



Queensland

# **Water Resource (Logan Basin) Plan 2007**

**Explanatory Notes for SL 2007 No. 25**

made under the

*Water Act 2000*

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## **General outline**

### **Title**

*Water Resource (Logan Basin) Plan 2007*

### **Authorising law**

Chapter 2, part 3, division 2 of the *Water Act 2000*

### **Policy objectives of the legislation**

The objective of the water resource plan (the plan) is to provide a framework for the allocation and sustainable management of surface water in the plan area to meet future water requirements, including the protection of natural ecosystems and security of supply to authorised water users. This objective is required by the *Water Act 2000* (the Act). The plan area includes the catchments of the Logan and Albert Rivers and the Redlands subcatchments.

The plan provides for the allocation and sustainable management of water in a watercourse or lake, and water in springs not connected to either artesian water or to subartesian water connected to artesian water by—

- defining the availability of water in the plan area;
- providing a framework for sustainably managing water and the taking of water;
- identifying priorities and mechanisms for dealing with future water requirements;
- providing a framework for establishing water allocations;
- providing environmental flow objectives and water allocation security objectives;
- outlining the strategies to achieve the plan outcomes;
- requiring water and natural ecosystem monitoring to assess the effectiveness of the strategies and objectives outlined in the plan in achieving the outcomes; and
- by providing a framework for reversing, where practicable, degradation that has occurred in natural ecosystems.

## **Legislation consistent with policy objectives of authorising law**

The subordinate legislation is consistent with the policy objectives of the Act.

## **Estimated cost for government**

Funds for the development of the water resource plan and the resource operations plan have been allocated to the Department of Natural Resources and Water. Accordingly, the plan should not alter the present cost to government of administering the Act.

## **Consistency with fundamental legislative principles**

The subordinate legislation is consistent with fundamental legislative principles.

## **Consultation**

Government departments and agencies potentially affected by the plan have been consulted. In addition, conservation, agriculture business and commerce, commercial and recreational fishing, indigenous, water service provider and local government groups, regional development and broader community representatives have been consulted in accordance with the water resource planning process as outlined in the Act.

A number of public notices and media releases were also published, including public notices calling for submissions on the notice of intention to prepare the draft plan, the draft plan itself (upon its release), and the intention to prepare a draft resource operations plan for the Logan Basin.

Outcomes of community consultation are outlined in the separate document *Logan Basin Water Resource Plan Consultation Report*.

## **Regulatory Impact Statement**

Section 58 of the Act states that a regulatory impact statement is not required for the approval of a water resource plan.

## **Notes on Provisions**

### **Part 1 Preliminary**

#### **Short title**

Clause 1 sets out the short title to the subordinate legislation.

#### **Purposes of the plan**

Clause 2 states the purposes of the plan. These reflect the requirements of section 38 of the Act.

#### **Definitions**

Clause 3 specifies that certain terms are defined in the dictionary in schedule 13.

### **Part 2 Plan area and water to which plan applies**

#### **Plan area**

Clause 4 states that the exact location of the plan area is detailed in clause 6 and that a map of the plan area is shown in schedule 1. The plan area includes the catchments of the Logan and Albert Rivers and the Redlands subcatchments.

#### **Subcatchment areas**

Clause 5 states that a map and names of subcatchment areas are shown in schedules 2 and 3 respectively. The use of subcatchment areas provides for more effective management and planning of water allocations by focusing on the ecological and consumptive needs of smaller areas within the overall plan area. This approach also has the

benefit of more effective monitoring of the impacts that local changes might have on achieving plan objectives.

### **Information about areas**

Clause 6 explains that the exact locations of the plan area and subcatchment area boundaries are held in digital electronic form by the department and can be inspected in detail at departmental offices.

### **Nodes**

Clause 7 defines nodes mentioned in the plan. Nodes are specific locations on a watercourse within the plan area, where stream flow characteristics are described. In addition, modelled stream flows are estimated and reported to test consistency with environmental flow objectives. Nodes are identified by a letter of the alphabet and their locations are shown on the map in schedule 1 and described in schedule 4.

### **Water to which plan applies**

Clause 8 states that the plan applies to water in a watercourse or lake, and water in springs not connected to either artesian water or to subartesian water connected to artesian water.

