Department of Regional Development, Manufacturing and Water

Drought management plans and water restrictions

Guideline for development

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Summary

Proactive and well-considered planning to reduce water supply security risks is essential to the delivery of safe, reliable and cost-effective water supplies which underpin the livelihoods and lifestyles of all Queenslanders.

Integrated plans for water supply system assets and upgrades, and managing supplies during ‘normal times’ and drought, are fundamental to the prudent and efficient delivery of water supply services to any community. The aim of drought management planning is to identify and mitigate the risks associated with drought, particularly the likelihood of a loss of water supply to a community. Water service providers in Queensland are expected to undertake drought management planning for each water service they operate as part of their responsibility for managing risks to water security and continuity of supply.

A drought management plan (DMP) should provide a clear description of the management strategies that will be implemented before, during and after a drought, including how existing systems will be operated, how demand will be managed (including water restrictions), and how contingency and emergency water supplies will be accessed.

The DMP should describe the actions to be undertaken and their triggers, who is responsible for implementation, and how necessary resources will be secured. The main activities involved in preparing a DMP are:

1. Assess the risk (likelihood and consequence) of a potential water supply shortfall during drought by reviewing the historical reliability of the water supply and comparing that with forecast demands during drought.
2. Identify actions required to optimise the drought response operation of existing infrastructure.
3. Develop a demand management program including triggers, targets and actions, and where appropriate, the development of a water restrictions schedule.
4. Identify feasible contingency and/or emergency water supply options that could be accessed during a drought, the actions required to access the supplies and the action triggers.
5. Estimate the resources required to support the planned drought response actions and identify how these will be secured, including an outline of roles, responsibilities and approval mechanisms.

This guide aims to support effective drought management planning by providing what the department considers is a minimum standard for the development of a DMP, including the development of water restriction schedules to support demand management.

Developing plans in accordance with these guidelines and implementing such plans, will assist water service providers to meet their responsibilities for urban water supply provision, and contribute to the effective management of risks to water security and continuity of supply.

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1.0 Introduction

Safe, reliable and cost-effective water supplies underpin the livelihoods and lifestyles of all Queenslanders. Queensland is a vast state with great variations in climate, from the hot and humid tropical north to the arid west and sub-tropical south east. Informed and effective planning for water supplies is essential to support our communities, industry and agriculture in this variable and changing climate.

In Queensland, the provision of reticulated water supplies to urban communities is the responsibility of water service providers, which is often the local council. This responsibility includes planning for new water supply sources, demand management and infrastructure works, to meet demand over the short and long term, in normal times and in drought.

The state government aims to support water service providers to deliver safe and reliable water services by establishing appropriate policy and regulatory frameworks, developing guidance material, and working with providers to understand the ability of their systems to meet current and future demands.

2.0 Purpose

Integrated water supply planning, asset management planning and drought management planning are fundamental to the prudent and efficient delivery of water supply services to any community. Drought management planning is a key consideration by the Department of Regional Development, Manufacturing and Water for regulatory activities conducted under Part 5A, Division 3 of the *Water Supply (Safety and Reliability) Act 2008* in relation to water security and continuity of supply.

If there is reduced water supply to a community there is potential for public health risks, economic stress, social hardship and loss of amenity, regardless of the cause (for example a shortage of source water, a failure in the water treatment process, or a reduced ability to distribute water through the service network). One of the best ways to minimise risk to water security and continuity of supply, and the potential associated hardships, is through proactive and well-considered planning.

The aim of a drought management plan (DMP) is to identify and mitigate community water shortage risks associated with drought. A DMP should provide a clear description of what actions need to occur and when, who is responsible for implementation, and how necessary resources will be secured. It should address the need to manage demand, identify and access new water supplies, and maintain and enhance the capability of assets.

This guideline has been prepared to assist water service providers to develop a DMP for each urban water supply service they operate, as part of their responsibility for managing risks to urban water security and continuity of supply. It also aims to help water service providers review and assess an existing DMP or restrictions schedule, promote consistency in terminology for water restrictions across the state, and provide various levels of detail to support water service providers at different stages of planning maturity.

This guideline does not address the management of risks related to water quality or dam safety; such risks are dealt with elsewhere in Queensland's regulatory framework for water (refer to 'Water industry regulation and Dam safety guidelines and requirements' at www.business.qld.gov.au).

The guideline provides what the department considers is a minimum standard for drought management planning including, how to:

- assess the risk (likelihood and consequence) of a potential water supply shortfall during drought by reviewing the historical reliability of the water supply and comparing that with forecast demands during drought
- identify actions required to optimise the drought response operation of existing infrastructure
- develop a demand management program including triggers, targets and actions, and where appropriate, the development of a water restrictions schedule
- identify feasible contingency and/or emergency water supply options that could be accessed during a drought, the actions required to access the supplies and the action triggers
- estimate the resources required to support the planned drought response actions and identify how these will be secured, including an outline of roles, responsibilities and approval mechanisms

Adoption of these guidelines will support drought management planning, including the development of any required demand management programs, and plans to access contingency and emergency water supplies. Implementation of a drought management plan will assist water service providers to meet their responsibilities for urban water supply provision, and contribute to the effective management of risks to water security and continuity of supply.

3.0 Using this guideline

3.1 Background

In Queensland, the *Water Supply (Safety and Reliability) Act 2000* (the Act) establishes a regulatory framework to provide for the safety and reliability of water supplies. The framework allows the Regulator, the Department of Regional Development, Manufacturing and Water (the department) to take certain actions if it reasonably believes that there is a risk to water security or continuity of supply of a water service (sections 445 and 448 of the Act).

In the past, under the Act, water service providers were required to prepare and submit a range of management plans, including drought management plans. In 2014, changes to the regulatory framework for water service provision resulted in this requirement being replaced with a mandatory performance reporting framework that requires annual reporting on specified key performance indicators (KPIs). Since 2020, providers have been required to report annually on the status of water supply planning for each of their water services, including if drought management planning has occurred in the last 10 years.

3.2 How this guideline applies

This guideline has been prepared to assist water service providers to develop a DMP for each water service they operate, as part of their responsibility for managing risks to urban water security and continuity of supply of their water supply services.

When assessing risk to water security and continuity of supply for a scheme, the Regulator will take into consideration if a water supply plan, asset management plan and drought management plan exist, if these documents meet the minimum standards recommended in the guidelines provided by the department, and if there is evidence that the plans are being implemented (or that the water service provider has capacity to implement the plans when required).

The intent of the minimum standards specified in this guideline (Table 1 and Table 2) is to position water service providers to understand what actions might be required to help manage their water services, before, during and after a drought. If a water service provider considers that a DMP is not required for a water service, an assessment should still be documented, including all key assumptions related to the supply-demand balance. The guidance on implementation (Section 7.0) outlines what documentation is considered appropriate to support the delivery of planned actions.

The use of the word ‘should’ in this guideline indicates a recommended course of action and establishes what the department considers is a minimum standard for drought planning.

This guideline provides recommendations and suggestions; it does not contain any mandatory requirements and it does not override any legislation or regulatory requirements. While it is recommended that water service providers follow this guideline, a water service provider can choose their own methods or information as the basis for undertaking drought management planning.

Seqwater, as the Queensland Government Bulk Water Supply Authority for South East Queensland is required to develop a water security program for the SEQ region[1] that includes the planned response to drought. This requirement does not preclude SEQ distributor-retailers or withdrawn councils (together referred to as SEQ water service providers) from developing drought management plans that identify and mitigate risks associated with the security and continuity of water distribution supply services during drought. Drought management planning undertaken by SEQ water service providers should be consistent with the water security program for South East

[1] Refer to section 350 of the *Water Act 2000*

Queensland. SEQ water service providers are encouraged to co-ordinate their drought management planning to achieve efficiencies and regional consistency, where appropriate.

3.3 Relationship to regulations and other guidelines

Drought management planning should be integrated with water supply planning and asset management planning, to provide a sound basis for decision making and support the prudent and efficient delivery of water supply services to a community.

The legislative framework that provides for safe and reliable water supplies can be found in the *Water Supply (Safety and Reliability) Act 2008* available at www.legislation.qld.gov.au. The act also describes the requirements for drinking water quality management plans, customer service standards and the rules governing how a water service provider establishes, implements and enforces water restrictions.

Guidance on planning to manage water supply risks in normal times is presented in the *Water supply planning: guideline for development*.

Guidance on how to develop level of service objectives for water security is presented in the *Water security level of service objectives: guidelines for development*.

Guidance on how to develop a water supply security statement is presented in the *Water supply security statement: template and guidance*, which assists water service providers to develop their own water supply security assessments and understand the water supply security needs of their communities.

Guidance on asset management planning to support maintenance of asset capability, is dealt with in the *Asset management planning: guideline for development*.

These documents can be found in the 'Water supply security' section of the Business Queensland website at www.business.qld.gov.au.

3.4 Key terminology

To assist in interpretation of the minimum standards and guidance provided in this guideline, the following descriptions of key terms are provided.

Drought: The Bureau of Meteorology (BOM) defines drought as a prolonged, abnormally dry period when the amount of available water is insufficient to meet normal use[2]. To calculate rainfall deficiencies, the BOM compares rainfall in the same area at the same time of year using records that go back to 1900. In Queensland, shires, areas or individual properties can be formally "drought declared". The main criterion for declaring drought is a rainfall deficiency in the last 12 months that is likely to occur no more than once every 10 years. Declarations also consider the recommendations of local drought committees comprised of local producers and representatives from peak industry bodies.

Accessible water supplies: A water supply is considered accessible if there is water available at the source and the permissions have been secured and the infrastructure is in place so water can be extracted; or if there is water available at the source and there is a high degree of confidence that the permissions can be secured and infrastructure installed when required.

Demand management: Demand management refers to any strategy that reduces the demand for drinking water or supports efficient water consumption. This can include:

- mandatory water restrictions on the volume, time of day or way that water can be used
- behavioural change education, examples include time of day to water gardens, sweep hard surfaces to remove leaves rather than hose, turn off the tap when you brush your teeth

[2] Bureau of Meteorology, 1 August 2019, Explainer: what is drought? Australian Government, accessed 03/03/20 from http://media.bom.gov.au/

- rebate programs that support residential efficiency improvements such as installing water efficient appliances (toilets, washing machines, flow reducers in taps), adding timer switches or drip irrigation systems for outdoor watering, pool covers
- drinking water offsets such as using recycled water on active playing surfaces, installing rainwater tanks, diverting rainwater to swimming pools for topping up
- leakage reduction in the distribution network by enhancing inspection and monitoring programs, installing pressure reducing devices in the network (this also reduces household water use) or fast-tracking refurbishment programs.

Water security: Water security for urban supplies means having a high degree of confidence that the water needs of a community can be sustainably met now and in the future (with the community's water needs clearly described, and ideally agreed between the water service provider and the community[3]). Water security is underpinned by the availability, accessibility and dependability/reliability of the sources of supply to meet the community's water needs. Water security (particularly short-term) is influenced by the continuity of supply, i.e. the condition, capacity, capability and resilience of the water supply infrastructure to maintain a consistent and adequate volume of water to meet the community's water needs.

4.0 Minimum standards for drought management planning

A water service provider should undertake drought management planning for all of its water services.[4] The basis for all key decisions should be documented (either in the DMP or in another appropriate location). If the water service provider considers that no drought response actions are required, details of the assessment underpinning this decision should still be documented, including all key assumptions.

The department expects water service providers to clearly articulate key roles and responsibilities for: undertaking drought management planning; approving any actions identified in a drought management plan; and implementing the actions, when required. The department also expects water service providers to clearly list all key assumptions, the sources of data used and a brief description of any models used to support the drought management planning.

Table 1 outlines the department's minimum standard expectations for the drought management planning activities that should be undertaken and the various elements to be documented as part of a DMP. Further details and guidance on drought management planning are provided in Section 5.0. An example drought management plan is provided in Appendix C.

Table 2 outlines the department's minimum standard expectations for the development of a restrictions schedule, if this is required as part of the drought plan. Further details and guidance on developing water restrictions are provided in Section 6.0 and Appendix D. Examples of water restriction schedules are provided in Appendix E.

If a water service provider does not meet the minimum standards in this guideline, they should carry out at least one of the following actions:

- explain how and when the standards will be met in the near future in the KPI annual report, as comments against the relevant KPI (QG 2.11b), or
- if the water service provider considers itself to be still meeting the overall objective for drought management planning (e.g. a particular aspect of drought management is not relevant for the water service, and therefore omitted or treated differently to the minimum standards), a comment in relation to this should be provided in the KPI annual report as comments against the relevant KPI (QG 2.11b).

[3] Modified from: Allan, JV, Kenway, SJ and Head, BW, (2019) Urban water security – what does it mean? *Urban Water Journal*, 15(9).

[4] Water service refers to water harvesting or collection (including water storages, groundwater extraction and river extraction), water transmission, water reticulation, drainage (other than stormwater drainage) and water treatment or recycling.

