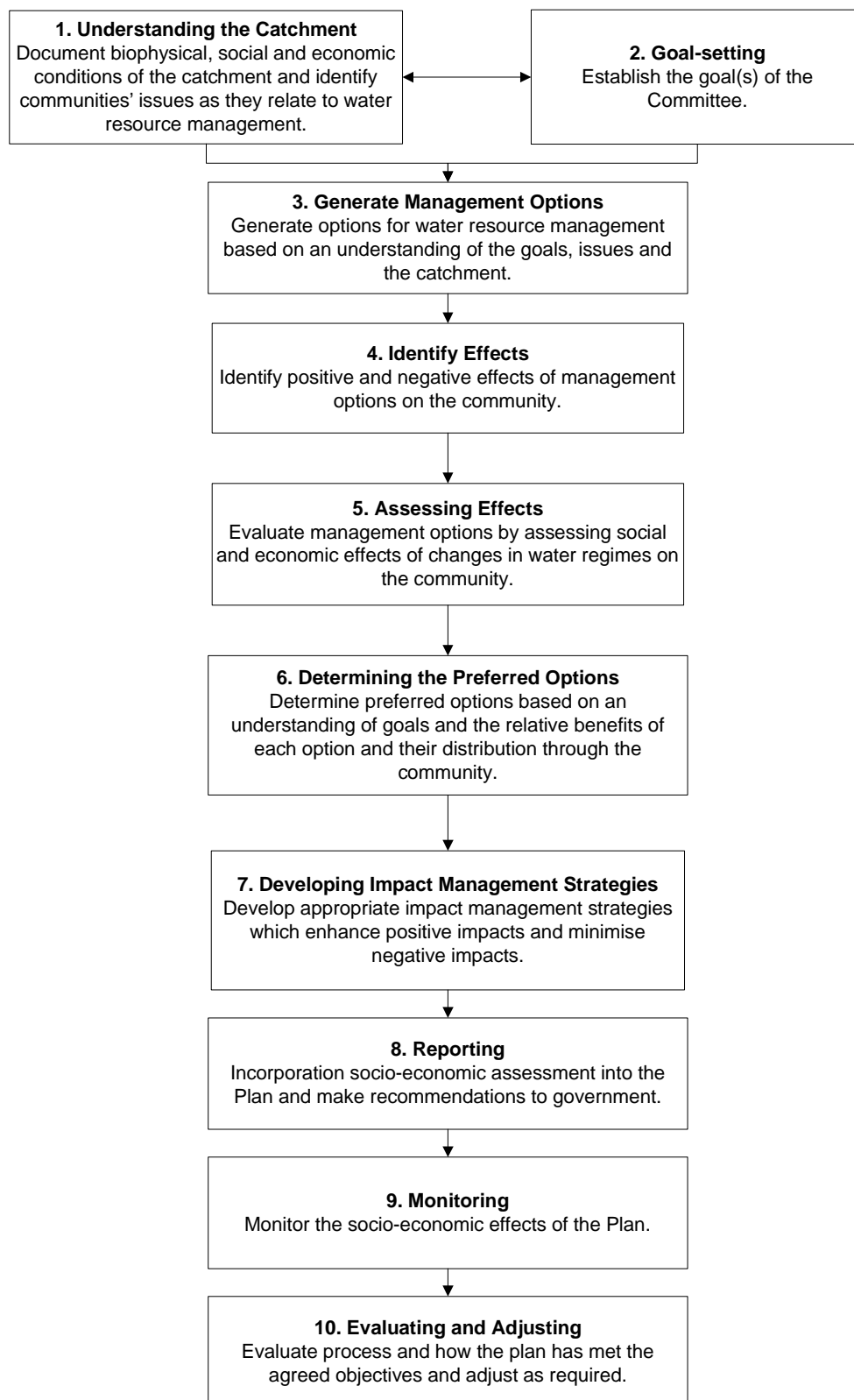
In formulating draft Minister's and water management plans, CACs and WMCs must have regard to the socio-economic impacts of their proposals (WMA 2000, s. 18). The Independent Advisory Committee on Socio-Economic Analysis (IACSEA) was established by the NSW Government to provide advice on the methods employed to assess impacts, and to audit the ongoing process of information collection and socio-economic assessment (IACSEA 1998).

The IACSEA developed a 10-step framework that could be used by the CACs and WMCs in undertaking a socio-economic assessment (see figure 5.1).

The framework and accompanying guidelines are not mandatory, and the extent to which they are used by the CACs in preparing Minister's plans is unclear. In some cases, the CACs did not recommend major changes to existing arrangements, and a detailed socio-economic assessment was not felt necessary. In other cases, the CACs took up the former DLWC's offer of \$20 000 to engage consultants to undertake an impact assessment (DLWC, pers. com., 4 June 2002).

Generally, the CACs approached socio-economic assessments by undertaking informal processes where different options were discussed and the best option chosen. The adequacy of the options chosen will be assessed during the life of a Minister's plan to determine whether the chosen option was suitable (DLWC, pers. com., 4 June 2002).

Figure 5.1 Steps in a community-based socio-economic assessment



Source: IACSEA (1998).

