final report

Project code: B.FLT.8008

Prepared by: Jenni Mattila
Mattila Advisory

Date published: 18 July 2018

PUBLISHED BY
Meat and Livestock Australia Limited
PO Box 1961
NORTH SYDNEY NSW 2059

Australian Water Regulations and their impact on current and future Feedlot Water Security
Phase One – Summary of Regulatory Report

Meat & Livestock Australia acknowledges the matching funds provided by the Australian Government to support the research and development detailed in this publication.

Introduction

This Summary is intended explain general principles, concepts and terms and briefly explain how the Australian water industry ”works”. Without a conceptual overview much of the subsequent information would be difficult for a layperson to understand. A Glossary of terms is provided for assistance at the end of this Summary.

PLEASE ALSO REFER TO THE FULL REPORT FOR SPECIFIC INFORMATION OF YOUR OWN STATE OR TERRITORY.

The relevant law changes significantly depending on where you are located and this summary is conceptual information only.

The nature of water access entitlements and underlying risks

What is a water access entitlement?

The nature of water access entitlements

In Australia, rights to control and use water are, under the water legislation enacted throughout Australia around the end of the 19th century, primarily vested in the Crown (State). Rights to access and use water for certain periods and under certain conditions are then administratively allocated to users through various licensing and approvals systems in each State or Territory. These water access entitlements are therefore in the most part ‘statutory entitlements’ rather than property or proprietary rights in the legal sense.

The key point here is that a water access entitlement does provide defined rights, but these fall well short of those associated with the ownership of Torrens title land with a government guarantee of title.

What does a water access entitlement confer?

There is a wide array of different types of water access entitlements between and within Australian jurisdictions. Fundamentally, however, a water access entitlement provides its holder with a number of rights and obligations. The rights conferred by these “water access entitlements” typically encompass conditional rights to access or withdraw water, rather than ownership of the resource itself.

Water access entitlements can be conceived of as comprising several key components (see Box 1)
Entitlement – the long-term interest (share) in a varying stream of periodic allocations. **Please also refer to the full report for specific information of your own State or Territory as Western Australia and Tasmania in particular do not issue permanent entitlements only shorter term licences.**

- **Allocations** –
  Definition: a unit of opportunity (usually a volume of water) as announced and distributed as a percentage of entitlement
  Explanation: Water access entitlements held by end users are typically defined in the form of a unit share of the sustainable yield in a specified water resource, with a specified reliability or probability of delivery. The actual volume of water available to water access entitlement holders in a season will depend on allocation decisions made by the supply authority given the water supply situation at the time. In several States,

both the long-term entitlement and the annual allocations made available under them are determined in the context of formal water resource plans developed for specific catchments/basins

- **Delivery** –
  Definition: the right to have an allocation of water delivered to a certain off-take location or obtain water from a particular location.
  Explanation: Water delivery rights have in parts of NSW Victoria and Queensland been unbundled from water access entitlements. Water delivery rights in some cases are now required to have water delivered from its source to the point of delivery (and for which separate charges are payable to the supply authority). In Queensland explicit delivery contracts exist with SunWater. In some parts of NSW and Victoria the water delivery rights are managed by local supply authorities.
- **Use** –
  Definition: permission to use allocations with pre-specified use conditionsand obligations to third parties.
  Explanation: Some licences also provide the right to actually use the water under a water access entitlement for defined purposes on specific parcels of land. In other cases, separate site use approvals are required. Typically, site use approvals are designed to ensure that the proposed location and use of water is environmentally sustainable.
- **Transfer** –
  Definition: the right to be able to transfer all or part of the water access entitlement or allocation
  Some licences also provide the right to actually use the water under a water access entitlement for defined purposes on specific parcels of land. In other cases, separate site use approvals are required. Typically, site use approvals are designed to ensure that the proposed location and use of water is environmentally sustainable.
- **Obligations** –
  Definition: the responsibilities associated with holding ofa water access entitlement
  Explanation: A range of conditions and obligations generally attach to water access entitlements. Typically these include various conditions pertaining to the way in which water can be taken and used, and also financial obligations associated with holding of an entitlement and delivery of water.

- **Right to transfer**
  Explanation: The extent to which the holder of a water access entitlement is able to transfer the entitlement to another party in whole or in part varies across different entitlements and between States.
  These trading rules are typically specified in other instruments such as primary and subsidiary legislation, water resource plans, and irrigation scheme constitutions.

In the past, many of these components tended to be “bundled” together within the one license. As discussed further below, however, there is now a trend towards “unbundling” these components into separate instruments and allowing some to be traded separately. Indeed, the extent to which it is tradeable in whole or in part to another party is a key feature of a water access entitlement.