Table 1: Minimum standards for drought management planning

Element	Minimum standard*	Additional desirable inclusions
Scope	A DMP should specify the water services to which it relates. Describe the extent of additional demands on the system during drought, such as for rural residential, neighbouring communities or standpipe demand.	Include maps showing the location of water supplies, treatment and storage facilities and the extent of the distribution network. Maintain consistency with drinking water quality management plans. Include maps that describe the location of additional customers that might require access to the water service during drought.
Supply and demand assessment*	Estimate the volume of accessible water supplies that are expected to be available during drought based on the performance of the supplies in past droughts. Forecast the demand for water for the next 20 years. The DMP should outline if there is likely to be an imbalance between supply and demand during drought, the scale of the imbalance and when it might occur.	Consider the potential impacts of a drought more severe than the worst drought on record, for example consider the effect of an extra missed wet season beyond the worst drought on record and whether it is appropriate to plan for such an outcome. Assess the impacts of drought on infrastructure capability and include this in the supply-demand balance assessment.
Operations*	A DMP should summarise the operational changes that will be implemented during drought to optimise the use of existing assets, and the triggers for operational changes. Describe additional operational activities required to manage infrastructure during drought, such as enhanced leakage detection and management.	Consider the need for infrastructure augmentations to respond to drought, for example additional treatment requirements for poor quality source water. Consider what infrastructure will be required to support additional demands such as from rural residential or neighbouring communities. Consider the need for additional standpipes, reservoirs, truck refill stations and connecting pipelines.
Demand management*	The DMP should state the demand management measures, associated triggers for implementation and cessation, and the demand targets. If a water service provider determines it is appropriate for water restrictions to be part of the program, the DMP should provide a restrictions schedule and include the elements listed in Table 2. Describe the triggers for engaging and communicating the demand management program with stakeholders, the aims of the engagement, and the techniques to be used.	Consider the use of education campaigns in schools and the broader community, and the use of rebates to support water efficiency (such as for water efficient tapware and toilets, rainwater tanks and pool covers). Consider introducing or extending the production and use of recycled water to offset demand for drinking water from the supply service, such as for industrial applications or for maintaining sporting fields, where quality standards can be managed fit-for-purpose.

Element	Minimum standard*	Additional desirable inclusions
		Consider how to monitor the effectiveness of the various elements of the demand management program and how this information will be reported and used to improve the current and future drought response.
Contingency and emergency water supply*	The DMP should state what contingency or emergency supplies are required, the volume of water expected to be accessed, and the triggers and activities for initiating access, commencing use and ceasing use. The process and key assumptions used to determine the contingency/emergency supply should be documented (either in the DMP or elsewhere). If further investigations are required to identify contingency or emergency supplies, the DMP should outline the process for determining the optimal contingency and/or emergency supply, and what will trigger this process.	Include technical details for accessing contingency/emergency supplies, such as concept plans, drawings, maps and specifications. Include project plans and timelines for the key activities required to access contingency/emergency supplies. If required, commence engagement with the regulator and/or third parties (such as Sunwater) to establish processes to access additional water supplies in response to drought.
Resources	The DMP should describe the service provider processes and key roles and responsibilities to maintain, approve, implement and review a DMP; the financial and physical resource requirements to implement the DMP; and the pathways to secure the resources (e.g. procurement processes or pre-negotiated contracts) should also be identified.	
Monitoring and reporting	The DMP should describe how the water supply security position will be monitored and reported when entering, during and exiting drought. Details should include the frequency of monitoring, the triggers to increase frequency, the indicators that will be used, and how the monitoring will be internally reported (including mechanisms and alignment with roles and responsibilities).	Consider how the water security position will be reported to the community, including frequency of reporting and mechanisms (such as social media, print media and digital media).
Review	The DMP should be reviewed at least once every ten years, or following any drought event where it is triggered, whichever is sooner.	Consider reviewing specific parts of the DMP following significant changes in assumptions, such as changes in water supply access arrangements, demands or infrastructure.

* If a water service provider determines that this aspect of planning is not relevant for the water service, the drought management plan (DMP) should outline why this was determined.

Table 2: Elements of planning for water restrictions

Element	Minimum standard	Additional desirable inclusions
Water restrictions schedule	A schedule should be documented that includes the trigger for each restriction level, and at each level: • the targeted reduction in demand to be achieved • the maximum usage target for residential customers (litres per person per day) • the volume of water that can be taken by a customer group • the times when water can be used for a particular purpose • the way in which water can be used. The restrictions schedule should be published on the water service provider's website before it takes effect. If further work is required to establish the details of the restrictions, these activities should be identified together with a timeline, including triggers for development, if appropriate.	Consider providing details of any water efficient behaviours that are encouraged by the water service provider outside the enforceable restrictions framework (permanent water conservation measures).
Water restrictions details	The following matters should also be addressed and documented in support of the restrictions schedule: • the process to make restrictions and bring them into effect including the current extent of executive approval or endorsement • the basis and process for making exemptions to the various water restrictions • the process and procedures to enforce the restrictions, including what penalties will apply • definitions of key terms, to support consistent interpretation.	Consider developing a communications plan to accompany implementation of the water restrictions schedule. The plan might identify stakeholder groups, their information needs and the mechanisms for delivering information.

5.0 Drought management planning details

5.1 Drought management planning processes

Drought management planning should complement long term water supply planning for a water service, and be aligned with water security level of service (LOS) objectives, where they have been established. Drought management planning is ideally conducted outside of drought, to allow appropriate time and consideration to be given to understanding the nature of risks, potential response options and their implications. Making these decisions outside of a crisis mode is more likely to provide optimal outcomes for the community.

Integrated water supply planning, asset management planning and drought management planning are fundamental to the prudent and efficient delivery of water supply services to any community.

Figure 1 shows the relationship between key elements of planning to manage risk to water security and continuity of supply, including how asset management planning contributes. Appendix A provides more details on the drought planning process, and how it aligns with other water supply planning and asset management planning activities.

Planning principles

The following water supply planning principles may be useful when developing a DMP:

- Decisions by a water service provider should be transparent and equitable.
- A water service provider should, as far as practical, provide adequate water supply volumes to support the well-being, health and safety of the community (including being able to maintain supplies for essential needs and services).
- All water security planning should have clearly articulated service objectives, noting that these could evolve over time with consideration of trade-offs for water availability, costs, community water needs and tolerance for water restrictions.
- Selection of preferred service delivery options should be balanced against technical, financial, social, and environmental constraints.
- Consideration should be given to both infrastructure and non-infrastructure options for maintaining service delivery.
- Community engagement should occur throughout the planning process, during implementation and as part of the review of effectiveness after implementation.
- Where possible, regional collaboration and consistency should be sought.
- Drought management planning actions should be able to guide the response to a drought that is worse than previously experienced.
- Risk management activities related to continuity of water supplies during drought should be fully integrated with other business risk systems, including for water supply provision in ‘normal’ times.

Council-owned water service providers should also consider the local government principles described in the *Local Government Act 2009* (Section 4) that require:

- transparent and effective processes, and decision-making in the public interest
- sustainable development and management of assets and infrastructure, and delivery of effective services
- democratic representation, social inclusion and meaningful community engagement
- good governance of, and by, local government
- ethical and legal behaviour of councillors and local government employees.

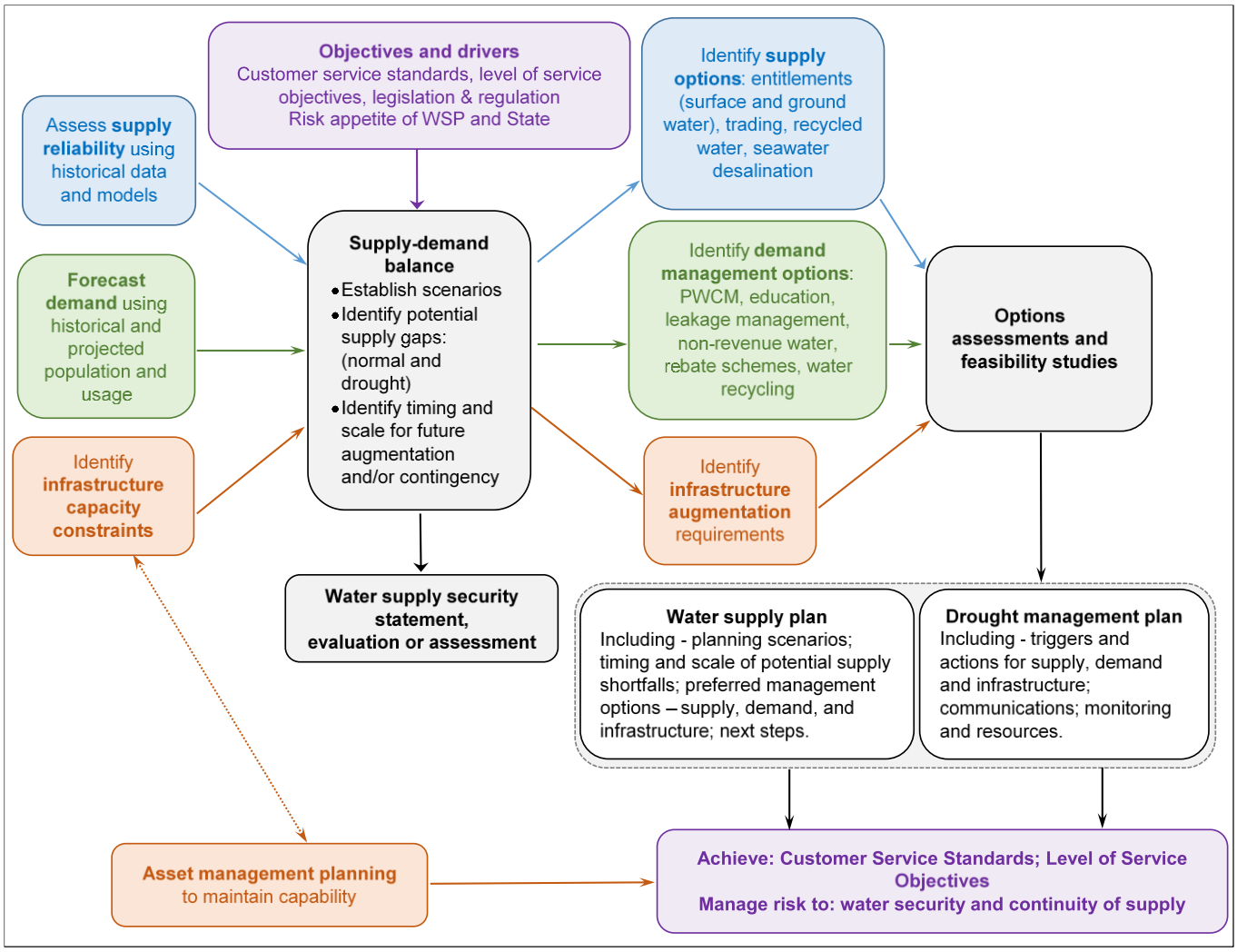

Figure 1 Key elements of planning to manage risk to water security and continuity of supply

The drought management plan

A DMP should clearly describe the water supply, demand, infrastructure, resource management and operational strategies that will be implemented before, during and after a drought to manage risks to water security and continuity of supply, and should identify triggers for actions, who is responsible for implementation, and how necessary resources will be secured. Actions described in the DMP could be related to demand management, water supply, infrastructure management or operational strategies.

The scope of a DMP is a matter for the water service provider. However, the scope of a DMP should be clearly articulated, and all water services under a water service provider's control should have a DMP. If a water service provider considers that a DMP is not required for a water service, the assessment that leads to this conclusion should be documented and include the key assumptions related to the supply-demand balance. A water service provider could choose to develop a single DMP for all its water services, or prepare individual DMPs for each separate water service, or a combination of these. A regional perspective across an entire local government area might be considered appropriate for some elements of a DMP (such as water restrictions or water use efficiency rebate programs), compared to other elements that will need to be tailored to a particular community's situation (such as contingency or emergency water supplies). An example table of contents for a drought management plan is provided in Appendix B.

5.2 Assessing supply and demand

A critical element of a DMP is understanding when a water supply shortfall[5] could occur and its projected magnitude, for various drought scenarios. This provides the basis for developing a DMP and establishing triggers to manage risks to water security and continuity of supply, during drought. Potential shortfalls can be identified by comparing the forecast demand for water with an estimate of accessible supplies and infrastructure capacity.

In developing the supply-demand balance for potential drought scenarios, consideration should be given to:

- planning for droughts worse than have been recorded in the past
- the effectiveness of past demand management programs to reduce demand
- the need to service demands outside the usual service area during drought, for example to rural residences that generally rely on rainwater or to a neighbouring community connected by pipeline (either within or outside of the same local government area)
- the need to share water sources with other essential services, such as electricity generation
- past experience in accessing contingency and emergency water supplies, including the volumes accessed (both rate and duration)
- potentially reduced or inadequate capability of infrastructure to treat feed water with changed quality, for example higher turbidity or salinity
- the effects of drought on leakage management and system losses (droughts are known to cause soil shrinkage and movement that can lead to increased pipe bursts)
- climate change impacts on rainfall patterns, temperatures and evaporation that can directly and indirectly impact on access to water supplies and demand for water. (Climate change projections can be accessed on the Queensland Government's Long Paddock website www.longpaddock.qld.gov.au.

Further guidance on preparing a water supply-demand balance is available from *Water supply planning: guideline for development*, which can be found in the 'Water supply security' section of the Business Queensland website www.business.qld.gov.au.