Transparency and consultation

The WMA 2000 does not set out any procedures that must be followed in preparing the SWMOP. Although regulations may be used to set out the public consultation procedures that must be followed, no such regulations were enacted for the preparation of the initial SWMOP (WMA 2000, s. 9).

A draft of the current SWMOP was developed by the former DLWC. In developing that draft, DLWC held discussions with key stakeholders, including the Peak Stakeholder Reference Group (representing a diverse range of interests, including users and indigenous groups), and the WAC (DLWC, pers. comm., 23 October 2002).

The draft SWMOP was circulated to the key stakeholders and other government agencies for comment. At this stage, there was no provision made for the general public to comment or lodge submissions (DLWC, pers. comm., 23 October 2002).

Negotiations with key stakeholders and government agencies were entered into to help ensure that each group supported the targets established. Where there were conflicting views, DLWC made the final decision. The decision was not based upon any formal criteria but was largely a political call based on what different stakeholders wanted (DLWC, pers. comm., 23 October 2002).

The interim SWMOP was then submitted to Cabinet for approval and was made available on DLWC's website (DLWC, pers. comm., 23 October 2002). The final SWMOP was Gazetted on 20 December 2002.

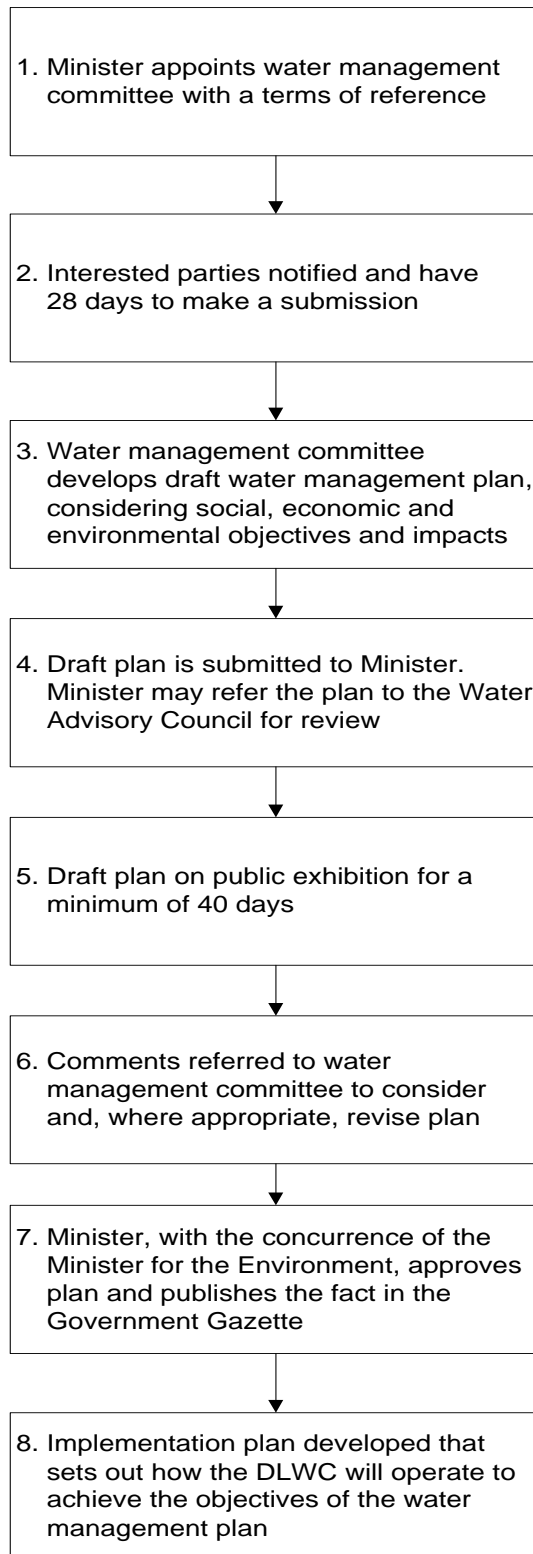
The WMA 2000 sets out the procedures that must be followed in developing Minister's and water management plans (see figure 5.2).

The Act requires that, in preparing draft Minister's and water management plans, CACs and WMCs must notify interested parties (such as local councils, CMBs, entitlement holders and other persons the Minister thinks fit), of:

- the general aims and objectives of the draft plan;
- a description of the area to which the plan will apply; and
- any other matter the Minister may think fit.

A failure to notify does not affect the validity of a plan (WMA 2000, s. 36).

Figure 5.2 **Process used for developing water management plans**



Source: WMA 2000.

Notified parties may make written submissions to the Minister in relation to the preparation of the plan. Any submissions must be received within 28 days (or such other time as the Minister determines) of the initial notification (WMA 2000, s. 36).

Under the WMA 2000, draft plans must be submitted to the Minister who may refer the plan to the WAC for review. If the Minister is of the opinion that the draft does not comply with the requirements of the WMA 2000, the draft may be referred back to the CAC or WMC for further consideration (WMA 2000, s. 37).

Once the Minister is satisfied that a draft water management plan is suitable for public exhibition, the Minister:

- gives public notice (through advertisements on a daily newspaper circulating in NSW and in a local newspaper) of the draft plan specifying the location, dates and times during which the draft may be inspected; and
- exhibits the draft plan (with any other relevant information) at the locations, dates and times set out in the public notice for at least 40 days (WMA 2000, s. 38).