A key implication is that full rights and obligations of a water access entitlement cannot be fully gauged simply by inspecting the water access entitlement instrument itself. Rather, the rights and obligations

specified in a water access entitlement need to be read in conjunction with related instruments – such as water resource plans and rules for the relevant region, and site use approvals - that may qualify or enhance these rights and obligations. Another example is water delivery rights that limit the amount of allocation that can be delivered through specified infrastructure that has limited capacity.

What types of water access entitlements are there?

Although there is a progressive move towards conversion to more clearly specified entitlements, there are many different types of water access entitlements in existence and are likely to be for some time.

The existing array of water access entitlements can be usefully seen as having various (not mutually exclusive) dimensions or characteristics, including:

- The use or purpose of the entitlement;
- The source of the water;
- The legal form of the entitlement; and
- The level of devolution in the supply chain.

The use or purpose of the entitlement

Existing water access entitlements for consumptive purposes generally distinguish – explicitly or implicitly – between uses such as irrigation, stock and domestic, urban supply, mining and industrial use. In addition, specific entitlements apply for other non-consumptive uses (principally hydro-electric power generation). At the highest level, a distinction can be made between consumptive and non-consumptive uses of water. In most Australian jurisdictions, allocation of water for the environment has prior right to be satisfied before allocation to consumptive use and is generally defined as environmental flow obligations imposed on supply authorities. These environmental allocations are not tradeable with other uses. However, in additional to this environmental allocation, the various environmental water holders have also purchased other water access entitlements from consumptive users for example NSW general security in a specific Water Sharing Plan. In certain circumstances these water access entitlements and associated allocation owned for the benefit of the environment may be traded by the Commonwealth Environmental Water Holder (CEWH) in accordance with the Water Act 2007 (Cth).

The source of the water

Existing water access entitlements can be distinguished according to the source of water to which they relate. At a generic level this includes regulated rivers and supply systems (i.e. where the flow of the river is regulated by large structures such as dams or weirs), diversions from unregulated rivers and streams (i.e. where the flow of rivers or streams is not regulated by large structures such as dams or weirs), groundwater systems (subartesian and artesian), and overland flows. At a local level, water access entitlements relate to specific water sources.

The legal form of the entitlement

Entitlements to access water may be specified in a variety of legal forms including primary and subordinate legislation, licenses, leases, contracts or agreements, and tradeable instruments. As noted above, the ability to take water or interfere with waterways is generally governed by various forms of licenses that are issued, monitored and enforced by government agencies responsible for water resource management.
The way in which these water access entitlements are recorded or registered varies between jurisdictions, with some having established titling systems similar to land titles and others with less formal departmental registers. In addition, irrigation companies maintain their own registers of water entitlements and shares in their schemes.

The level of devolution in the supply chain

Different types of water access entitlement are held by bulk users, such as urban and irrigation infrastructure operators and individual users.

In urban settings, the level of devolution is generally at the bulk supply level. Urban infrastructure operators hold entitlements to bulk water and are obliged to supply individual domestic and non-domestic customers who themselves have no separate entitlements. Customers only have a contractual right to connection and supply.

In rural settings, irrigation infrastructure operators also typically hold some form of entitlement to bulk water, but individual irrigators often have more clearly defined beneficial entitlements – for example individual water access entitlements and 'shares' in the irrigation company entitlements, and, in some cases, contractual rights to delivery.

Underlying risks

Introduction

The following discussion identifies the key generic risks associated with water access entitlements. A more detailed examination of these risks are dealt with by jurisdiction.

Sources of risk

The sources of risk can be broadly categorised into four groups:

- Sovereign risk: The risk that government intervention may attenuate or even annul a water entitlement, either by way of the exercise of ministerial discretion or future legislative change.
- Regulatory risk.
- Market risk: The risk associated with variability of the value of water entitlement due to market conditions.
- Hydrological or resource risk: Risks associated with, for example, changes in rainfall or the recharge rate of aquifers.

These risks manifest themselves through their potential impacts on:

- Access to water under the entitlement;
- The tenure and security of the entitlement;
- The transferability and liquidity of the entitlement; and
- The quality of title of the entitlement
- Water Allocation Announcements.

Access to water under the entitlement

Australia's climatic variability means that the volume of water under any entitlement may not actually be available in any given season. Any resulting differences in reliability are reflected in the value of the entitlement.

The level of reliability of a delivery entitlement reflects both:

- the inherent uncertainty associated with the availability of water at the particular source, for example because of rainfall variability; and
- the storage management policies adopted by the storage operator.