5.3 Operations

A water service provider should identify the operational changes that will be needed to respond to a drought, particularly to ensure water quality standards are maintained. Examples of operational changes that may be required in response to drought include:

- changing source water intake arrangements to access water at low stream levels
- recommissioning infrastructure that was previously taken out of service to access contingency groundwater bores
- introducing alternate or additional treatment to maintain drinking water quality safety standards and aesthetic water quality targets (for taste, odour and colour) in response to changes in feed water quality
- reducing storage levels in treated water reservoirs to maintain disinfection standards in response to reduced demand and increased residence time in the network
- implementing a pressure reduction program in the network to manage and reduce demand, or changing from proactive to reactive network flushing, or introducing an enhanced leakage detection program
- maximising recycled water production to offset demand for drinking water.

[5] A water supply shortfall occurs when water supplies cannot meet the demands of a community and local storages reach minimum operating level.

5.4 Demand management options

An effective demand management program can slow the depletion of water supply sources by many months and contribute significantly to the water security outlook for a community in both normal and drought times. The objectives and content of any demand management program developed as part of a DMP will need to respond to potential water supply shortfalls and should be developed with consideration of contingency and emergency water supply options. Possible demand management options that could be implemented in response to a drought include:

- water restrictions (see section 6.0)
- an enhanced leakage management program, including active leak detection, proactive maintenance, improved water metering, and targeted pressure management
- modifying maintenance activities that require substantial water use, while still maintaining public health and safety (such as reduced frequency of reservoir cleaning, mains flushing, and pressure and flow testing of hydrants)
- having systems in place to minimise water theft (such as improved metering)
- having systems in place to reduce authorised non-revenue water use (such as reducing the number of accessible taps in parks as restrictions advance)
- using rebate programs[6] or 'device swap' initiatives to assist and support the uptake of water efficient appliances (such as pool covers, rainwater tanks, low flow taps and dual flush toilets), and use of services such as checks for leaks by registered plumbers (see Appendix F for more information on rebate programs)
- providing waterwise information to the community
- initiating partnerships with schools, commercial operators and community organisations to generate awareness and promote waterwise behaviours (including the installation of smart meters or leak detection programs)
- offsetting demand for drinking water with fit-for-purpose use of reclaimed or recycled water (or other alternative water sources) for uses such as construction, road maintenance and irrigation of active playing surfaces, fields and ovals
- requiring particular users to develop water efficiency management plans (more details on these plans are available on the Business Queensland website at www.business.qld.gov.au
- engaging with the commercial sector to identify opportunities to reduce demands.

The final selection of demand management measures to support the DMP and their triggers will depend on a range of matters including:

- regulatory constraints, such as conditions on the take of water entitlements and existing, previous or potential moratoriums
- water security LOS objectives, particularly the frequency and severity of water restrictions
- the potential volume of water savings from proposed measures
- financial, economic and social costs and benefits to the community
- overall community support and the effectiveness of previous demand management measures in the community
- the resources required to support implementation of the measures
- the water supply and demand balance, in both normal and drought conditions
- infrastructure operating modes in normal and drought conditions
- the likely length of time in various stages of drought, to avoid 'toggling' in and out of different levels of activity phases and water restrictions
- the nature of the water supplies (for example, triggers can be based on stream flow rates, storage levels in a dam or weir, or water levels in groundwater bores; or can be triggered at a particular time of year or be influenced by a climate outlook/seasonal forecast).

[6] Rebate programs vary widely in terms of the products or services they relate to, the amount of funding offered to customers, and implementation processes. Rebates can be offered based on a percentage of the cost (e.g. 80% of the cost of installing a rainwater tank), a set rebate (e.g. $10 towards an irrigation timer), or providing the product or service through a local council (e.g. provide a water efficient shower head when an old shower head is brought in).

5.5 Contingency and emergency water supplies

When undertaking drought management planning, consideration should be given to the need for contingency and/or emergency water supplies. Contingency and/or emergency water supplies are, basically, additional water supplies that might be required to ensure that water demands can continue to be met. The following information should be stated in a DMP:

- if contingency or emergency supplies are required as part of the drought response, provide details of:
  - the location of the preferred supplies to be accessed, the volumes they are expected to provide and any potential access or reliability issues
  - the activities and procedures for enabling access, and the triggers for initiating activities to secure access
- if the need for contingency and/or emergency supplies is not yet determined, or the preferred contingency or emergency supply options have not been identified, provide an outline of the investigations and process required for determining the optimal contingency and emergency supplies and triggers for commencing activities
- if the drought planning identified there is no need for contingency or emergency water supplies, provide reasons why it was determined that it was not necessary to have any contingency or emergency water supplies as part of the planned response to drought.

Detailed material to support access to contingency or emergency water supplies might include a description of the commercial or regulatory processes to secure entitlements to new water supplies and permits to interfere with water (if required), concept plans, drawings, maps, design specifications, project plans, financial estimates and timelines.

Possible contingency or emergency water supplies might include:

- carting of treated or untreated water from adjoining communities if:
  - the water supply to those communities is likely to be available during drought
  - those communities will not be unacceptably impacted by the additional demand on their supplies
  - the distance and volumes to transport are feasible
  - the “owner” of the water agrees.
- constructing new groundwater bores or accessing alternate groundwater supplies (for example spears to access sub-surface water)
- increasing storage capacity for surface water or constructing works to enable access to additional or new surface water supplies, for example building a weir or excavating pumping pools (noting that these activities require permission from the State refer to ‘When a water licence is needed’ section of the Business Queensland website at www.business.qld.gov.au)
- renting or purchasing a desalination unit (for more information see the ‘Water sources in Queensland’ section of the Business Queensland website at www.business.qld.gov.au.
- purchasing additional water entitlements permanently or temporarily from Sunwater or other water entitlement holders
- constructing new or enhanced treatment capability to enable water of poorer/different quality to be utilised for example saline groundwater
- bringing forward planned system augmentations such as connecting to a community with a more secure water supply
- increasing the capacity of recycled water services, or the extent of their associated networks to reduce demand on drinking water supplies.
- The identification of preferred contingency and emergency water supplies will depend on a range of issues including the size of the potential water supply shortfall, the likelihood of such a potential shortfall, the physical availability of water supply options and the costs of alternative options. When identifying preferred contingency and emergency supply options, matters to consider include:
- if the water service can accept some substitution of non-drinking water supplies for some uses, such as for industrial applications or active playing surfaces
- the lead time that may be required to access contingency or emergency water supplies, including the time involved in:

  - obtaining regulatory approvals such as water entitlements (including allocations, licences or permits), making amendments to drinking water quality management plans and/or submitting a recycled water management plan
  - implementing access agreements to water (i.e. contractual arrangements for water supply), and land for new infrastructure to access the water
  - designing, procuring, installing or modifying infrastructure to access, receive or treat the new supplies.
- if the supply source requires infrastructure to access
- potential water quality implications
- the reliability of the water supply, for example water entitlements only provide a share of available water so consideration should also be given to the volume of water held in storages, announced allocations history, and other users of the water supply
- capital and operating costs of accessing the supply.

Where a preferred contingency or emergency supply has been identified, the process and key considerations that were used should be documented either in the DMP or elsewhere.

5.6 Drought response actions

A DMP should include the triggers for drought response actions and clear descriptions of what those actions will be when entering, during and exiting a drought. Table 3 presents a list of items for which triggers could be developed. An example summary of triggers and actions that could be included in a DMP is provided in Table C1, Appendix C provides further examples of drought management plans.

Table 3: Actions for which triggers could be determined

Drought preparation	During the drought	Drought exit
• Communication and community engagement • Introducing demand management strategies • Preparing for access to contingency and emergency water supplies (for example constructing new infrastructure, obtaining licences or other approvals, establishing commercial contracts)	• Imposing the different levels of water restrictions (for residential and for commercial/industrial uses) • Introducing other demand management measures • Accessing contingency and emergency water supplies • Monitoring water quality, the water supply security position, and the effectiveness of actions • Extending communications and community engagement	• Returning to usual water supplies • Easing of restrictions • Reviewing the DMP

Table 4: Example of a drought response action plan summary

Drought phase	Trigger (% storage capacity)	Demand management	Water supply	Communications	Other
Water awareness	> 60	Permanent water conservation measures.	Access usual water supplies.	Maintain website. Involve community in planning.	Monthly monitoring of water security position.
Drought preparation	50	Commence implementation of enhanced non-revenue water reduction program.	Commence enhanced leakage detection program. Commence test drilling program. Secure additional water licences.	Commence community awareness programs. Provide supporting education material to local schools.	Weekly monitoring of water supply security position. Increase internal reporting. Apply for relevant State subsidies.
Drought management	40	Introduce low level restrictions.	Install new groundwater bores and commence access. Commence negotiations to secure carting services and install new tanks to receive carted water.	Provide information on water storage levels. Notify introduction of restrictions and communicate details. Communicate water use targets.	
	30	Introduce medium restrictions. Rebate program.			Daily monitoring of water supply security position. Monitoring effectiveness of drought response measures. Ongoing liaison with State. Provide additional resources to enforce restrictions.
	20	Introduce high restrictions. Subsidies for water efficient appliances.	Secure water carting contract and commence supplementary water carting.	Introduce behavioural management communications program with focus on 4 minute showers.	
	10	Introduce critical level restrictions: non-essential water use ceases.			
	25	Exit to high level restrictions.		Notify community of eased restrictions.	
	35	Exit to medium restrictions.	Cease supplementary carting.		
	45	Exit to low restrictions.	Cease use of emergency bores.		
Water awareness	55	Exit to permanent water conservation measures	Return to usual water supplies.	Maintain website. Put information on rates notices. Community involvement in planning.	Return to monthly water security monitoring. Review and update of DMP.

5.7 Engagement during planning

There is benefit in undertaking community engagement and communication throughout the drought management process, including during planning, implementation and post-drought review.

Matters that might benefit from engagement and consultation with the community include the development of level of service objectives for water security, development of demand management measures including details of water restrictions, the use of recycled water and the selection of contingency and emergency water supply sources.

It is expected that a water service provider will already have established methods for communicating and engaging with its customers and community. Building on these, engagement could be done in a range of ways including the use of focus groups, surveys, interviews or simply by requesting comment on draft documents. These platforms help a water service provider to understand the attitudes and expectations of various customer groups, to support the development of demand management programs; it can also provide the community with a sense of ownership, which can enhance effectiveness during implementation.

It is important to report back to the community and stakeholders on how their input was considered and what effect it had, including how decisions and actions were modified.

It can also be beneficial to discuss drought management plans and restrictions schedules with neighbouring providers to determine if consistency is beneficial between the plans, for either triggers and/or actions, particularly the approach with water restrictions. Water service providers are encouraged to consider if such engagement is appropriate for their circumstances.

5.8 Engagement to support implementation

Ongoing messaging and communications relating to water efficient behaviours are important at any time. Appropriately timed communication with the community is essential to maximise the effectiveness of any demand management measures that are being implemented. It is important that information provided to the community is in a clear, simple format, with regular updates delivered in an accessible way (for example in local newspapers and radio, social media and/or the water service provider's website).

Communications mechanisms to support implementation of drought response actions, particularly demand management, include:

- making the community aware of the content of a DMP and the key actions that will be undertaken in response to drought, particularly any accompanying restrictions schedule
- educating the community on their water demand, the source of their water and its potential vulnerabilities
- keeping the community updated on the 'success' (or otherwise) of DMP measures through website updates, conventional media and social media
- mentioning water efficient behaviours that are relevant to the community, and providing examples of what water efficient behaviour can achieve (using local examples where possible)
- providing feedback to the community on the impacts of their waterwise behaviour, including updates on the average water consumption and its progress to meeting any demand targets
- showing the community what the water service provider/council is doing to contribute to demand reduction.

Engagement and communication strategies could be tailored to different customer and community groups, such as residential and non-residential customers, tourists, rural residential populations that only access reticulated water in times of drought, special interest groups, and government administrators and regulators. A communications plan will help to determine who might be engaged, why, when and how, and effective avenues for engagement for drought management planning.

It is possible for drought conditions to affect a community's water supply source while the community itself experiences continued rainfall, for example where water supply catchments are in different rainfall "zones" than the community itself. Circumstances such as this could present a challenge for engaging with the community on necessary drought response measures.

6.0 Water restrictions

Water restrictions improve water supply security by reducing water demand and extending the time until a water supply shortfall might occur. Including a well-planned water restrictions schedule (with an effective communications plan) into the demand management program, can have other ancillary benefits such as improved community awareness of the water security position, reduced 'shock' to a community as a drought worsens, and reduced costs associated with accessing contingency or emergency water supplies.

In developing a schedule of restrictions, consideration should be given to the triggers, targets, services that will be restricted, a system for issuing exemptions, a communications plan to support implementation, the process to bring the restrictions into effect, and how compliance will be enforced.

6.1 Legislation relating to water restrictions

Water restrictions allow a water service provider to place limitations on how water from the service can be used, in terms of the volume of water that can be taken by or supplied to a customer, the times when water can be used, or the way water can be used on premises.

The rules governing how a water service provider establishes, implements and enforces water restrictions are found in the *Water Supply (Safety and Reliability) Act 2008* (sections 41 to 44, and 169). General powers of authorised officers are also provided in the Act (Chapter 2 Division 2).

Under section 41(2) of the *Water Supply (Safety and Reliability) Act 2000*, a water service provider can only impose a water restriction under certain circumstances. These are summarised in Table 5 along with examples in which these circumstances may occur.