There are no restrictions on who may make a submission on the draft water management plan, and the Minister must send a copy of each submission received to the relevant WMC. There is no requirement under the WMA 2000 for submissions to be made publicly available.

After consideration of the submissions received, the WMC must re-submit the draft water management plan to the Minister together with the WMC's comments on the submissions. The Minister may then alter the draft water management plan as the Minister thinks fit, but must do so in consultation with the WMC (WMA 2000, s. 40).

The Minister then decides whether to accept the final version of the plan, re-exhibit it for further public comment or decide not to proceed with it. Before deciding to accept a draft as a final version, the Minister must obtain the concurrence of the Minister for the Environment. The water management plan then comes into effect on the date it is published in the Gazette or on such date as may be specified in the plan (WMA 2000, s. 41).

There are no specific procedures laid out for the development of an implementation program, other than that the Minister must consult with the WMC that developed the original water management plan (WMA 2000, s. 51).

Once an implementation program is developed, the Minister must advertise the fact in a notice in a local newspaper and in such other manner as the Minister thinks fit.

Copies of the implementation program must be made available for inspection during normal office hours and free of charge at suitable locations within the area in which the plan is to operate (WMA 2000, s. 51).

Review

A Minister's or a water management plan has effect for 10 years, although in the fifth year of its operation, the Minister must review whether its provisions remain adequate and appropriate for achieving the objectives of the WMA 2000. The Minister must consult with the Minister for the Environment in conducting this review (WMA 2000, s. 43).

Minister's and water management plans are also audited at least every 5 years to determine whether their provisions are being given effect to. Audits are carried out by an audit panel appointed by the Minister, in consultation with the WMC (if one exists) (WMA 2000, s. 44).

Minister's and water management plans may be amended by a subsequent plan or by the Minister through notice published in the Gazette. The Minister may only amend a plan in such circumstances, in relation to such matters and to such an extent as is provided for by the plan (WMA 2000, s. 42).

The Minister may amend the water sharing rules established by a management plan at any time during the life of the plan, if satisfied that it is in the public interest to do so. But the Minister must consult with the relevant WMC, if one is constituted, prior to issuing an order to amend the water sharing rules (WMA 2000, s. 45). Amendments to the water sharing rules during the life of a plan are compensated.

Implementation programs are reviewed annually to ensure that they are effective in meeting the objectives and strategies of the water management plan. The results of each review must be included in DIPNR's annual report (WMA 2000, s. 51).

6 Administering water rights

The Minister or DIPNR, if the authority is delegated, is responsible for administering water rights. The Minister's powers and the procedures that they must follow in carrying out these activities, are set out in the WMA 2000. The Minister must also have regard for any requirements set out in the Minister's and water management plans.

Administration includes issuing new access licences, renewing access licences, modifying existing licences and approving transfers of licences. The provisions permitting the issue of new access licences are governed by the WMA 2000 and the water sharing provisions of Minister's and water management plans (see figure 6.1).

There are no explicit provisions within the WMA 2000 for access licence holders to modify their access licence, except as part of application to renew an existing licence. However, the Minister has the authority to modify licences in certain circumstances.