The plan does not apply to subartesian or artesian water, or to the control of overland flow, in any part of the plan area. Subartesian water means water that occurs naturally in, or is introduced artificially into, an aquifer, which if tapped by a bore, would not flow naturally to the surface. Artesian water means water that occurs naturally in, or is introduced artificially into, an aquifer, which if tapped by a bore, would flow naturally to the surface. Overland flow means water, including floodwater, flowing over land, otherwise than in a watercourse or lake after having fallen as rain or in any other way, or, after rising to the surface naturally from underground. Despite this, monitoring and reporting requirements will ensure that an amendment to the plan can be initiated to regulate either subartesian water or overland flow water if plan outcomes become at risk (see clauses 70 and 74).



## **Part 4                      Performance indicators and objectives**

A performance indicator is defined in the Act to mean a measure that can be calculated and is stated in the plan to assess the impact of an allocation and management decision or proposal on water entitlements and natural ecosystems.

There are two sets of plan objectives: environmental flow objectives and water allocation security objectives. An objective represents a statistic produced by the department's Integrated Quantity and Quality Model (IQQM—see clause 18) that meets a performance indicator.

Future activities that could potentially affect the allocation and management of water in the plan area—for example, new water resource development, water trades, proposed changes to operational rules, or strategies implemented in a resource operations plan (ROP)—would only be approved if they are consistent with the objectives defined in part 4 of the plan. This requirement is separate to any other approvals or assessments that may be required—for example, approvals for works under the *Integrated Planning Act 1997* or environmental impact assessments required by other legislation.

The impact on and consistency with the plan's objectives are assessed using the department's IQQM computer program or other approved method. This program simulates stream flows in the plan area over the period 1890 to 2003. Operational rules can be simulated through this period to ensure that objectives are not compromised.

### **Division 1                      Environmental flow objectives**

Environmental flow objectives aim to protect the health of natural ecosystems when future decisions are made under the plan. The objectives attempt to minimise change to natural flow conditions and are defined at nodes.

#### **Performance indicators for environmental flow objectives**

Clause 12 states the performance indicators for the environmental flow objectives. Pre-development flow characteristics are described

through a combination of these performance indicators and the objectives stated in schedule 5. These indicators allow for environmental flow targets to be set to address the environmental impacts that may arise from changes to the flow regime.

The specified indicators are important key flow characteristics and are based on technical advice received during plan development. The indicators relate to periods of no flow, low, medium to high flow and flow seasonality. The variability and seasonality of flow regimes within the plan area are unique to each river system and are often critical for many ecological processes.

No one performance indicator or objective, achieved in isolation, is likely to maintain natural stream condition. Rather, several flow characteristics must be supported if the plan's ecological outcomes and objectives are to be achieved.

### **Environmental flow objectives**

Clause 13 states that the environmental flow objectives are stated in schedule 5.

The objectives have been set at a level to address and achieve the general and ecological outcomes as set out in part 3. The objectives have been developed in consideration of future impacts that may occur in various parts of the plan area and balance environmental and consumptive requirements.

The objectives are a numerical target or level of performance to be achieved, and consist of a combination of mandatory and desired objectives. The mandatory objectives ensure that the outcomes are maintained, while the desired objectives, if achieved, may enhance the ecological outcomes.

Any future decisions about allocation and management in the plan area must comply with the environmental flow objectives. This would be tested by the IQQM or other approved method (see clause 18). The objectives include a range of no flow, low flow, medium to high flow and seasonal flow objectives.



## **Division 2                      Water allocation security objectives**

Water allocation security objectives aim to ensure that future decisions about the allocation and management of water made under the plan will not affect the probability of groups of water users being able to obtain water under their water allocations.

### **Performance indicators for water allocation security objectives**

Clause 14 states the performance indicators that define the water allocation security objectives according to whether the indicator is for supplemented or unsupplemented water. See the discussion regarding schedule 6 for information on water sharing indexes.

The objectives define the minimum long-term performance of a group of water allocations that will be maintained for the life of the plan. Supplemented water is water supplied under an interim resource operations licence, resource operations licence or other authority to operate water infrastructure such as a dam or weir. Unsupplemented water is water that is not supplemented water.