An assessment of the risks of access to water and hence value of an entitlement requires a sound understanding of two factors:

- The specific resource on which the water entitlement is drawn: For example, in a catchment where the level of water utilisation is low relative to the sustainable yield, the risk of access to water is likely to be less than in areas that are fully allocated. More generally, higher dam capacity relative to nominal allocation, and less volatile rainfall patterns will also result in lower risks.
- The associated resource management policies: For example, water rights held by South Australian and Victorian irrigators hold a greater proportion of high security entitlements than do most of their NSW counterparts. Water access entitlements holders in NSW and Queensland in comparison have a higher proportion of general (or low) security entitlements. In general, the closer to the Murray mouth the greater the proportion of high security entitlements the further away the greater proportion of general or low security entitlements.

Within jurisdictions, there are different entitlements with different levels of reliability (i.e. high versus low security entitlements). In theory and in broad general terms putting aside water for the environment, the highest level of security is for urban water use, then stock and domestic (excluding feedlots) then commercial and industrial use (including feedlots), then high security water for permanent plantings and finally general or low security entitlements for annual crops.

While State legislation typically enables Ministers to reduce the amount of water available to consumptive users in some circumstances, for example during droughts, the precise rules and priorities for doing so are more formally specified (e.g. rules in water resource or water sharing plans).

It should be noted that, to some extent, market mechanisms can work around these reliability differences. In general, higher reliability water will have a higher value; however, the reliability with which a given volume of water can be obtained by a property can also be increased by purchasing a greater volume of lower reliability water. Such a product is different from formal high reliability water –

it will typically entitle users to greater volumes in wetter years– but even these differences could be narrowed through temporary trading.

Particular risks of note include:

- The risk that climate change may result in more volatile rainfall patterns or lower regional averages, and hence reduce the amount of water available: The time periods over which this might result in a significant reduction in reliability are probably long in relation to the term of most loans, but weather cycles of moderate length coupled with shorter term memories could result in reliability levels below expectations.

- The risk that water may not actually be able to be delivered to the entitlement holder: The 'unbundling' of water entitlements means that an entitlement to water may or may not also entitle the holder to have the water physically delivered unless they hold sufficient associated water delivery rights.
- Stranded asset risk: the risk of irrigation distribution infrastructure becoming uneconomic as water is traded out of a channel, pipeline or district, leaving increasingly fewer entitlement holders to pay for its ongoing operation and maintenance.
- Risks associated with the ability of the relevant supply authority to finance asset replacement and renewals of the (sometimes ageing) infrastructure: This entails both financial risk of entitlement holders being asked to contribute more and, ultimately, the risk of catastrophic asset failure. This risk is particularly acute with government owned infrastructure operators that pay dividends to Government. Government owned infrastructure operators do not, in general, hold long term financial reserves based on the theory that State Treasury will provide the necessary funds for renewals when necessary. In reality government water infrastructure is more likely to fail due to the inability and uncertainty of undertaking required maintenance and renewals as and when they fall due regardless of whether the charges are based on full cost recovery.

Tenure and security of the water access entitlement

While all water access entitlements in Australia are ultimately subject to attenuation (compulsory government reduction) by virtue of the right to use and control water vesting in the Crown (State), the security of water rights will depend on the likelihood of this attenuation being exercised, the processes whereby this may occur, and whether compensation is payable in such an event.

The nominal tenure of a water access entitlement, however, is not necessarily the best measure of its security – more important is the likelihood of renewal and/or attenuation in the future. The *primary* issues here lie less with the legal changes that have occurred (though they are clearly of relevance) but instead with an explicit shift in government policy in a way that has already led to, and is likely to continue to involve, some attenuation of user rights in respect of water access and usage. The *legal* powers to attenuate or not renew water rights have, in most cases, not been increased. The likelihood of governments using those powers has, however, shifted substantially.

In several jurisdictions there are now clearly defined processes for renewal or modification of entitlements via formal ten year water plans. These plans determine the total resource available for consumptive use after first assessing the needs of the environment. Typically, it is at the government's discretion whether compensation is paid to entitlement holders for any attenuation of entitlements

within the period of the plan. Compensation is not payable for any changes when a new plan is developed.

To some extent, an entitlement that has been 're-validated' through such a planning process might be seen as more secure than an entitlement in a region where no such process has occurred. On the other hand, the comfort this provides will rapidly diminish as the end of the ten year period approaches.

The nature of the processes and extent of advance notice of any likely changes in water availability in the next plan then become critical to assessing the level of risk associated with an entitlement.