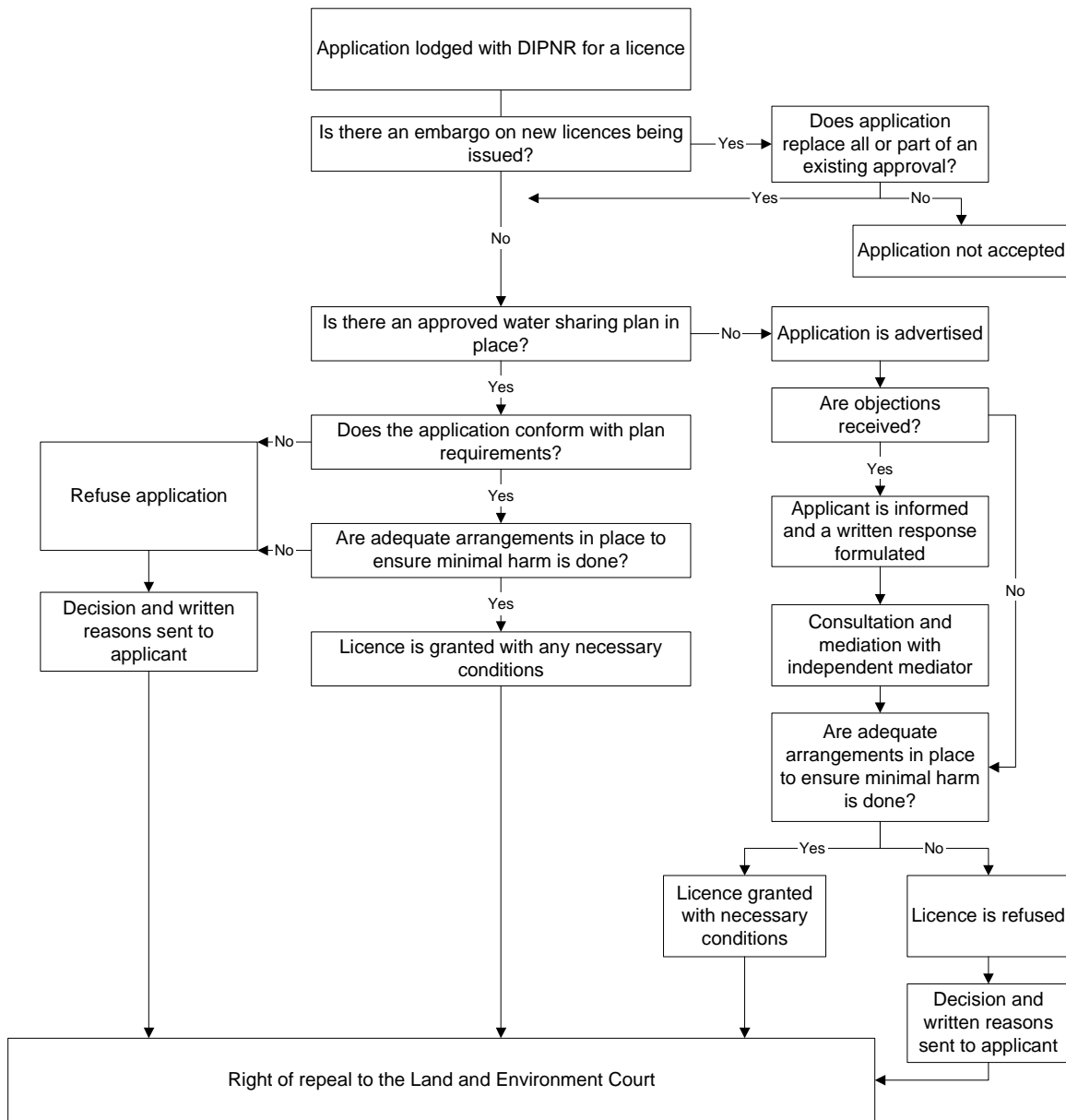
The trading of access licences is governed by transfer principles contained in Minister's and water management plans (where such plans exist), or by guidelines promulgated by the Minister (WMA 2000, s. 71). Exchange rate issues will be addressed under the rules established by the water management plans (or Minister's plans).

6.1 Applications

Any person may apply to the DIPNR for an access licence, except that only local and major utilities can apply for local and major water utility licences (WMA 2000, s. 61).

In situations where the Minister has imposed an embargo on the issue of new licences, an application will only be accepted where the request replaces all, or part of, an existing licence. The Minister may impose an embargo for a specified area. For example, all Murray–Darling Basin and North Coast surface water systems and several groundwater systems are now embargoed (DLWC 1999).

Figure 6.1 Process for approving access licence applications



Sources: WMA 2000; DLWC (1999).

There are no specified procedures that the Minister must follow in deciding to impose or lift an embargo.

Access licence holders can apply for the Minister’s (or DIPNR’s) consent to transfer of the whole, or part of, an access licence for the whole, or part of, the period (WMA 2000, s. 72).

There is a required form for making an application for a transfer and a prescribed non-refundable fee must be paid. Applications for transfer can be withdrawn at any time, until the moment of the Minister's final decision.

A notice of the completion of a transfer must be forwarded to the Minister, and the transfer then takes effect on the date upon which the details of the transfer are entered into the register of access licences (WMA 2000, s. 72).

As mentioned earlier, the Minister can modify an existing access licence by imposing discretionary conditions (conditions additional to those specified in a water management plan) upon a licence holder. The Minister must give written notice to the holder of the access licence that the Minister proposes to impose such conditions (WMA 2000, s. 67).

At the end of each 5-year period, the Minister may vary a local water utility licence to reflect any variation in population and commercial activities that has occurred. The Minister may also vary the licence at any time during the 5 years if there is any rapid growth of population within the utility's area requiring an immediate increase in the availability of water for supply by that utility.

6.2 Consultation

Where a water management plan is not in place, an application for a new licence must be advertised and objections to the application heard. Otherwise, applications for the renewal of an access licence are not advertised and applications are not open to third party objections.

Applications for a renewal of an access licence may require the preparation of an environmental impact statement (EIS). The EPAA 1979 (s. 113) sets out procedures for the public exhibition of EISs, and any person may provide written submissions commenting on the EIS to the determining authority. All submissions must be forwarded to the Director-General of the DIPNR.⁸

The Director-General may examine the EIS and any submissions received, and report to the determining authority on its findings. Alternatively, the Minister for Infrastructure and Planning may set up a Commission of Inquiry into the matter, and a report setting out the findings and recommendations, and the Minister's opinion on the matter, may be forwarded to the determining authority.

⁸ Formally, the Department of Urban Affairs and Planning.

Public consultation is not undertaken during an application for consent to a trade of an access licence.

Where a Minister is seeking to modify an access licence, the holder of the access licence must be given a reasonable opportunity to make submissions to the Minister with respect to the proposed conditions. The Minister must take such submissions into consideration (WMA 2000, s. 67). The WMA 2000 does not require other forms of public consultation.

6.3 Assessment

In assessing an application for a new or a renewal of an access licence, the Minister must ensure that the Minister's and water management plans permit the issue or renewal of a licence (WMA 2000, s. 63).