Water that is not supplied through a water service provider's reticulation network, such as water from private dams or bores, or from rainwater tanks is not subject to water service provider restrictions. However, water restrictions do apply to water taken from a rainwater tank if the tank is connected to and filled via the reticulation network, or via water carted from a standpipe in the network.

A person must not contravene a service provider water restriction that is made in accordance with the *Water Supply (Safety and Reliability) Act 2008*. The Act prescribes the maximum penalties that apply (section 43) and permits a service provider to reduce the water supply to a premises to the minimum level necessary for health and sanitation purposes, if the owner or occupier contravenes a service provider water restriction (section 169).

Queensland also has a water planning framework that describes how the State Government manages water resources, including when restrictions on water entitlements occur (such as through the conditions on entitlements, or the rules in operations manuals or water management protocols). There are provisions in the *Water Act 2000* that apply to the use of water from private bores, including mechanisms to restrict supplies. Further information can be found in the 'Water planning framework' section of the Business Queensland website at www.business.qld.gov.au.

Table 5: Summary of when a water service provider may impose a water restriction, with examples

When a water service provider may impose a water restriction	Example/s
The available water supply has fallen to a level at which unrestricted use of the water is not in the public interest.	Based on historical records there is a high likelihood that water supplies won't be able to support unrestricted demand in the next 6 to 12 months (or other time frame needed to instigate contingency or emergency water supply measures).
The restrictions are part of a reasonable and comprehensive strategy for demand management for water and are essential to ensure the aims of the strategy are met.	A water service provider has considered various alternative demand management measures and has developed a drought management plan that includes a restrictions schedule as part of a planned response to drought.
An emergency requires a water service provider to limit water use.	A severe storm event results in poor water quality, which reduces treatment plant capacity or physical damage that requires repair.
A water service provider is directed to impose the water restriction.	A water service provider is directed under a water supply emergency declaration or regulation, or approved water supply emergency response, or is directed by the regulator to impose a restriction.

Note: This content is summarised from section 41(2) of the *Water Supply (Safety and Reliability) Act 2008* and does not apply to permanent water conservations measures that are not enforced.

6.2 The restrictions schedule

A water restrictions schedule refers to an array of water restrictions that are set in stages that become more severe as water supplies reduce. It should be clear when each restriction level is triggered or relaxed, the water use targets at each level, and how the water service has been restricted. Appendix D contains further guidance to support the development of a restrictions schedule and Appendix E provides some examples of water restrictions schedules.

6.2.1 Levels

It is suggested that a restrictions schedule contains four levels, excluding non-enforceable permanent water conservation measures. This provides adequate flexibility to vary the severity of restrictions, without being so complex that the implementation and effectiveness might be at risk.

It is recommended that each restriction level has a descriptive name that can be readily understood by customers and is accompanied by a colour coding system moving from green to red, as restrictions increase in severity. Consistent naming across the state is encouraged. A recommended system of naming restriction levels is provided in Table 6, together with a suggested focus for each level.

Table 6: Recommended system for naming water restriction levels

Restrictions level and label	Suggested focus
Permanent water conservation measures (PWCM)	Not enforceable. Target efficient outdoor water use, e.g. no use in the middle of the day, odds and even days.
Low level	Enforceable. Aligned with PWCM, odds and evens days for sprinklers and voluntary measures for reducing water demand.
Medium level	Enforceable. Reduced sprinkler hours and times of day. Require timers on sprinklers.
High level	Enforceable. Bucket watering only, during restricted hours. Efficient water use by non-residential customers.
Critical level	Enforceable. Outdoor water use for health and safety only. Critical non-residential use only.

6.2.2 Triggers

A trigger for water restrictions, or other drought response actions, is related to a particular indicator. Such triggers are commonly tied to water supplies, for example water storage levels in dams or weirs, groundwater levels, levels in streams, or volumetric flowrates in streams. Triggers may also be tied to seasonal factors, such as the time of year, or can be influenced by climate outlooks or seasonal forecasts.

The selection of the trigger value could be influenced by the number of water sources, their nature (for example surface, groundwater, supplementary recycled water), and historical behaviour. The required timeframes to enact other drought management actions can also influence when each restriction level is to be triggered, and the targets they aim to achieve.

The exit triggers should be higher than entry levels to avoid ‘toggling’ in and out of restriction levels, which creates confusion for water customers and compromises the likelihood of achieving compliance and water use targets.

6.2.3 Targets

At each water restriction level, one or more targets should be set for what the restrictions are aiming to achieve. There are various ways that the targets can be expressed, but as a minimum, a demand target should be established for the maximum average usage per resident per day. Setting a target this way provides a clear expectation to the community and helps facilitate drought response planning and management. Targets can also be established for the demands of other customer groups, for total water sourced, and/or for total reductions compared to non-restricted demands.

Ideally, there will be an established relationship between the restrictions set at each level, the accompanying targets, and the demand reduction that is achievable. Such relationships might be based on previous drought experience, or from the shared experience of comparable localities. Setting a demand target too low could reduce the effectiveness of the restriction; if the community is unable to reach the target it can reduce morale and therefore engagement with the drought response.

While the water service provider should set an achievable demand target for each level of restriction, it may be prudent for planning purposes to consider water security outcomes based on a more conservative demand reduction in case progress to the demand targets take longer than anticipated.

6.2.4 Content

Water restrictions allow a water service provider to place limitations on how water from the service can be used, in terms of the volume of water that can be taken by or supplied to a customer, the times when water can be used, or the way water can be used on premises.

A water service provider should ensure restrictions are consistent with customer service standards and customer contracts, and support water supply security level of service objectives if they have been developed (for example long-term targets for desirable maximum frequency, severity or duration of restrictions for a community). A restrictions regime could aim to support business activity for as long as possible, to mitigate economic impacts on the community.

In developing the details of the restrictions schedule, consideration should be given to:

- different customer groups – residential and non-residential customers form a useful starting point, and consideration can also be given to developing restrictions to apply to sub-groups, such as council-managed public spaces or temporary residents (for example tourists attending a local festival).
- how much and the ways the different customer groups use water – this will be based primarily on outdoor water use, since the ability to restrict indoor water use is limited
- the nature of the water supply, and the effect that demand management could have on improving water security during drought
- what exemptions might apply (see below).

Further details on general considerations in developing water restrictions, criteria to support selection of restrictions and additional information sources, are provided in Appendix D.

Examples of water restrictions schedules are provided in Appendix E, including an example of a generic restrictions schedule, and specific examples from existing schedules that have been developed by water service providers in Queensland.

6.2.5 Exemptions

A water service provider can make an exemption to all or part of a water service restriction. Exemptions can be provided if restrictions are likely to result in unacceptable health, economic, social or environmental impacts. There are opportunities for a water service provider to minimise administration associated with exemption requests by crafting a restrictions schedule that includes variations for different stakeholder groups, particularly vulnerable groups within the community.

To help a water service provider determine protocols for exemptions, consideration can be given to the impact of previous exemptions on water use targets, community feedback on previous exemptions, and community views on proposed exemptions.

Examples of exemptions include:

- allowing use of hand-held hoses by the elderly and disabled
- allowing equipment reaching a specific water efficiency rating to be used for purposes that would otherwise be restricted
- watering of new lawns/gardens until they are established
- open spaces, such as sporting grounds, that support amenity and community health benefits
- water-using businesses that are important for the local economy, and that require a level of water use to remain profitable
- enabling access to standpipes for particular customers.

If exemptions apply to a water restriction, the following information should be provided:

- circumstances under which exemptions are granted
- whether the exemptions are temporary or permanent
- how exceptions that are not stated in the schedule are processed or determined, (for example this could be the requirement of a written application form)
- circumstances in which the water service provider reserves the right to revoke exemptions.

6.3 Bringing water restrictions into force

Development and approval of a restrictions schedule could entail the steps below:

1. Presentations to council and discussions about the drivers and anticipated costs and benefits of proposed restrictions to foster the development of a restrictions schedule that will garner council-wide support. Where possible, provide a quantifiable connection between the demand target and the restricted water use behaviours, for example council water use data could indicate that permitting outside household water use on alternating days has previously delivered a 5% reduction in daily demand relative to unrestricted use.
2. The council will need to identify the delegation of roles and responsibilities associated with implementing and reviewing a restrictions schedule. The activation of minor water restrictions, including the notice of commencement, could be delegated to an officer, such as the water services manager. In contrast, it could be more fitting for the activation of more severe restrictions to be delegated to a senior officer, such as the Mayor or Chief Executive Officer.
3. It is common for a restrictions schedule to be presented to the full council for approval for publication, with the compliance and enforcement policy to be applied (discussed below), and the roles and responsibilities for implementation.
4. A water service provider must give notice of the commencement of a water restriction, including a change to the severity of the restriction, to anyone affected by the water restriction.[7] An appropriate way to give notice of restrictions is by radio broadcast, television or other forms of electronic communications such as social media. Consideration should be given to which approach will provide the most information and reach the widest audience.
5. A water restriction generally takes effect from the day after the notification is given, or as otherwise described in the notification. However, if there is an urgent need for the water restriction, a water supply emergency declaration[8] can take effect from when the decision is made to impose the water restrictions.

6.4 Communications to support water restrictions

Information on water restrictions and restrictions schedules should be made publicly available on a water service provider's website. By communicating a staged and stepped approach to water restrictions early on and providing avenues for engagement, community members can anticipate further restrictions as a drought escalates, rather than experience restrictions as an abrupt imposition.

Linking demand management education campaigns that target non-restricted water uses with the announcement of water restrictions can send a clear message to the community to take action to reduce water consumption. This can encourage the community to not just comply with restrictions but also aim to reduce water inside their homes and businesses.

As part of the communications program that supports water restrictions, the community should be regularly updated on water consumption rates and the progress towards meeting demand targets. This can help to improve compliance, along with supporting community awareness of their water supply.

[7] Refer to section 43 of the *Water Supply (Safety and Reliability) Act 2008*

[8] A water supply emergency declaration is a declaration made by the Minister under the *Water Act 2000* section 25B. The declaration can be made when the Minister is satisfied that there is a water supply emergency, or that a water supply emergency is developing. The declaration has effect from the time it is made by the Minister or the later day, and remains in force until the commencement of a regulation dealing with the matters mentioned in the declaration, or the until 20 business days after the declaration takes effect (whichever is earlier).

Justifying restrictions to the community can prove relatively straight forward in dry periods when a water supply is under obvious stress but can be more problematic in the early stages of drought. Additional information that can be useful in fostering community compliance with water restrictions includes:

- the current level of water supply security and factors impacting this (for example drought, climate forecasts)
- measures that might be required during drought
- the potential costs of the contingency or emergency water supplies, such as water carting or new infrastructure.

Where there are different triggers for water restrictions, or differences in the restrictions themselves within a local government area, it will be useful to provide information on why this is required. This might involve describing the status and/or nature of local water sources, the triggers that have been applied and the alternatives that were considered.

Describing restriction levels in simple ways (for example low, medium and high restriction levels, or using colour coding to indicate restriction severity) and using consistent approaches to the description of water restriction levels across water service areas, can help to communicate water restriction levels and avoid confusion among communities.

6.5 Compliance and enforcement

A water service provider should have a compliance and enforcement policy that describes how non-compliance with restrictions will be managed. Since the purpose of restrictions is to reduce demand for water, stronger focus on fostering compliance, rather than issuing penalties in response to non-compliance, is encouraged. Community education and engagement is a key element of the strategy to drive compliance. Further discussion on community engagement is provided in sections 5.8 and 6.4.

A water service provider has a range of options available to monitor compliance with a water restriction, including:

- street patrols with marked vehicles, to remind residents of water restrictions and show that compliance is being monitored
- monitoring of water meter data, particularly looking for customers with high water use
- the use of uniforms and appropriate identification to ensure that water meter readers are easily identifiable to the public and serve as a visual reminder of water restrictions
- providing contact details for the public to report infringements – the details of such processes need to be considered carefully to reduce ill-will within the community.

A water service provider has a range of options available if a customer does not comply with a water restriction, including:

- issuing a warning or written notice that the customer is not complying with a water restriction and advising of processes and penalties that may follow if non-compliance continues
- issuing a fine via a penalty infringement notice by an authorised person either on-the-spot, or sent by email or post[9]
- reducing the water supply to a premises to the minimum level necessary for the health and sanitation purposes of occupants (refer section 169 of the *Water Supply (Safety and Reliability) Act 2000*)
- court action in response to continued and ongoing infringements.

A water service provider should determine if they will issue one or more warnings before an infringement notice is issued, the value of the infringement notice, and the actions that will be taken to manage repeat offenders.

A person that has been issued with an infringement notice may provide evidence of compliance with relevant parts of a water service provider-imposed restriction by showing an authorised person a certificate from a licenced plumber, or a statutory declaration stating their premises meets restriction requirements.[10] Proof of special circumstances warranting an exemption to water restrictions may also be accepted by a water service provider as

[9] The State Penalties Enforcement Regulation 2014 allows for an authorised person to issue an infringement notice for failing to comply with a water restriction imposed by a water service provider. A water service provider can appoint a person to be an authorised person as long as they meet the requirements under section 45 of the *Water Supply (Safety and Reliability) Act 2008* (appointed by the chief executive officer of the relevant council under section 202 of the *Local Government Act 2009*).