### **Water allocation security objectives**

Clause 15 states that the water allocation security objectives are stated in schedule 6. Water allocation security objectives for supplemented and unsupplemented water are listed in parts 1 and 2 of schedule 6 respectively.

Water allocation security objectives do not represent a prediction or guarantee of future performance of water allocations in any particular year. The objectives represent how an allocation would have been expected to perform using historical data, assuming full development of the plan's unallocated water reserves, as well as full use of the plan area's water entitlements.

Actual performance under the implemented plan will depend on prevailing climatic factors, water demand distribution patterns and water users' choice in using their entitlements. In other words, the way an entitlement might have performed during the simulation period is not necessarily indicative of how it will perform in the future.

Water allocation security objectives will take effect when the water resource plan is implemented under a ROP. They will apply only to water entitlements that convert to tradable water allocations.

The objectives for supplemented water are specified according to priority groups as specified in schedule 6 part 1. The objectives for unsupplemented water are based on water allocation groups and the group of entitlements to which they belong (e.g. area-based entitlements or other) as specified in schedule 6 part 2.

## **Part 5                                  Strategies for achieving outcomes**

### **Division 1                              Decisions made under this plan**

#### **Application of division 1**

Clause 16 outlines that division 1 applies to decisions about water allocation or management in the plan area. However, there are two exceptions—decisions about reinstating or replacing an expired water licence and decisions to grant a water entitlement to a local government or a government agency for the taking of or interfering with water that was occurring at the commencement of the plan. These situations are not covered in the plan because they are dealt with under the provisions of the Act.

#### **Decisions consistent with objectives**

Clause 17 requires all decisions made about the allocation or management of water in the plan area, other than decisions about a water permit, to be consistent with the environmental flow and water allocation security objectives detailed in schedules 5 and 6 respectively. This provides greater certainty and security to allocation holders, ensures environmental flows are maintained and provides consistent and transparent considerations for decision-making.

Decisions about water permits are excluded from this requirement because the water taken during short permit periods is deemed not to affect the objectives, which are derived from long-term historical data.

However, separate consideration of the impacts on natural ecosystems and water authorisations is required in granting these permits under section 239 of the Act.

### **Assessing impact of decisions**

Clause 18 states that the department's IQQM computer program is the method used to assess consistency with environmental flow and water allocation security objectives.

The IQQM simulates all the major surface water processes that occur within a large catchment including water extractions, instream losses and the climatic and seasonal variability in surface water flow. The model was calibrated and validated using historical data from 1890–2003 (113 years). As such, the testing of compliance with the objectives is done by using the simulation data for that period.

The clause also provides that if it is not practicable to use the IQQM, the chief executive may approve another method if the chief executive is satisfied that it is at least as accurate as the IQQM in assessing consistency with plan objectives.

### **Decisions not to increase amount of water taken**

Clause 19 states that the chief executive must not make a decision that would increase the average volume of water available to be taken in the plan area, except in relation to a decision about unallocated water made under clause 22; a decision about a water permit (see clause 17); or a decision about water entitlements managed under the system operating plan applying to the plan area, but only to the extent that the decision does not impact on the plan objectives, for either environmental flow or water allocation security, for water allocations not managed under the system operating plan.

The clause effectively caps the amount of water to be taken from the plan area at the amount identified by the plan. This is because the allocation framework has been developed in recognition of full utilisation of existing water entitlements and provision of additional allocation to meet future water needs. Any provision of water outside this framework could potentially affect the general, strategic or town water supply reserves, existing water users or environmental flows.

Subclause 2 (c) provides some flexibility of management of water covered by the system operating plan and regional water security

program, but still effectively caps the total amount of water to be taken from the plan.

Subclause 3 addresses applications for taking water under an authorisation that were made, but not dealt with, before the commencement of the plan. A moratorium on applications for surface water was announced on 21 November 2001 under section 26 of the Act. The purpose of the moratorium was to maintain the level of water being taken or interfered at its then-current level while the plan was being developed. The moratorium remains in effect until the commencement of the plan.