In addition, the Minister must ensure that adequate arrangements are in place to ensure that minimal harm will be done to any water source as a consequence of taking water under the licence.

The applicant may be required to conduct an EIS to assess the harm of an application. The EPAA 1979 requires that prior to an approval of an activity the Minister must:

... take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity (EPAA 1979, s. 111).

As a result, the Minister or the DIPNR must consider the effect of the application on:

- any conservation agreement entered into under the *National Parks and Wildlife Act 1974* applying to the whole or part of the land to which the activity relates;
- any plan of management to which such an agreement relates;
- any joint management agreement entered into under the *Threatened Species Conservation Act 1995*;
- any wilderness area (within the meaning of the *Wilderness Act 1987*) in the locality in which the activity is proposed; and
- any critical habitat, the species, populations or ecological communities of that habitat and any other protected fauna or flora (EPAA 1979, s. 111).

The Minister may use mediation or neutral evaluation in assessing the application and any objections to it.

The Minister makes the final decision on whether or not to grant or renew a licence and can issue or renew an access licence with conditions. Conditions required under a water management plan, such as a requirement for a water meter, are mandatory and can only be changed if the Minister's and water management plans are changed (WMA 2000, s. 66).

Transferring access licences

The Minister freely approves applications to transfer access licences, provided the transfer is permitted by the transfer rules of the relevant Minister's and water management plans.

Transfers may occur between different types of licence categories, except that local water utility and major utility access licences may only be held by local water utilities and major utilities respectively. Local water utilities and major utilities may hold other types of licences.

Inter-valley transfers are only permitted in regulated rivers that are hydrologically connected or connected indirectly by infrastructure. Other forms of inter-valley transfers will not be allowed (DLWC 1999).

It is intended that the Minister will be able to approve inter-state transfers of access licences. The Minister may enter into an agreement with the relevant Minister from another state or territory for the inter-state transfer of access licences and their corresponding inter-state equivalents. However, this is limited to those States or territories that have laws relating to the distribution of water rights that are declared by regulation to be substantially similar to the provisions of the Act (WMA 2000, s. 74).

Use approvals

As mentioned earlier, effective application of an access licence also requires Ministerial approval for works and use licences. In NSW, irrigation drainage management plans (IDMPs) are farm-level plans intended to address problems arising from salinity and water-logging. They are each required under the Murray–Darling Basin Commission's *Salinity and Drainage Strategy* (1988). IDMPs can be used towards applications for use licences.

In addition, as part of their operating licences, irrigation corporations must undertake land and water management plans. These are irrigation district-level

plans. They are compulsory and include a range of biodiversity and dryland management objectives.

6.4 Decision notification

After determining an application for the issue of a new access licence or the renewal of an existing licence, the Minister must notify the applicant and each person who has made an objection in connection with the application, of the determination (WMA 2000, s. 64).

The WMA 2000 does not explicitly provide for processes to notify applicants and other parties when the Minister consents to the transfer of an access licence.

6.5 Hearing appeals

Appeals may be made to the Land and Environment Court on any decision:

- refusing to grant an access licence or approval;
- granting a licence where there were objections; or
- imposing a condition on the licence or approval.

Anyone may lodge an objection to the issuance of a new licence. However, such objections may be overruled. Appeals from decisions over-ruling objections may be made to the Land and Environmental Court.

6.6 Registration

As mentioned earlier, the Minister is required to maintain a register of every access licences and administrative decisions regarding access licences. Where an access licence has been transferred, the transfer takes effect on the date on which details of the transfer are entered on the register of access licences (WMA 2000, s. 72).

The register must be made available at the head office of the DIPNR for inspection, free of charge, by members of the public (WMA 2000, s. 83).

7 Distribution management

Water distribution involves the collection, storage, release and transportation of water to users.

7.1 Water accounting

Water accounting is the process of keeping an inventory of both the volume of water available for supply at any point in time and the volume of water that has been assigned and distributed to uses and users. The functions of this process are:

- determining the volume of water available for distribution and assigning it to uses and users;
- maintaining records of the volume of water assigned to, stored by, carried over or borrowed by, and delivered to water users;
- maintaining records of storage losses;
- accounting for the effects of water right transfers;
- accounting for water losses experienced in transit (conveyancy losses); and
- assigning and reallocating water during periods of serious water shortage.

Determining availability and assigning water

Available water determinations are made annually by the Minister. Water determinations specify the volume of water that is available for extraction from a particular source (WMA 2000, s. 84).

The Minister determines the volume according to the rules of the relevant Minister's and water management plans. For example, the draft Minister's Plan for the Castlereagh River (above the Binnaway water source) states that the available water determination will equal 100 per cent of licensed annual volumetric entitlements for all licences of all categories (CWUSMC 2002).

Available water determinations must be consistent with the extraction limit set by the relevant plan for the particular source. Extraction limits for each source are

generally set equal to existing extractive entitlements. For example, the Northern Rivers Water Management Committee has proposed that the extraction limit for Coopers Creek equal:

- existing licensed yearly entitlements;
- licensed annual entitlements that are still to be assigned an annual volumetric entitlement (volumetric conversions and runoff harvest dams);
- volumetric allowance for domestic and stock and native title rights; and
- determination on licence applications submitted prior to the current embargo for the water source (NRWMC 2002).