[10] Refer to section 43(9) of the *Water Supply (Safety & Reliability) Act 2008.*

evidence of compliance (for example a receipt for new lawn or plants may warrant watering outside restricted times if such exemptions are specified in the restrictions schedule).

7.0 Implementation

7.1 Roles and responsibilities

A DMP should clearly specify the roles and responsibilities for both the development and implementation of the plan, noting that in many instances there will be one person undertaking many, or all, of the tasks. The relationship of how these roles and responsibilities fit within governance of a water service provider and/or local council as a whole can also be provided. Clear roles and responsibilities support effective governance and communications and drive the achievement of agreed objectives.

Key roles and responsibilities that should be identified in the DMP include:

- a senior executive accountable for the development, maintenance and implementation of a DMP
- a drought manager responsible for managing the teams that develop and implement a DMP
- the drought planning team members that will develop the details of the plan, including conducting the analyses, assessing options, making recommendations and reviewing the plan
- implementation team members (if this is different to the drought planning team members) who will perform the tasks described in the drought response action plan when they are triggered, and who will monitor the effectiveness of the plan.

7.2 Resource planning

A DMP should provide an estimate of the resources required to implement the actions detailed in the plan. The plan should outline where these resources can be sourced and outline the processes to facilitate their timely access when required. This helps to ensure that the various actions and measures in a drought response can be implemented when required. Aspects for consideration include:

- Human resources: It could be necessary to access specialist expertise at various phases of the drought response action plan, or simply increase the number of people working on its implementation. Consideration should be given to the nature of skills and number of resources required, if these are available in the local community, and what arrangements could be put in place to access them (such as contract arrangements etc.).
- Financial resources: A DMP should specify the estimated costs for each drought response action plan item, where the funds will come from, and (if relevant) the processes to be followed to secure the funds in a timely manner. Internally sourced funding may require special budget consideration, so the processes to be followed should be understood in advance. Funds expected to be secured from external sources, such as grants from the state or federal governments, will need to satisfy the requirements of those organisations and should be relied on only when there is a high level of confidence that the projects will be eligible for funding and likely be successful.
- Plant and equipment: It is possible that elements of the drought response action plan will require access to existing or additional plant and equipment (for example, temporary pumps, water carting vehicles, or additional monitoring equipment to detect system leakage). These resources should be identified, and planning put in place to secure them at the appropriate time.

8.0 Monitoring and review

8.1 Monitoring and reporting

As with any action plan, it is appropriate to monitor if the actions in a drought management plan have been implemented as intended and if the actions have produced the desired outcomes. Based on the results, key assumptions that underpin the selection of trigger levels and actions can be verified or modified, and the program can be adjusted if required.

It is important to plan what information will be gathered and how this will be effectively shared both internally and externally. As part of business-as-usual processes for the supply of water during normal times, systems for monitoring water supply security, supply levels and community water use should already be established. The type of information that is useful to monitor during drought includes:

- the water supply security position
- the effectiveness of demand management measures, including the level of compliance with restrictions, demands achieved compared to targets, and community awareness and sentiment
- the volume of contingency and emergency water supplies able to be accessed
- the resources expended to implement the drought response actions and the timing of implementation compared to the plan.

Monitoring and reporting during drought should occur at a frequency aligned with the severity of the water supply situation taking particular consideration of the rate of draw-down of the water supply sources, for example when low levels of restrictions are in place, a monthly basis could be appropriate but as the water security position weakens and higher levels of restrictions are enacted, the frequency might increase to weekly or daily. Early warning should be given to decision-makers of approaching triggers, the action that is about to be taken, and when further actions are likely to be required. Consideration should be given to ‘reporting’ to the community about relevant aspects of the DMP and its implementation, particularly for water restrictions (refer to section 6.4).

8.2 Review

A review and assessment of key drought planning assumptions should be undertaken, whichever is sooner of the following:

- after a drought where a drought response was triggered or required
- if there are significant changes to any key assumptions, for example access to planned contingency water supplies are no longer feasible
- at least once every 10 years.

A review should consider assumptions related to the security, demand, supply, and resourcing matters for monitoring, described in sections 5.2 and 7.0.

Consultation with the community can provide valuable input into the review process and support the refinement of water security level of service objectives and preferred management strategies. Consideration should also be given to engaging with neighbouring water service providers regarding their drought management plans, triggers, actions and the effectiveness of measures, particularly following a drought.

9.0 Documentation supporting implementation

When assessing risk to water security and continuity of supply for a scheme, the Regulator will take into consideration if a drought management plan exists, if it meets the minimum standards recommended in this guideline, and if there is evidence that the plan is being implemented or that the water service provider has capacity to implement the plan when required.

Examples of evidence of drought management plan implementation or capacity to implement include:

- Options assessments:
  - feasibility and options assessments that support the actions described in the drought management plan (including assessment of the implementation of water restrictions)
  - a program of planned feasibility and options assessments to be undertaken to respond to drought
- Any documented communications and engagement strategy that provides details of how the community was/will be engaged in the development of the drought response plan, the review of the drought response plan, and implementation of the drought response plan
- A drought response plan showing how drought-related risks will be managed, including:
  - proposed actions proposed to be taken during drought and the associated triggers for those actions to be taken
  - information related to a documented major capital works project (upgrades and augmentations) that is proposed to be undertaken in response to drought, including:
    - a description of the works, estimated capital cost, expected timeframe to complete the works, estimated operating costs, and how the capital and operating costs are likely to be met
  - regular monitoring and review (see also section 8.0):
    - a history of document review and revision evolved over time
    - key performance indicators are established against objectives and regularly reported on.

10.0 Supplementary information

10.1 Definitions

Alternate water

Water from sources that are alternate to usual water supplies. Depending on the water service, this could include water sources such as rainwater, stormwater and desalinated water.

Contingency water supply

A planned response to increase the likelihood that the expected demands of the town will be met when ‘usual’ supplies are compromised (for example during drought or during infrastructure breakdown). The contingency supply augments the town’s water supply, either temporarily or permanently. Examples include a new bore, temporary desalination plant, accessing local waterhole, and short distance/low volume water carting.

Distributor-retailer

A distributor-retailer established under section 8 of the *South East Queensland Distribution and Retail Restructuring Act 2009*.

Emergency water supply

A planned response that is temporary and is required to provide sufficient supply to meet highly restricted demand. It is implemented when there is a low likelihood that ‘usual’ supplies will be able to meet expected demands or when there are inadequate supplies to meet demands. Examples include long distance/high volume carting water,

low quality feed water sources (for example local waterhole) with high treatment costs, and temporary desalination plant that has capacity to supply only highly restricted demand. It typically requires a significant expenditure of resources.

Essential water needs

The volume of water necessary to provide for basic health and hygiene, and for essential services such as power generation, health and safety needs.

Infringement notice

A notice issuing a fine for an offence and meeting the requirements for an infringement notice under section 15 of the *State Penalties Enforcement Act 1999*.

Permanent water conservation measure

An ongoing measure to ensure best practice for efficient water use.

Unrestricted demand

The demand for water under normal (non-drought) conditions with no enforceable water restrictions activated.

Water service provider

A registered water service provider, which is an entity registered under chapter 2, part 3 of the *Water Supply (Safety & Reliability) Act 2008*, as a service provider for a water service. This can be a local government that owns infrastructure for supplying water services, a water authority that owns infrastructure for supplying water services, a relevant infrastructure owner, or a prescribed related entity.

Water service

A reticulated water service as defined under the *Water Supply (Safety & Reliability) Act 2008*.

Withdrawn council

As defined in the *South East Queensland Distribution and Retail Restructuring Act 2009*.

10.2 Acronyms

DMP: Drought Management Plan

DRDMW: Department of Regional Development, Manufacturing and Water

DWQMP: Drinking Water Quality Management Plan

PWCM: Permanent water conservation measure

10.3 Resources

Water service providers are encouraged to collaborate with neighbouring water service providers in the development of any drought response to achieve regional efficiencies and consistency, where possible.

The following resources may further assist water service providers to undertake drought management planning and develop a drought management plan:

- the *Water Supply (Safety and Reliability) Act 2008* available at www.legislation.qld.gov.au
- water supply planning and management resources found in the ‘Water supply security’ section of the Business Queensland website at www.business.qld.gov.au
- information on water entitlements across Queensland is available from the Water entitlement viewer, accessed via the ‘Water entitlement viewer’ section of www.business.qld.gov.au
- waterwise support material available from the ‘Using water wisely’ section of the Queensland Government website at www.qld.gov.au
- water carrier guide at www.health.qld.gov.au; and water carting guide at www.business.qld.gov.au
- information on stakeholder engagement such as:

  - community engagement resources available from the ‘Community engagement’ page of the ‘News, events and consultation’ section of www.forgov.qld.gov.au
  - the Community engagement toolkit for planning (2017) prepared by the former Queensland Department of Infrastructure, Local Government and Planning (DILGP), available from the Trove website (www.trove.nla.gov.au)
  - the Stakeholder engagement guide: Business case development framework (2020), available from the Building Queensland website (www.buildingqueensland.qld.gov.au)
- information on climate change projections can be accessed on the Climate future dashboard on Queensland Government’s The Long Paddock website at www.longpaddock.qld.gov.au and the Australian Government’s Climate change in Australia website at www.climatechangeinaustralia.gov.au.

Additional material on drought planning for urban communities might be available from industry and professional organisations such as:

- Water Services Association of Australia at www.wsaa.asn.au
- Queensland Water Directorate at www.qldwater.com.au
- The Australian Water Association at www.awa.asn.au

11.0 Guideline review

The Department of Regional Development, Manufacturing and Water invites water service providers to email any feedback on this document to UrbanWaterSupply@rdmw.qld.gov.au. It is planned that this guideline will be reviewed within 18 months of its release and then every five years or earlier if required.

Appendices

Appendix A. Drought planning process

Planning for a drought takes its starting point from planning outside of drought, during normal or usual times. It then transposes this baseline to the drought environment, considering the nature and patterns of past droughts and the potential for worse droughts in the future. Key inputs to the drought planning process include level of service objectives for water security (such as the acceptable maximum frequency and duration of water restrictions), the physical limits to water accessibility under drought conditions, and the potential to restrict water demand by a community. A DMP should be developed alongside the 'normal' long term water supply plan for a water service. The two plans should complement each other as part of a continuum that works to minimise risk to water supply security. The key phases of the planning process to prepare a DMP are summarised below:

- Determine the water security level of service objectives, including the desired water use during normal/usual times, maximum frequency and severity of restrictions, and minimum essential supply volumes; and understand other business objectives and external obligations. For more information see the *Water security level of service objectives: Guidelines for development* available from the 'Water supply security' section of the Business Queensland website (www.business.qld.gov.au). The level of service that can be provided will usually be a compromise having regard to trade-offs involving water availability, costs, community water needs and tolerance for water restrictions. While the local water supplies might not always be able to supply a sufficient volume to meet essential water needs, the service provider must have plans in place to ensure this volume can be achieved, with a high level of confidence. (Essential water needs include water for health and hygiene, as well as essential services such as electricity generation.)
- Understand water demands: assess the 'usual' demand for water in the community, (including the needs of different customer groups or sectors), and the potential to reduce these demands to targeted levels during a drought.
- Gather information on current water supplies: collate information on entitlements to water; assess the historical reliability of water supply sources and associated infrastructure constraints; and identify contingency and emergency supplies of water that can be utilised during a drought.
- Investigate historical droughts and assess possible future droughts.
- Identify and assess demand management options, including water restrictions.
- Identify and assess water supply options, including contingency and emergency water supplies that may be available during drought.
- Document a drought management plan that:
  - clearly describes triggers for action and specifies what actions (demand and supply) will occur at those triggers, including preparatory activities, implementation management, an exit strategy; and communications programs
  - integrates considerations of risk related to continuity of water supplies during drought in the development of drought response actions
  - includes a monitoring program that will review and maintain the effectiveness of a DMP, and check that assumptions are up to date and that actions are implementable
  - includes an estimate of the financial and human resource requirements to implement the plan and identifies pathways to meet these, and establishes clear roles and responsibilities for the development and implementation of a DMP
  - outlines the proposed engagement and consultation with the community prior to implementation of any actions triggered by the plan, and during review of a DMP after exiting a drought.

To check if the drought management plan will be adequate to manage drought-related water supply risks in the future, a water supply-demand balance can be prepared for one or more drought scenarios. Further guidance on the development of water supply-demand balances is available in Water supply planning: Guideline for water service providers, which is available via the 'Water supply security' section of the Business Queensland website (www.business.qld.gov.au).