Another key issue here is whether the risk of non-renewal or attenuation of water access entitlements rests with users – or with government. In particular, the incidence of potential costs of future government decisions that involve an attenuation of an existing water access entitlement will depend heavily on any provisions for compensation or financial assistance. Except in limited circumstances in certain jurisdictions, currently compensation is not payable to entitlement holders if governments subsequently do not renew, or otherwise attenuate, their water access entitlements.

Inevitably, this could be expected to be reflected in higher risk premiums relative to land, where 'just compensation' is generally payable if governments forcibly resume land. On the other hand, patterns of land use deemed to entail 'unacceptable' environmental consequences – such as some forms of land clearing or the use of some chemicals – might be regulated in a way that effectively attenuates usage rights for the land in a manner analogous (financially if not legally) to attenuation of water rights, and for which compensation is generally not paid.

The National Water Initiative provides "government will have to compensate users for changes in their entitlements resulting from changes in government policy". Clearly, a literal interpretation of this statement would imply a major reduction in risk and increase in security of a water right as collateral. However, the reality is this has not been adopted in State based legislation and whether or not "just compensation" is paid is at the discretion of the Minister.

Transferability/liquidity

The extent and ease with which an entitlement can be traded varies widely between different entitlements and jurisdictions Generally, only allocation that is clearly defined in terms of volume may be traded. Some products are permitted to be traded on a temporary (allocation) but not a permanent (entitlement) basis. In some cases, the market is further restricted by requirements that only landholders with an ability to use the water on identified parcels of land are able to own an entitlement.

Governmental approval is also often required to finalise a transaction, in some cases with scope for considerable bureaucratic or Ministerial discretion. The approvals process is more onerous for permanent as opposed to temporary trades. The implicit rationale for these approvals and potential to disallow trades is the desire to protect the interests of third parties or the environment. The resultant rules may specify, for example that trade may only be downstream, or that trade into or between certain zones (e.g. salinity impact zones) may not be permitted. A cautious approach to approving trading in entitlements to groundwater access entitlements has generally been adopted, reflecting the relatively poor state of scientific knowledge on these systems.

Types of transactions that require permission from the relevant authority include:

Temporary transfers of seasonal water allocation (the transfer to another person of some or all of the water that may be taken under a water entitlement in a given year– usually for the remainder of the season). Because this transaction involves only the transfer of water for a short time period, the approvals processes required are generally relatively straightforward.

Permanent trades or transfers involving the transfer of all or part of a water access entitlement (encompassing entitlements to all future water allocations) to another party are generally subject to stringent approval processes to ensure no adverse impacts on third parties or on the environment.

Leasing (the transfer to another person of some or all of the water that may be taken under a water access entitlement for a defined period) is currently permitted under legislation in some States (e.g. South Australia, Victoria, Tasmania), but not in others (e.g. Victoria). The approval processes for leases are akin to those required for permanent trades. In NSW the legislation provides for the lease of the water access entitlement to the lessee of the associated land. NSW leases require the transfer of allocation after each announcement together with transfer of allocation in accordance with the legislation.

Changes to the specification of the water access entitlement (e.g. subdivision or amalgamation) either with or without also effecting a transfer in its ownership are generally permitted subject to approval processes if there may be an impact on third parties or the environment.

Other trades. While the focus of the transactions is typically on end-user to end-user trades, it is important to note that States' policies and legislation also countenance or allow transactions involving a range of other parties. These include trades of bulk water access entitlements between water supply authorities; and trades between authorities and individuals. Some types of transactions between hydro-power generators and other users are possible – if not facilitated – under current arrangements.

Water Allocation Announcements

As previously stated, there are different entitlements with different levels of reliability (i.e. high versus low security entitlements). Feedlot owners should be mindful that the higher the level of reliability the greater the cost associated with access and allocation. Volumetric costs of urban and town water is many times higher per megalitre than for example allocation associated with high security water access entitlements.

The following broad categories are options for feedlots based on the level of security:

High Security: urban or town water from government owned urban water authorities or councils, water for commercial and industrial use (including feedlots), then high security irrigation (usually owned for watering permanent plantings).

Low Security: general or low security irrigation entitlements (usually owned for watering annual crops).

Urban or town water is only available to government water authorities and local councils. Water access entitlements to urban or town water can only be held by a water authority and cannot be sold –

it is usually only possible for feedlots to purchase volumetric water supplied through a connection to the mains. Occasionally local councils will allow commercial or industrial users to construct their own pipelines to access water under contract. Under normal circumstances there is 100% reliability for the water delivered from urban water authorities or councils as this is for domestic drinking water purposes. At the height of the Millennium Drought the town water supply was cut off at Bothwell in Tasmania and in some towns in Victoria. In September 2008 the Queensland Government came within weeks of having to turn off mains water to Brisbane.