The environmental flow is determined by the difference between the extraction limit and the daily flow in the stream.

Available water determinations are adjusted to ensure that extractions do not exceed the extraction limit. Extractions may begin to exceed the limit where there is growth in stock and domestic use and/or the activation of previously unused entitlements.

Where the three-year average of extractions exceeds the extraction limit by 5 per cent or more, the available water determination in the following year will be reduced by the degree necessary to return use to the limit. All access licence holders, except local water utilities and domestic and stock access licensees, must reduce their use by the same percentage.

Managing water accounts and water right transfers

The Minister is required to maintain an account for each access licence that records:

- the water allocations that are acquired or accrued from time to time under the licence; and
- the water allocations that are used or transferred from time to time under the licence (WMA 2000, s. 85).

In accordance with provisions of the relevant WSP, the plan may also determine account limits and maximum annual usage limits.

Water is accounted annually or continually in regulated river storages, depending on the provisions of the WSP. Carry-over and forward-draw provisions are available for general security entitlements only. Account limits may not exceed the storage capacity.

Accounting for conveyancy losses

Specifications vary across WSPs. Frequently, storage losses are assigned to the storage operator and removed from the available water before it is allocated to users. Off-stream conveyancy losses are defined in a water right and assigned to the primary right-holder — for example, an irrigation corporation. Exchange rates may be applied in recognition of losses in inter-state and intra-state transfers.

Accounting for water shortages

The Minister may declare a severe water shortage and suspend existing water allocation rules (WMA 2000, s. 60). The conditions for declaring a water shortage are not specified in the Act. During such a declaration, an alternative priority system applies:

- First priority is to be given to the needs of major utilities, local water utilities, irrigation corporations, private irrigation boards and private water trusts (in relation to domestic water supplies), and persons exercising basic landholder rights.
- Second priority is to be given to the needs of the environment.
- Third priority is to be given to the needs of major utilities and local water utilities (in relation to commercial water supplies), and in the case of regulated rivers, the needs of persons holding regulated river (high security) access licences.
- Fourth priority is to be given to the needs of persons holding other categories of access licences, and major utilities and local water utilities (otherwise than in relation to domestic and commercial water supplies) (WMA 2000, s. 60).

7.2 Water distribution

Water distribution involves distributing water to consumptive and non-consumptive uses. In distributing water, distributors may also be responsible for allocating water to the environment or controlling water flows to meet environmental needs.

Water is released from its storage or source to water users along natural water courses or irrigation channels and pipes. On unregulated rivers, users are permitted by the distributor to extract water in accordance with their water right.

Managing environmental flows

The WMA 2000 and the Minister's and water management plans define the water sharing arrangements between the environment and water users. Under these plans, a package of environmental water provisions has been developed to provide for the long-term health of rivers and aquifers and their dependent ecosystems.

Generally, each Minister's and water management plan specifies the rules governing how environmental flows will be managed. Under the Minister's Plan for the Gwydir regulated river system, an upper limit on the volume of water that can be taken from the source was established. The level of this upper limit aims to preserve enough water in-stream to achieve specified environmental objectives.

The environmental water rules ... ensure that flows of up to 500 megalitres a day coming into the water source from the major tributaries downstream of Copeton Dam are allowed to pass through the Gwydir wetlands. They also provide an increase in the volume of water ... [that] can be used for a range of environmental purposes (DLWC 2003).

Generally, environmental flows are provided as:

- non-transferable in-situ allocations of water (environmental health water);
- transferable allocations of water held by the jurisdiction (supplementary environmental water); and
- transferable environmental water allocations that possess their own title (adaptive environmental water).

In addition, extraction limits are often employed to limit the take of water by water users to ensure that there is a sufficient volume of water for the environment.

Managing distributions for consumptive use

In metropolitan and non-metropolitan urban areas, water is supplied on demand. In rural areas, water for irrigation purposes is normally ordered in advance of when supplies are required. The irrigation corporations place orders with the dam operator, such as State Water, between one and nine days in advance of when users in their district require the water delivered (ANCID 2002).

8 Pricing

The Council of Australian Governments' (CoAG) Water Resources Framework (1994) was adopted to improve the efficiency of water allocation. It recommended *inter alia* the adoption of consumption-based pricing, full cost recovery of infrastructure service delivery where appropriate, and by allowing water to be traded to its highest valued use (CoAG 1994).⁹

Under the CoAG water reform framework, a set of cost recovery guidelines provides jurisdictional regulators with a framework for interpreting the requirements for full cost recovery. Regulators are required to ensure that a water utility sets prices between avoidable costs and stand alone costs, to ensure commercial viability and avoid monopoly rents.¹⁰⁻¹¹

In 1992, IPART was established by the NSW Government to provide independent oversight of prices charged by monopoly service providers (IPART undated). In 2003, IPART oversaw the bulk water prices charged by State Water, and the retail water prices of Sydney Water Corporation, Hunter Water Corporation, Gosford City Council and Wyong Shire Council and water supply services provided by local government utilities.