Appendix B. Example table contents for a drought management plan

Table of Contents

Figure B1: Example table of contents from Charters Towers Regional Council's drought management plan

Source: From Charter Towers Regional Council's Drought Management Plan, 2015; available online at www.charterstowers.qld.gov.au/forms-and-publications/water-publications, accessed 11/11/2020

Appendix C. Example drought management plan

Table C1: Example one page drought management plan for Rathdowney* S = Seqwater, QUU = Queensland Urban Utilities, EM = Emergency Manager

Level	Trigger	Target	Key actions	Monitor, manage and report	Communications	Restrictions (Standpipe and community)	Water Source	Preparation for future levels
1. Drought alert, preparedness and monitoring	50% capacity Maroon Dam	Normal demand pattern (where there are no obvious leaks)	Reporting and readiness, monitoring, leak detection and repair	• Monitor: supply status, drought response actions weekly (S) • Monitor demand status weekly (QUU) • Report weekly to DEWS (S) • Contact Seqwater emergency response hotline (3270 4040) who will act in accordance with the ERP (S)	• Advise Scenic Rim Regional Council (SRRC) and other major customers of the supply status (QUU) • Advise Irrigators of town actions (S)	Monitor standpipe use (QUU)	Nil	Update DRP contact list and review actions (S)
2. Voluntary conservation	25% capacity Maroon Dam	160 L/p/day (residential)	Implement communications plan and undertake leak detection and repair	As per level 1 (S & QUU)	• As per level 1 (S & QUU) • Commence low level public communications (QUU) • Advise standpipe users of restriction at next level (QUU)	Monitor standpipe use (QUU)		Communications planning (QUU)
3. Voluntary conservation, restriction of standpipe and carting of water	10% capacity Maroon Dam	150 L/p/day residential demand	• Standpipe restriction • Communications plan • Confirm water carter availability	As per level 1 but monitor daily (S & QUU)	• As per level 2 (S & QUU) • Increased communications (QUU)	• Standpipe restriction (QUU)		• Communications planning (QUU) • Make necessary arrangements for water carters to cart water to Rathdowney (S) • Obtain approval to impose water restrictions schedule (QUU)
4. Voluntary conservation, restrictions and the appropriate regulatory measures	10% capacity Maroon Dam	140 L/p/day residential demand including isolation of standpipe	• Continue to cart water and impose water restrictions • Communications plan	As per level 3 (S & QUU)	As per level 3 (S & QUU)	• Standpipe isolation (QUU) • Impose water restrictions on customers(QUU)	Commence water carting (S)	**Emergency response** • Communications planning (QUU) • Determine and prepare for emergency response (S&QUU) **Drought exit** • Communications planning (QUU)
4b.	7.5% capacity Maroon Dam	130 L/p/day residential demand	• Commence carting • Further water restrictions	As per level 4 (S & QUU)	• As per level 4 (S & QUU) • Increased communications (QUU)	• Standpipe isolation (QUU) • Increase water restrictions on customers(QUU)	Commence water carting (S)	As per level 4 (S & QUU)
Emergency Response	5% capacity Maroon Dam	Maximum demand reduction (100 L/p/day res and non-res)	• Implement EMSV plans • Communications plan	• As per level 4 (S & QUU) • Where required discuss with the Minister the need for a water supply emergency response (S)	As per level 4 (S & QUU)	• Standpipe remains isolated (QUU) • Retain and possibly increase severity of water restrictions (QUU)	Implement appropriate EMSV plans (S&QUU)	Continue emergency response planning (S&QUU)
Stepped exit	Water supply level of a preceding drought response trigger and removal of the action is operationally appropriate.	Maintain the target of the level implemented	• Remove appropriate drought response actions • Communications plan	As per level 4 (S & QUU)	As per level 4 (S & QUU)	• Standpipe remains isolated (QUU) • Retain restrictions (QUU)	As per level implemented (S&QUU)	**Emergency response** • Continue emergency response planning (S&QUU) **Drought exit/re-entry to other levels** • Communications planning (QUU)
Complete drought exit	60% capacity Maroon Dam	Normal demand pattern (where there are no obvious leaks)	Return to normal operations	• Completion and cessation of drought actions (S & QUU) • Contact Seqwater emergency response hotline (3270 4040) to close out incident as per ERP (S)	• As per level 1 but advising of exit (S & QUU) • Drought exit communications (S)	• Re-open standpipe (QUU) • Revoke water restrictions (QUU)	**Water source** • Cease carting water (S)	• Review and debrief (S&QUU) • Update the Rathdowney Disruption Plan (S)

Source: Rathdowney Drought Response Plan – Plan on a page, reproduced from Seqwater's Water for life: South East Queensland's water security program 2016-46, (p301) www.seqwater.com.au/waterforlife, accessed 11/11/2020

Appendix D. Water restrictions—details for development

General considerations

The following factors should be considered when determining appropriate water restrictions, triggers and targets:

- Water supply source/s
  - the size and diversity of water supply sources, the condition of associated infrastructure and its impact on the reliability of the water supply
  - the nature of the water supply source and how it responds to periods of low inflows or recharge and changes in demand, and the affect this has on the available time to initiate a drought response
- Community water use behaviour
  - water consumption of different water users, and across different locations or land uses, and volumes of water consumed for different end uses (for example watering of gardens vs. use in swimming pools)
  - any trends in water usage, or changes in community profile and water use behaviour
  - the scope for reducing different water user groups' demand, including the installation of new pools, use for municipal pools, property developers and installation of turf and gardens
  - how different water users have responded to restrictions in the past, including which elements were effective, and what progress was made against targets
- Expectations and wants of the community
  - whether the community is willing to have more severe (or more frequent, or longer duration) water restrictions to reduce the likelihood of requiring costly drought response measures (which then could impact both long-term water prices due to cost recovery and the local economy)
  - the ability of the community to go through drought and water restrictions without significant disturbance or unacceptable consequences (previous responses to drought can indicate this)
  - acceptance of past water restrictions and the influence of community education on water use behaviours
  - impact of water on liveability, including the provision of water for maintenance of public spaces, supply of water in public spaces (for example access to taps in parks could be restricted)
- Economic and social impact of water restrictions
  - direct costs on the water service provider for imposing restrictions, such as education, marketing, community notices, enforcement activities, signage, advertising etc.
  - the potential economic impact of restrictions on the profitability of businesses, the effects on local industries, and on residents (for example for replacing gardens)
  - the social impact of restrictions, including impacts on liveability and wellbeing (for example reduced amenity, reduced water use in sporting grounds and park maintenance, and the physical and emotional costs of losing gardens)
- Other potential users of the water service
  - standpipe use can increase during drought as non-reticulated residents neighbouring the service area rely on carted water as the supply in their rainwater tanks decline
  - neighbouring communities could also rely on water being carted, or otherwise transported, from the reticulation network as their supplies diminish
  - standpipe use for the supply of water for works being conducted
  - the costs and benefits of restricting standpipe access times, user types, or volumes of water consumption could be considered as part of a restrictions measure
- Equity across communities
  - the potential for water restrictions to result in varied water service delivery standards to different communities or sectors within a single local government area, and how this can impact on compliance and community well-being. For example:

    - it might be considered appropriate to cart water to a small community within an area to reduce the severity of restrictions required and to maintain consistency with restriction levels of other communities within the area
    - where an urban area within a local government area relies on a smaller, less reliable water supply, it might be appropriate to have water restrictions imposed specifically for that area, to reduce the likelihood of requiring a contingency water supply
- Ease of communicating
  - where possible, adopting the convention outlined in Table 6 (section 6.2) to provide consistency across the state on various levels of water restrictions
  - neighbouring water service providers and their demand management program, including restriction triggers and targets, should be considered to determine if it is possible for some consistency in water restriction measures or other demand management measures, and potentially for shared programs.

Selection criteria for water restrictions

It can be valuable to outline the selection criteria used to decide on the most appropriate water restrictions. The following could be used as criteria.

- Does the restriction focus on where water could be used more efficiently (for example associated with high losses)?
- Are the restrictions achievable (consider the percentage reduction of unrestricted demand being targeted)?[11]
- Is there a reasonable likelihood of compliance, and ability to enforce restrictions?
- Is the restriction appropriate for the area's demographics, land use patterns, and community needs and values?
- Is the quantity of water saved worth the costs incurred to the community and the water service provider?
- Do restrictions support level of service objectives, drought management planning and water supply planning?

For a water service provider that is council-owned, consideration should be given to reticulated residents compared to non-reticulated residents, and how their various water needs will be prioritised.

Information sources

A water service provider can draw on the following sources of information when setting water restriction targets and triggers:

- information on where/how most of the water is being used (for example watering of gardens vs use in swimming pools) from end use studies
- information on who is using most of the water (for example large vs small lot sizes)
- population demographics (for example the most feasible water restrictions will differ between urban and peri-urban users)
- historical water consumption data, including water consumption during previous droughts
- forecasted demands that include consideration for the impact of weather
- interviews or engagement with community and industry representatives
- information indicating the cost of restrictions to households, industry, and other stakeholder groups during previous droughts
- community surveys relating to attitudes and end uses of water
- insights and information from neighbouring or similar councils regarding their water restriction schedules and past experiences of water restrictions (keeping in mind any relevant differences between communities and water supply systems)
- other water service providers.

[11] Unrestricted demand refers to the demand for water under normal (non-drought) conditions and no active water restrictions.

The Water Education Network provides a platform for water service providers across Queensland to share knowledge and experience relating to community water education. For more information on the Water Education Network email: waterwise@qld.gov.au.

Historical data indicating the effectiveness of past water restrictions is valuable in developing a restrictions schedule. A water service provider may make a rough estimate of the effectiveness of a particular restriction by comparing per person water use during its past implementation to historical unrestricted consumption levels (correcting for the influence of weather or other variables). However, the applicability of historical data to future drought scenarios can be limited in some cases, such as when there are changes in behaviour and attitude over time. In addition to assessing historical data, accurately attributing water savings to a specific restriction may also require customer surveying and metering of a representative sample of customers.

Assessment of historical data can also be limited in the sense that it cannot provide insights into the community's water use during a drought that is more severe than that on record. By breaking down residential demand on a litres per person per day basis for all water uses for each level of water restriction, a water service provider can estimate the water demands that can be achieved in a standard household.

Glossary of terms used for water restrictions

Active playing surface: Is a surface that is

- a turf cricket wicket and practising wickets
- a grass running or racetrack
- a bicycle racecourse
- a green (that is, croquet, bowling or golf)
- a golf tee off area
- a tennis court
- a synthetic hockey pitch or synthetic bowling green
- any other principal part of a sportsground used during a sport game or competition but does not include the surrounding grassed surface of a sporting oval or a golf fairway; or
- a designated soft fall and grassed play areas in registered childcare centres.

Bucket: A bucket or similar vessel with a volume capacity of 10 litres or less.

Building and construction industry: All forms of building construction, including the construction of driveways and pathways, concrete, masonry and general building activities such as painting and the preparation for painting/re-surfacing but not including garden watering

Garden: Any ground used for the cultivation of, or in which there are situated trees, shrubs, flowers, plants, vegetables, or vegetation of any kind including plants in pots or tubs and excluding lawn.

Lawn: Means an expanse of grass-covered land that is usually associated with a garden but does not include active playing surfaces.

Hand-held hose with trigger nozzle: Nozzle fitted to a hand-held hose that enables the water to be turned off at the point of spray. Trigger nozzles typically have adjustable flow and spray patterns.

High-pressure cleaner: Mechanical device to create a high-pressure stream of water, delivered from a trigger nozzle. Consideration should be given to specifying a maximum flow rate for a permitted high-pressure cleaner.

Reticulated or urban water supply system: Means a system of water distribution infrastructure operated by a water service provider delivering potable (drinking quality) water to premises in the local government area of the water service provider, directly to the premises through the distribution system, or indirectly to the premises in a water tanker or other container containing water that has been sourced from the reticulated supply system. The system also includes a rainwater tank which contains any water sourced from the reticulated water supply system including rainwater tanks employing a trickle top-up system. However, the system does not include a rainwater tank that is connected to a house via an automatic switching valve for the purpose of maintaining supply to internal toilet cisterns, washing machine cold water taps or other fixtures specified in a local planning instrument where stored rainwater is sourced directly from an outlet from a tank or upstream from the automatic switching valve.

Sprinkler: A device used to spray water, connected to a hose. Includes a soaker hose.

Swimming pool or spa cover: A cover which floats or is attached to the sides of the pool and is designed specifically for the purpose of reducing evaporation from a pool or spa.

Written permission from the water service provider: To facilitate consideration of particular circumstances, the ability for a water user to apply for an exemption or concession, from a particular water restriction could be provided. Reasons for requiring the exemption/concession, and how (including times, possible volumes, purpose) the water is intended to be used should be provided for consideration when assessing the application.

Appendix E. Examples of water restriction schedules

Table E1: Template water restriction schedule for residential and non-residential customers

Element	Permanent water conservation measures	Low level water restrictions (Level 1)	Medium level water restrictions (Level 2)	High level water restrictions (Level 3)	Critical level water restrictions (Level 4)
Trigger level % water stored in town weir	>60%	60%	50%	40%	30%
Residential water use target (% demand reduction)	250 L/p/d	225 L/p/d (7%)	200 L/p/d (15%)	175 L/p/d (22%)	150 L/p/d (28%)
Target source water demand	6.3 ML/d	5.9 ML/d	5.4 ML/d	5.0 ML/d	4.5 ML/d
Residential (non-commercial) water restrictions					
Established gardens, lawns and landscaping	Water 5am-10am or 5pm-10pm. Use timers on irrigation systems and unattended watering devices When using a timer for irrigation that does not have a moisture sensor, set for a maximum of 2 hours. Hand water with a hose with a trigger or twist nozzle, bucket or watering can.	Watering is permitted before 10 am and after 5 pm on alternate days using sprinklers, micro spray, or drip systems. Use of attended hand-held hose with trigger nozzle, or watering can, or bucket filled from a tap permitted any time.	Use of sprinklers, micro spray or drip system is only permitted if used with a timer and for not more than one hour per day. Watering permitted before 8am and after 6pm on alternate days by use of attended hand-held hose with trigger nozzle, or by bucket or watering can filled from a tap.	Use of sprinklers, micro spray, drip system or hand-held hose is not permitted at any time. Watering of established lawns and grassed areas is not permitted at any time. Watering gardens by watering can or bucket filled from a tap, permitted for a maximum of one hour per day, before 8am and after 6 pm on alternate days.	Watering of established gardens, lawns or landscaping is not permitted at any time.