Commercial and Industrial is available through government and private water authorities. Except in extreme drought events such as the Millennium Drought commercial and industrial water access entitlements have 100% reliability.

High Security Irrigation Water Access Entitlements - Water allocation announcements for high security water access entitlements in the individual water plan areas and zones in the Murray Darling Basin are announced at the start of the Season (1 July). In Queensland, NSW and Victoria there is a transparent methodology for determining allocation based in most part on dam levels. In most instances the full allocation announcement of 100% is made at that time (less environmental water deductions of 5% in some water sharing plans). If the announcement is less than 100% the allocation is then reviewed on a monthly basis and may be increased. In theory the allocation cannot be reduced after it has been announced. However, water allocation in the NSW Murray system and in South Australia was reduced in November 2006 after a higher allocation had been announced in July 2006[1]. During the Millennium drought high security water allocation announcements dropped to an annual average of between 60-85%.

We note that South Australian high security entitlements have had a series of allocation announcements in recent years below 100% and that the methodology for determining allocation in SA unlike other MDB States is not transparent.

General or Low Security Water Access Entitlements Water allocation announcements for general or low security water access entitlements in the individual water plan areas and zones in the Murray Darling Basin are announced at the start of the Season (1 July). In Queensland, NSW and Victoria there is a transparent methodology for determining allocation based in most part on dam levels. General or low security allocation announcements are highly volatile with allocation announcements in NSW Murray dropping to 0-3% during the Millennium drought.

Purchase of allocation Allocation can be purchased on market and usually requires a works licence (private delivery infrastructure such as a pump). In particular, in NSW allocation accounts are linked to the works licence not the water access licence. The purchase price of allocation varies wildly in the Murrumbidgee for example the price varies from less than $100 per megalitre in a full allocation season, to at the peak of the Millennium drought, the price of allocation was over $1000 per megalitre. At one stage the price of a megalitre of allocation exceeded the price per megalitre of high security water entitlement. Due to the fluctuations in the price of allocation it is preferable for feedlot owners to purchase high security water access entitlements.

[1] Australian Bureau of Statistics 1345.4 - SA Stats, Apr 2007

Conclusion

Water law and practice varies significantly between the States and Territories. This Summary is designed to explain the broad generic concepts and risks only. Please refer to the Chapter on your relevant State or Territory for more specific information.

Glossary [2]

This glossary is based on generic terminology used by the ACCC in relation to the National water industry and assists in allowing a coherent discussion of the issues without reverting to individual State specific terminology.

gigalitre one thousand megalitres

groundwater (a) water occurring naturally below ground level (whether in an aquifer or otherwise), or
(b) water occurring at a place below ground that has been pumped, diverted or released to that place for the purpose of being stored there, but does not include water held in underground tanks, pipes or other works.

irrigation right a right that a person has against an irrigation infrastructure operator to receive water that is not a water access right or a water delivery right.

irrigation infrastructure operator an infrastructure operator that operates water service infrastructure for the purposes of delivering water for the primary purpose of being used for irrigation.

infrastructure operator a person who owns or operates infrastructure for the storage; delivery; or drainage of water (water service infrastructure) for the purpose of providing a service to someone who does not own or operate the infrastructure.

kilolitre one thousand litres

megalitre one million litres

National Water Initiative the inter-governmental agreement on a national water initiative between the Australian Government and the governments of New South Wales, Victoria, Queensland, Western Australia, Tasmania, the Australian Capital Territory and the Northern Territory.

regulated system means a surface water system in which water in a watercourse can be stored or flow levels can be controlled, through the use of structures such as large dams or large weirs.

surface water includes water in a watercourse, lake or wetland, and any water flowing over or lying on land after having precipitated naturally or having risen to the surface naturally from underground.

transmission loss water lost to evaporation, seepage, over bank flow etc. along the length of natural water courses. Losses vary with in-stream flow volumes and individual water course characteristics.

unregulated system means a surface water system that is not a regulated system.

water access entitlement a perpetual or ongoing entitlement, by or under a law of a state, to exclusive access to a share of the water resources of a water resource plan area.

water access right any right conferred by or under the law of a state or territory to hold water from a water resource and/or take water from a water resource.

water allocation the specific volume of water allocated to water access entitlements in a given water accounting period.

water delivery right a right to have water delivered by an infrastructure operator.

[2] Adapted from Water Trading Rules Advice on Amendments ACCC October 2016