⁹ Consumption-based pricing consists of a fixed access charge intended to recover the fixed costs of supplying a customer and a volumetric charge based on water use.

¹⁰ The CoAG 1997 pricing principles state that to be viable, a water business should recover at least the operations, maintenance and administrative costs, externalities (that is, natural resource management costs attributable and incurred by a water business), taxes or tax-equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment or replacement using an annuity approach.

¹¹ To avoid monopoly rents, the CoAG 1997 pricing principles state that a water business should not recover more than operations, maintenance and administrative costs, externalities, taxes or tax-equivalents, and the provision for the cost of asset consumption and cost of capital, the latter using a weighted average cost of capital.

8.1 Pricing water as a scarce resource

As mentioned earlier, trading of access licences, both temporary and permanent, is encouraged as a means to re-allocate water between users. However, a number of restrictions have emerged to prevent water being transferred.

Irrigation corporations have placed restrictions on trade outside their areas. For example, Murray Irrigation requires that a minimum of 60 per cent of entitlements (as of 1995) remains on each property. In addition, where trade does occur, trades from the area must not exceed imports to the area. Many other irrigation corporations and districts, such as Western Murray Irrigation, do not permit any access licences to be traded from the region.

8.2 Pricing water service provision

Supplying water infrastructure services incurs costs associated with operation, maintenance, administration, capital (such as debt servicing), dividend payments, as well as commitments to taxes and tax-equivalents and managing environmental and other third-party effects.

Bulk water prices

State Water — a ring-fenced division of the Ministry of Energy and Utilities — operates 18 major dams and 300 weirs, and provides bulk water supply services to downstream users, including irrigation corporations and non-metropolitan urban water suppliers.

State Water, under the oversight of IPART, has been restructuring its tariffs to bring prices into line with consumption-based pricing and full cost recovery requirements. Consumption-based pricing has been introduced on regulated rivers and is currently being introduced on unregulated rivers.

In 2001, the level of cost recovery varied between river valleys. The proportion of cost recovery of operating and maintenance costs was as low as 7 per cent in the North Coast, and as high as 116 per cent along the Macquarie Valley (IPART 2001).

IPART's bulk water price determination introduced new pricing paths designed to bring State Water's bulk water prices closer to full cost recovery. IPART decided to:

- Set a three-year price path from 1 October 2001 to 30 June 2004.

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- Adopt an ‘impactor pays’ approach to allocating costs between bulk water users and the broader community, which involves allocating costs to individuals or groups in proportion to the contribution they make to creating the costs or the need to incur the costs.
 - Set a maximum price for each of [State Water’s] bulk water charges, and to increase these prices each year so that prices move closer to full cost recovery level by the end of the determination period, with full recovery of the current cost base achieved in the majority of regulated rivers.
 - Cap the amount by which any individual price can increase at 20 per cent (real) per annum for water extracted from unregulated rivers and groundwater sources and 15 per cent (real) per annum for water extracted from regulated rivers.
 - Allow [State Water] to progressively introduce a two-part tariff structure on unregulated rivers that includes a fixed charge and a variable charge based on usage (IPART 2001, p. 2).

These proposed changes will result in State Water’s overall level of cost recovery increasing from 61 per cent to 74 per cent. Along regulated rivers, the level of cost recovery will range from 81 per cent to 94 per cent (IPART 2001).

IPART has indicated that State Water’s cost base may be increased in the future to account for the environmental impacts of water extraction (IPART 2001). State Water may have to alter its infrastructure to meet environmental requirements, such as the installation of fish ladders. These costs will be rolled into State Water’s cost base rather than be charged as a separate item (IPART, pers. com., 4 June 2003).

Metropolitan water prices

IPART has regulated the retail water prices of Sydney Water Corporation, Hunter Water Corporation, Gosford City Council and Wyong Shire Council since 1992 (NCC 2001). Each supplier uses consumption-based pricing (PC 2002) and are fully cost recovering (NCC 2001).

In 2001, each of these four metropolitan water suppliers earned sufficient revenue to meet the lower bound of COAG’s pricing guidelines. Assets are valued using the deprival value methodology and each of the four suppliers is earning a positive rate of return (NCC 2001). As such, they are recovering operational, maintenance and administration costs and providing for future asset refurbishment and replacement (NCC 2001).

Sydney Water Corporation and Hunter Water Corporation are subject to competitive neutrality provisions and tax-equivalence arrangements (NCC 2001).

They each pay dividends to their shareholder governments. Wyong and Gosford Councils do not pay dividends (NCC 2001).

Hunter Water Corporation charges a fee to recover the costs of environmental improvement programs. Customers (except pensioners) are charged \$40 per year to assist in the funding of the Hunter Sewerage Project (NCC 2001).

Non-metropolitan urban and rural water prices

The rate of adoption of consumption-based pricing by non-metropolitan urban suppliers has been much slower than the take-up by metropolitan suppliers (PC 2002). The NCC noted that most non-metropolitan urban suppliers with more than 1000 connections were earning a positive rate of return (NCC 2001).

As private corporations, the irrigation corporations are responsible for setting their own prices. Each irrigation corporation has introduced consumption-based pricing, although Murrumbidgee still charges stock and domestic users on an land area basis (ANCID 2002, p. 89). It is unclear whether irrigation corporations fully recover their costs.