Element	Permanent water conservation measures	Low level water restrictions (Level 1)	Medium level water restrictions (Level 2)	High level water restrictions (Level 3)	Critical level water restrictions (Level 4)
New gardens, lawns and landscaping	As for established gardens, lawns and landscaping.	As for established gardens, lawns and landscaping, plus sprinklers with timer shut off and unattended hand held hoses permitted for one hour anytime on the day of establishment, and for one hour on any day thereafter for 14 days before 9 am and after 5pm. Thereafter as for established.	As for established gardens, lawns and landscaping, plus use of attended hand held hose with trigger nozzle, or by bucket or watering can filled from a tap permitted for a maximum of one hour anytime on the day of establishment, and for one hour on any day thereafter for 14 days from 6pm to 8am.	As for established gardens, lawns and landscaping.	Watering of new gardens, lawns or landscaping is not permitted at any time.
Swimming pools, spas and water play equipment.	Use a pool cover. Minimise backwash cycles and ensure that they are in accordance with manufacturer specifications.	Topping up by unattended hose permitted before 9 am and after 5 pm on alternate days. New & repaired pools can be topped up anytime. Child play pools <1000 litres only are permitted anytime. Use of hoses and sprinklers for water play toys (slip'n'slides, fountains etc.) is prohibited.	Topping up by unattended hose permitted before 8am and after 6pm on alternate days, only if all available rainwater at the premises has been used first to top up the pool. Filling of new and repaired pools permitted only with written permission from the water service provider. Filling or topping up of child play pools not permitted. Use of hoses and sprinklers for water play toys (slip'n'slides, fountains etc.) is prohibited. The use of outdoor showers is not permitted.	Topping up by attended hose permitted before 8am and after 6pm on alternate days, only if all available rainwater at the premises has been used first to top up the pool or spa and a pool or spa cover is in use. Filling of new and repaired pools permitted only with written permission from the water service provider. Filling or topping up of child play pools not permitted. Use of hoses and sprinklers for water play toys (slip'n'slides, fountains etc.) is prohibited. The use of outdoor showers is not permitted.	Topping up existing or new pools or spas is not permitted. Filling or topping up of child play pools is not permitted. Use of hoses and sprinklers for water play toys (slip'n'slides, fountains etc.) is prohibited. The use of outdoor showers is not permitted.

Element	Permanent water conservation measures	Low level water restrictions (Level 1)	Medium level water restrictions (Level 2)	High level water restrictions (Level 3)	Critical level water restrictions (Level 4)
Fountains, ponds and water features		Permitted to top up existing fountains, ponds and water features up to their normal level by hand-held hose with a trigger nozzle, or watering can, or bucket filled from a tap. No restrictions on initial filling of newly constructed ponds (subsequent topping up must be in accordance with above).	Permitted to top up existing ponds up to their normal level if the pond is sustaining fish or bird life and by watering can or bucket filled directly from a tap. All other ponds, fountains and water features can only be topped up or filled with written permission of the water service provider. Permitted to top up water in a fountain or water feature by hand-held hose with trigger nozzle, or watering can, or bucket filled from a tap, only if they recycle their water.	Permitted to top up existing ponds up to their normal level if the pond is sustaining fish or bird life and by watering can or bucket filled directly from a tap. For all other ponds, fountains and water features, top up or filling is not permitted.	Permitted to top up existing ponds up to their normal level if the pond is sustaining fish or bird life and by watering can or bucket filled directly from a tap, and only on alternate days. For all other ponds, fountains and water features top up or filling is not permitted.
Cleaning of paved/concrete surfaces	Use high-pressure cleaner, hand-held hose with trigger nozzle, or watering can, or bucket filled directly from a tap.	Permitted using a hand-held hose with trigger nozzle, high-pressure cleaner, watering cans or bucket filled directly from a tap.	Permitted only if cleaning, as a result of, or to avoid an accident, fire, health hazard or other emergency. Must use hand-held hose with trigger nozzle, high-pressure cleaner, watering can, or bucket filled directly from a tap.	Permitted only if cleaning, as a result of, or to avoid an accident, fire, health hazard or other emergency. Must use hand-held hose with trigger nozzle, high-pressure cleaner, watering can, or bucket filled directly from a tap.	Permitted only if cleaning, as a result of, or to avoid an accident, fire, health hazard or other emergency. Must use hand-held hose with trigger nozzle, high-pressure cleaner, watering can, or bucket filled directly from a tap.

Element	Permanent water conservation measures	Low level water restrictions (Level 1)	Medium level water restrictions (Level 2)	High level water restrictions (Level 3)	Critical level water restrictions (Level 4)
Vehicle washing	Use hand-held hose with trigger nozzle, high-pressure cleaner, or watering can or bucket filled directly from a tap.	Permitted only if using a hand-held hose with trigger nozzle, high-pressure cleaner, watering can, or bucket filled directly from a tap.	Permitted only if using a watering can or bucket filled directly from a tap.	Permitted only if using a watering can or bucket filled directly from a tap.	Permitted only if cleaning required for health or safety reason (e.g. cleaning mirrors, windows and number plates). Cleaning for health and safety must use a watering can or bucket filled directly from a tap.
Water from mobile water tankers or standpipes		Any person or entity using reticulated water from a mobile water tanker or standpipe is required to meet the water restrictions as specified above.	Any person or entity using reticulated water from a mobile water tanker or standpipe is required to meet the water restrictions as specified above.	Any person or entity using reticulated water from a mobile water tanker or standpipe is required to meet the water restrictions as specified above. The volume of water taken from a mobile tanker or standpipe for an individual residential premises may be restricted.	Any person or entity using reticulated water from a mobile water tanker or standpipe is required to meet the water restrictions as specified above. The volume of water taken from a mobile tanker or standpipe for an individual residential premises may be restricted.

Element	Permanent water conservation measures	Low level water restrictions (Level 1)	Medium level water restrictions (Level 2)	High level water restrictions (Level 3)	Critical level water restrictions (Level 4)
Non-residential water restrictions					
Established gardens, lawns and landscaping[8]	As for residential.	As for residential.	Watering permitted on alternate days only if using: • an automated/timed sprinkler, micro spray or drip system between 6pm - 8am for a maximum of two hours. • a hand-held hose with trigger nozzle, or watering can, or bucket filled from a tap between 6pm - 8am.	Watering of public gardens not permitted unless with the written approval of the water service provider.	Watering is not permitted at any time.
New gardens, lawns and landscaping	As for residential.	As for residential.	As for established gardens, lawns and landscaping. Plus use of attended hand held hose with trigger nozzle, or by bucket or watering can filled from a tap is permitted for one hour anytime on the day of establishment, and for one hour on any day thereafter for 14 days between 5-8am and 5-8pm.	Watering of new public gardens, lawns or landscaping is only permitted with the written approval of the water service provider.	Watering of new gardens, lawns or landscaping is not permitted at any time.
Swimming pools, spas and water play equipment.	As for residential.	As for residential.	As for residential.	As for residential.	As for residential.
Fountains, ponds and water features		As for residential.	As for residential.	As for residential.	As for residential.

Element	Permanent water conservation measures	Low level water restrictions (Level 1)	Medium level water restrictions (Level 2)	High level water restrictions (Level 3)	Critical level water restrictions (Level 4)
Active playing surfaces and other public open spaces	Water before 10am and after 5pm. Use timers on irrigation systems and unattended watering devices. If using a timer for irrigation that does not have a moisture sensor, set for a maximum of 2 hours. If watering by hand, use a hand-held hose with a trigger or twist nozzle, bucket or watering can.	Watering permitted only if using: • an automated or timed sprinkler, micro spray or drip system before 10 am and after 5pm for a maximum of two hours, unless linked to a moisture sensor, or • a manual sprinkler, micro spray or drip system that operates only before 9 am and after 5pm, or • a hand-held hose with trigger nozzle, or watering can, or bucket filled from a tap at any time. For non-playing surface, the restrictions for established gardens, lawns and landscaping applies.	Watering of active playing surface permitted only: • between 6-8 am and 6-8pm using an attended hand-held hose fitted with a trigger nozzle, watering can, or bucket filled from a tap, or • with written permission from the water service provider. For non-playing surface, the restrictions for established gardens, lawns and landscaping applies.	Active playing surfaces must not be watered except with the permission of the water service provider. For non-playing surface, the restrictions for established gardens, lawns and landscaping apply.	If the active playing surface is to be used for a scheduled Regional or State professional sporting competition, it may be watered with a hand-held hose with trigger nozzle, or watering can, or bucket filled from a tap. Otherwise, it must not be watered except with the written permission of the water service provider. For non-playing surface, the restrictions for established gardens, lawns and landscaping apply.

Element	Permanent water conservation measures	Low level water restrictions (Level 1)	Medium level water restrictions (Level 2)	High level water restrictions (Level 3)	Critical level water restrictions (Level 4)
Farm dams/tanks	No restrictions	Farm dams and tanks permitted to be topped up only: • to provide water for firefighting, public health, or stock watering purposes, or • with written permission from the water service provider.	Farm dams and tanks permitted to be topped up only: • to provide water for firefighting, public health, or stock watering purposes (only to the extent necessary to reasonably provide for those purposes), and • with written permission from the water service provider.	Farm dams and tanks permitted to be topped up only: • to provide water for firefighting, public health, or stock watering purposes (only to the extent necessary to reasonably provide for those purposes), and • with written permission from the water service provider.	Farm dams and tanks permitted to be topped up only: • to provide water for firefighting, public health, or stock watering purposes (only to the extent necessary to reasonably provide for those purposes), and • with written permission from the water service provider.
Water for livestock	No restrictions.	No restrictions.	No restrictions.	No restrictions.	No restrictions.

Element	Permanent water conservation measures	Low level water restrictions (Level 1)	Medium level water restrictions (Level 2)	High level water restrictions (Level 3)	Critical level water restrictions (Level 4)
Motor vehicles, food transport vehicles and boats.	No restrictions.	Cleaning of vehicles or boats associated with a licensed or retail dealer, and cleaning of food transport vehicles permitted only if using a: • hand-held hose with trigger nozzle or high-pressure cleaner • watering can or bucket filled from a tap • commercial car wash facility. Cleaning of food transport vehicles also permitted if using automatic washing systems which recycle water.	Cleaning of vehicles or boats associated with a licensed or retail dealer permitted only on Monday of each week or immediately prior to delivery of a vehicle/boat upon sale to a customer, and only if using a: • hand-held hose with trigger nozzle or high-pressure cleaner • watering can or bucket filled from a tap • commercial car wash facility. Cleaning of food transport vehicles permitted only if using: • hand-held hose with trigger nozzle • high-pressure cleaner • watering can or bucket filled directly from a tap • automatic washing systems that recycle water • a commercial car wash facility.	Cleaning of vehicles or boats associated with a licensed or retail dealer permitted only on Monday of each week or immediately prior to delivery of a vehicle/boat upon sale to a customer, and only if using a: • hand-held hose with trigger nozzle or high-pressure cleaner • watering can or bucket filled from a tap • commercial car wash facility Cleaning of food transport vehicles permitted only if using: • hand-held hose with trigger nozzle • high-pressure cleaner • watering can or bucket filled directly from a tap • automatic washing systems that recycle water • a commercial car wash facility.	Cleaning of vehicles or boats associated with a licensed or retail dealer permitted only: • if using a commercial car wash facility that recycles at least 50% of the water used • with the written permission of the water service provider. Cleaning of food transport vehicles permitted only if using: • hand-held hose with trigger nozzle • high-pressure cleaner • watering can or bucket filled directly from a tap • automatic washing systems that recycle water • a commercial car wash facility.

Element	Permanent water conservation measures	Low level water restrictions (Level 1)	Medium level water restrictions (Level 2)	High level water restrictions (Level 3)	Critical level water restrictions (Level 4)
Commercial nurseries		No restrictions.	No sprinklers, micro sprays or drip systems permitted between 9am and 4pm. Hand-held hoses, watering cans or buckets filled directly from a tap can be used anytime.	No sprinklers, micro sprays or drip systems permitted between 8am and 5pm. Hand-held hoses, watering cans or buckets filled directly from a tap can be used anytime.	Sprinklers, micro sprays or drip systems are only permitted with the written permission of the water service provider. Hand-held hoses, watering cans or buckets filled directly from a tap can be used at any time.