9 Monitoring and enforcement

The WMA 2000 establishes a monitoring and enforcement framework, which provides the Minister with a range of powers to enforce compliance with the Act and licence conditions. Many of the Minister's functions and powers of enforcement have been delegated to the DIPNR as the primary enforcement agency.

There is no explicit statutory requirement to publicly report breaches of the WMA 2000 or licence conditions. However, the reporting requirements of Minister's and water management plans may require such a report. The form such a reports will take is yet to be determined. There is no requirement in water management plans for a licensee to report on compliance. Such a requirement may arise with publication of the compliance strategy.

9.1 Monitoring procedures

The WMA 2000 bestows powers of search and entry upon DIPNR. An authorised officer has the power to enter premises for the purpose of:

- inspecting any water management work situated on the premises;
- monitoring the use of water on the premises;
- monitoring any controlled activity or aquifer interference activity;
- carrying out any surveys, taking measurements of any matter or for reading any metre; or
- investigating any alleged contraventions of the Act (WMA 2000, s. 337).

The authorised officer must carry proof of authority at all times and reasonable force may be used for purpose of obtaining entry. Entry powers do not extend to any premises used exclusively for residential purposes (WMA 2000, s. 337).

While on a premises, an authorised officer may do anything considered necessary to ensure that the objectives of the Act are being met, including:

- inspect a water management work;
- observe any controlled activity; and

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- measure and sample any water (WMA 2000, s. 339).

An officer may disassemble any work, but must ensure that it is properly reassembled immediately (WMA 2000, s. 339). Officers also have a duty of care once they are upon a property to do as little damage as possible. Licensees may obtain compensation for any damage caused by the actions of an authorised officer, except where the damage is caused by the occupant obstructing or hindering entry (WMA 2000, s. 340).

Monitoring environmental allocations

In NSW, there is no statutory requirement for Minister's and water management plans to provide for the regular monitoring of environmental flows. However, there is a statutory requirement to undertake a review of each plan every five years to determine if allocations for the environment are being met. The Minister can change the water allocation rules if the Minister is satisfied that it is in the public interest to do so.

9.2 Enforcement procedures

The WMA 2000 establishes a number of offences, some of which are considered to be major offences and carry higher penalties. The major offences include:

- the unlawful taking of water without the authority of an access licence, except in the exercise of a basic landholder right. This offence does not extend to an individual taking water in contravention of an available water determination where the terms of the determination were not reasonably available;
- using water without a water use approval, except where the water is being used under a basic landholder right, or where the water is supplied by a utility or irrigation corporation or board that holds a use approval on the user's behalf;
- constructing or using a water work without a water works approval, except where the work is constructed in the interests of exercising a basic landholder right, or in accordance with a drainage or floodplain work approval;
- unlawful carrying out of certain activities without a controlled activity approval or aquifer interference approval;
- contravention of a direction issued by the Minister (see below);
- destruction, damage and interference with works owned by the WAMC or water supply authority, unless the act was done with lawful authority; and

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- taking water from a public or a private work, unless it was done with lawful authority (WMA 2000, ss. 341–347).

Other offences established by the WMA 2000 relate to the unlicensed drilling of bores, exposure of underground pipes, the undertaking of water works by unqualified people, and the obstruction of an authorised officer in the exercise of the officer’s functions (WMA 2000, ss. 349–353).

Upon application to an authorising justice, an authorised officer may obtain a search warrant if the officer has reasonable grounds for believing that the WMA 2000 has been contravened (WMA 2000, s. 338). Search warrants are issued under the *Search Warrants Act 1985*.

If an authorised officer believes that an offence against the WMA 2000 has occurred, the officer issues a penalty notice or refers the matter to court. A penalty notice is sent to the persons or corporations committing the offence. A penalty notice specifies that, if the offender served with the notice does not wish to have the alleged offence heard in the courts, the offender may pay the prescribed penalty. In this situation, the offender is not liable to any further proceedings for the alleged offence. Similarly, an offender’s admission of liability does not form the basis for any future civil claims (WMA 2000, s. 365).

Contested offences may be heard in the Local Court or in the Land and Environment Court.

The WMA 2000 specifies the range of penalties that a court may impose. The penalty for other minor offences depends upon the type of offence, but ranges between 200 penalty units for unlicensed bore drilling and 20 penalty units for exposure of underground pipes and obstruction of authorised officers (WMA 2000, ss. 349–353).¹²

A corporation guilty of a major offence is liable, upon conviction, to pay a penalty of up to 2500 penalty units and up to 1200 penalty units for each day the offence continues. An individual is liable for up to 1200 penalty units and a further penalty of 600 units for each day the offence continues (WMA 2000, s. 348).

Finally, the Minister may find cause to suspend or cancel an access licence if the holder has failed to comply with the conditions of the licence. Licensees may appeal to the Land and Environment Court against a decision of the Minister to suspend or

¹² Under section 17 of the NSW *Crimes (Sentencing Procedure) Act 1999*, one penalty unit equals \$110.

cancel an access licence because the licence holder has failed to comply with the conditions (relating to monitoring) to which the licence is subject.

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