Building and construction industry		Reticulated water can be supplied for construction activities only if: • the site is attended • hoses and equipment are free from leaks • water is not running to waste.	Reticulated water can be supplied for construction activities only if: • the site is attended • hoses and equipment are free from leaks • water is not running to waste.	Reticulated water is not permitted to be used for activities associated with land development and subdivisional activities and associated roadwork activity unless: • recycled or reclaimed water is not available • it is required to satisfy statutory requirements (such as health and safety regulations or erosion and sediment control plans) • written approval is obtained from the water service provider • the site is attended • hoses and equipment are free from leaks, and • water is not running to waste. Water can be supplied for other construction activities with an attended hand-held hose, high pressure hose or bucket filled directly from a tap provided that hoses and equipment are free from leaks and water is not running to waste.	Reticulated water is not permitted to be used for activities associated with land development and subdivisional activities and associated roadwork activity unless: • recycled or reclaimed water is not available • it is required to satisfy statutory requirements (such as health and safety regulations or erosion and sediment control plans) • written approval is obtained from the water service provider • the site is attended • hoses and equipment are free from leaks, and • water is not running to waste. Water can be supplied for other construction activities with an attended hand-held hose, high pressure hose or bucket filled directly from a tap provided that hoses and equipment are free from

Element	Permanent water conservation measures	Low level water restrictions (Level 1)	Medium level water restrictions (Level 2)	High level water restrictions (Level 3)	Critical level water restrictions (Level 4)
					leaks and water is not running to waste.
Other commercial businesses	For gardens and grass (not related to commercial activities) refer to PWCM for private gardens.	No restrictions for water use related to commercial activities, other than those described above.	No restrictions for water use related to commercial activities, other than those described above.	No restrictions for water use related to commercial activities, other than those described above.	No restrictions for water use related to commercial activities, other than those described above.
Mobile water tanker - filling		No restrictions.	Filling permitted only if: • supplying water for either use inside a premises, for firefighting, or stock watering purposes, and • with the written permission of the water service provider.	Filling permitted only if: • supplying water for either use inside a premises, for firefighting, or stock watering purposes, and • with the written permission of the water service provider, and • between the hours of 8am and 8pm.	Filling permitted only if: • supplying water for either use inside a premises, for firefighting, or stock watering purposes, and • with the written permission of the water service provider, and • between the hours of 8am and 8pm.

Notes to Table E1.

1. When exiting a drought and moving back down through the restriction levels towards PWCM, trigger levels should be higher than entry levels (for example by say 5%) to avoid toggling in and out of restrictions.
2. Setting target values will depend on many factors including normal water use of the community, water supply situation, options for contingent to emergency supplies etc.
3. Alternate days are based on house number and should include one weekend day for each group for example odd numbered houses are permitted Tuesday, Thursday, Saturday; even numbered houses are permitted Wednesday, Friday, Sunday. These should be specified in the restrictions. It is suggested that as restrictions increase, watering times decrease to reduce water consumption.
4. The use of outdoor showers should be prohibited to stop people from "watering" their gardens this way. If you are allowing outdoor shower use, you need to restrict the time for example a maximum of four minutes per person per day.
5. Restrictions can be put in place to address situations where drought requires rural residential populations who generally rely on rainwater to access reticulated water through mobile water tankers or standpipes. Restrictions on the volume of water taken from standpipes will depend on standpipe characteristics (for example metering), a water service provider’s inspection and enforcement capabilities, and community needs.
6. For restrictions on farm tanks and dams - may need to consider different restrictions for different volume tanks/dams and tank replenishment arrangements.
7. Restrictions on the building and construction industries should be tailored to the common commercial construction activities in the service area. The use of fit-for- purpose alternative water supplies for building and construction can be encouraged where suitable.
8. Commercial businesses include meat processing, animal husbandry, landscapers, dog washers, bricklayers, concrete cutters, builders. Water use that is deemed by council to not be essential for commercial or business operations should not be permitted once a critical restriction level is triggered.

Table E2: Example water restrictions for residential and non-residential customers from South Burnett

South Burnett Regional Council

Residential Water Restrictions

	Water Conservation	Demand Management		Drought Management		Critical Water Supply
	Level 1	Level 2	Level 3	Level 4	Level 5	Emergency Arrangements
Consumption L/person/day	215	185	160	140	120	<100
Watering Days excl Government	Any Day	No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday				No External Water Use
Residential Watering Hours	6:00–9:00am 5:00-8:00pm	6:00-8:00am 5:00-7:00pm	7:00-8:00am 5:00-6:00pm	6:00-7:00pm	6:00-7:00pm *Buckets Only*	N/A
Gardens & Lawns 1.1 Hand-held hosing	Any Day Unlimited Hours	Specified Days/Hours	Specified Days/Hours	Specified Days/Hours	Banned	Banned
1.2 Sprinklers and Soaker Hoses	One Sprinkler or Soaker Hose	Banned	Banned	Banned	Banned	Banned
1.3 Buckets / Watering Cans	Any Day Unlimited Hours	Specified Days Unlimited Hours	Specified Days Unlimited Hours	Specified Days Unlimited Hours	Specified Days/Hours	Banned
1.4 New Turf	As Per Residential Section 1.1 to 1.3	One Sprinkler-Specified Hours	Must Seek Approval	Banned	Banned	Banned
1.5 Council Approved drip and micro sprinkler irrigation systems	Specified Hours	Specified Hours	Specified Hours	Specified Hours	Banned	Banned
2.0 Hosing or Washing Paved or Concreted Areas	Specified Hours	Specified Hours	Banned	Banned	Banned	Banned
3.0 Swimming Pools and Spas	**MAY** be emptied/refilled Specified Hours Topping up Allowed	**MAY** be emptied/refilled Specified Hours Topping up Allowed	**NO** Filling Topping up Allowed	**NO** Filling **OR** topping up allowed	**NO** Filling **OR** topping up allowed	**NO** Filling **OR** topping up allowed
4.0 Motor Vehicle Washing	Trigger hose or high pressure cleaners	Trigger hose or high pressure cleaners for rinsing	Bucket for washing Trigger hose or high pressure cleaners for rinsing	Bucket for washing Trigger hose or high pressure cleaners for rinsing	Bucket for washing and rinsing	Only mirrors and windscreens
5.0 Domestic Pets Drinking water ok Washing Bucket	Cleaning of pens trigger nozzle or high pressure cleaner specified hours	Cleaning of pens trigger nozzle or high pressure cleaner specified hours	Cleaning of pens trigger nozzle or high pressure cleaner specified hours	Cleaning of pens trigger nozzle or high pressure cleaner specified hours	Cleaning of pens trigger nozzle or high pressure cleaner specified hours	Cleaning of pens trigger nozzle or high pressure cleaner – 15 min per day
6.0 Cleaning of BBQ's and Rubbish Bins	Allowed Anytime	Allowed Anytime	Bucket for washing, trigger hose for rinsing anytime	Bucket for washing, trigger hose for rinsing anytime	Bucket Anytime	Bucket Anytime
7.0 External Building cleaning *Other Devices with Approval*	High Pressure Cleaners	High Pressure Cleaners	Buckets for windows only	Buckets for windows only	Banned	Banned
8.0 Construction Activities - Occupier	Hose with trigger nozzle	Hose with trigger nozzle	Bucket Only	Bucket Only	With Council Approval	Banned

Source: South Burnett Regional Council Commercial Water Restrictions, www.southburnett.qld.gov.au/downloads/file/1574/commercial-water-restrictions, accessed 11/11/2020.

Table E3: Example water restrictions schedule for public spaces from Longreach Regional Council

	Water Conservation	Demand Management	Demand Management	Drought Management	Critical Water Supply
	Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
1. Evaporative Air-conditioners	No Restriction	Only to be used during business hours	Only to be used during business hours	Only to be used during business hours	Only to be used during business hours
2. Public Spaces • parks • garden beds	No restriction for internal use Gardens & Lawns 6 hours maximum between 6:00pm-6:00am	No restriction for internal use Gardens & Lawns 5 hours maximum between 7:00pm-5:00am	No restriction for internal use Gardens & Lawns 5 hours maximum between 8:00pm-4:00am	No restriction for internal use Gardens & Lawns No more than 15 hours per week at night time only between 8:00pm-4:00am	No restriction for internal use Gardens & Lawns No more than 15 hours per week at night time only between 8:00pm-4:00am
3. Public Swimming Pools • Longreach • Isisford • Ilfracombe • Yaraka	No restriction for internal use Gardens Any Day 8:00-11:00am 3:00-6:00pm 6 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 8:00-10:00am 3:00-5:00pm 5 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 8:00-9:00am 3:00-4:00pm 5 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 3:00-4:00pm Buckets Only 15 hours per week maximum preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens Banned Banned

4. Racecourses	No restriction for internal use Gardens Any Day 8:00-11:00am 3:00-6:00pm 6 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 8:00-10:00am 3:00-5:00pm 5 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 8:00-9:00am 3:00-4:00pm 5 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 3:00-4:00pm Buckets Only 15 hours per week maximum preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens Banned Banned
5. Sports Fields (active playing surfaces) • Dedicated sporting fields, including schools sporting fields • Council public spaces	6:00pm – 6:00am	6:00pm – 6:00am	6:00pm – 6:00am	25 hours per week maximum preferably at night, but no watering between 10:00am-5:00pm	Banned
6. Sports Fields *(inactive playing areas)* • Garden beds • Lawns • public areas	No restriction for internal use Gardens Any Day 8:00-11:00am 3:00-6:00pm 6 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 8:00-10:00am 3:00-5:00pm 5 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 8:00-9:00am 3:00-4:00pm 5 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 3:00-4:00pm Buckets Only 15 hours per week maximum preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens Banned Banned

7. Showgrounds (public areas & gardens)	No restriction for internal use Gardens Any Day 8:00-11:00am 3:00-6:00pm 6 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 8:00-10:00am 3:00-5:00pm 5 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 8:00-9:00am 3:00-4:00pm 5 hours per day preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens No Watering on Mondays unless specifically stated below Odd Numbers – Tuesday, Thursday, Saturday Even Numbers – Wednesday, Friday, Sunday 3:00-4:00pm Buckets Only 15 hours per week maximum preferably at night, but no watering between 10:00am-5:00pm	No restriction for internal use Gardens Banned Banned
8. Stables • Stables • Watering of stock • Garden beds & lawns • arenas	Cleaning of stables trigger nozzle or high pressure 6:00pm-8:00pm Gardens Any Day 6:00-9:00am 4:00-7:00pm	Cleaning of stables trigger nozzle or high pressure cleaner during specified hours Gardens Sprinklers or Soaker Hoses Any Day 6:00-8:00am 6:00-8:00pm	Cleaning of stables trigger nozzle or high pressure cleaner during specified hours Gardens One Sprinkler or Soaker Hose Only 6:00-8:00pm Odd Numbers – Monday, Wednesday, Friday Even Numbers – Tuesday, Thursday, Saturday	Cleaning of stables trigger nozzle or high pressure cleaner during specified hours Gardens Banned	Cleaning of stables trigger nozzle or high pressure cleaner – 15 min per day Gardens Banned
9. Other Requests	To be considered by Council on an individual basis after written application. Council shall use the Queensland Water Commission guidelines to provide guidance where individual circumstances are not covered by the above requirements.				

Source: Longreach Regional Council, www.longreach.qld.gov.au/water, accessed 11/11/20

Appendix F. Rebate programs

Rebate programs can be used as an effective demand management tool. A rebate is a total or partial refund of an expense that meets defined criteria. Rebates can help to promote the installation of water-saving devices such as dual-flush toilets, rainwater tanks, or irrigation systems, and can also be offered for services such as checks for leaks by registered plumbers.

Rebate programs vary widely in terms of the products or services they relate to, the amount of funding offered and the criteria applied. Rebates can be offered based on a percentage of the cost (for example 80% of the cost of installing a rainwater tank, up to a set maximum) or a fixed rebate (for example $10 towards an irrigation timer). Rebates can work in conjunction with the provision of products or services directly through a local council (for example exchanging a water efficient shower head for an old shower head). To determine what could be a successful rebate scheme, a service provider should consider other effective programs and engage with consumers and consumer groups to understand likely uptake and effectiveness in reducing demand.

As part of developing and implementing a rebate program, a water service provider could:

- have a clear set of targets to achieve
- have an agreed budget
- develop guidelines that include criteria, requirements for documentation or evidence, application forms, limitations (for example an end date, dollar value, or one per household)
- establish a simple and clear process to administer the program
- establish processes to track the effectiveness of the program and expenditure (both administrative and direct expenditure to successful applicants)
- design a communication strategy to support implementation of the program
- design complementary behaviour management and education programs
- have a clear management structure defined with roles and responsibilities
- consider ongoing responsibilities (for example responsibility to enforce public health requirements for rainwater tanks).

Some local governments, such as Southern Downs Regional Council[12] have offered rainwater tank rebates to ratepayers. Toowoomba Regional Council has also introduced a rainwater tank rebate scheme to retrofit rainwater tanks into existing homes that connect to their water supply[13].

During the Millennium drought a number of rebate schemes were offered to households for water efficient appliances such as washing machines, dishwashers, dual-flush toilets, taps and shower heads, swimming pool covers and rainwater tanks.

[12] Southern Downs Regional Council's rural water tank rebate policy was adopted in May 2020. It followed a water tank rebate offered to residents in the FY of 2017-18.
[13] www.hpw.qld.gov.au/__data/assets/pdf_file/0019/3664/buildingandplumbingnewsflash532.pdf, accessed 8/09/2020

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