The moratorium requirements have prevented the department from dealing with water entitlement applications that were received before or after announcement of the moratorium. These applications will be refused as they were made through a process according to conditions and rules of access that changed on release of the plan (see section 209 of the Act that requires applications inconsistent with a water resource plan to be refused).

New water entitlements will be available only through water trading or the release of unallocated water, which are both water market-based approaches.

### **Restriction on taking water from waterholes or lakes**

Clause 20 places restrictions on taking water from waterholes or lakes. Natural waterholes and lakes are recognised as important habitats and places of refuge for aquatic plants and animals, and can have significant cultural value to traditional owners.

In granting an authorisation that could result in an increased take of water from a waterhole or lake, conditions may be applied to safeguard cultural and environmental values of natural waterholes and lakes. Conditions are not required if the chief executive is satisfied the taking of water will not adversely affect those values.

New restrictions will not be able to be applied to the take of water under a permit, licence or other authorisation that existed at commencement of the plan, or to a water allocation granted on conversion from an authorisation.

The clause details the minimum considerations the chief executive must take into account in setting these conditions, such as the impact

the proposed taking may have on environmental, recreation, aesthetic and cultural values. Other matters may also be considered.

## **Division 2                    General, strategic and town water supply reserves**

### **Subdivision 1            Preliminary**

#### **Unallocated water held as general, strategic or town water supply reserve**

Clause 21 establishes three types of unallocated water—general, strategic and town water supply reserves.

#### **Granting or reserving unallocated water**

Clause 22 states that unallocated water may be granted or reserved from the general, strategic or town water supply reserve under a process in the resource operations plan.

#### **Matters chief executive must consider**

Clause 23 lists the minimum criteria that must be considered prior to the release of unallocated water under a ROP. These criteria reflect the Queensland Government's policy principles that guide the release of unallocated water. The principles seek to encourage sustainable and efficient use of water resources and are intended to ensure a clear, transparent and consistent statewide approach to providing additional allocation for consumptive use.

The minimum criteria for consideration include the need for, and efficiency of, present and proposed uses of water, the availability of an alternative water supply for the required purpose, environmental and cultural impacts, impacts on groundwater, potential for degradation of land or downstream watercourses, consistency with the SEQ regional plan, any system operating plan applying to the plan area, any regional water security program for the SEQ region, and also the price of the water if being granted through a public auction, ballot or tender process. Other matters may also be considered.

This approach provides flexibility in the plan, which can be used to prevent dealings with unallocated water that would be contrary to achieving plan objectives.

## **Subdivision 2      General reserve**

The general reserve is unallocated water for areas where there is expected to be future water demand and reduced opportunity for water trading due to full utilisation of existing entitlements. This water is intended for rural purposes and will only be available under certain flow conditions in order to protect low flows.

### **Application of subdivision 2**

Clause 24 states that subdivision 2 applies to unallocated water that is held as a general reserve.

### **Granting or reserving unallocated water from the general reserve**

Clause 25 provides that unallocated water from the general reserve may be granted or reserved as unsupplemented water entitlements. Subclause 2 lists requirements that must be stated on each water entitlement.

## **Subdivision 3      Strategic reserve**

The strategic reserve is unallocated water set aside to meet the future long-term urban water needs of the region. In this way, the reserve supports new or upgraded water supply infrastructure in the plan area.

### **Application of subdivision 3**

Clause 26 states that subdivision 3 applies to unallocated water that is held as a strategic reserve.

## **Granting or reserving unallocated water from the strategic reserve**

Clause 27 states that unallocated water may be granted or reserved from the strategic reserve under a water licence for a project declared under the *State Development and Public Works Organisation Act 1971* to be a significant project; or for infrastructure identified for the SEQ regional plan or instruments that implement the plan; or a regional water security program for the SEQ region.

## **Subdivision 4      Town water supply reserve**

The town water supply reserve is unallocated water for particular local government areas where there is a demonstrated demand for additional town water supply and for improving use of existing infrastructure.

### **Application of subdivision 4**

Clause 28 states that subdivision 4 applies to unallocated water that is held as a town water supply reserve.

### **Granting unallocated water from the town water supply reserve**

Clause 29 states that unallocated water may be granted from the town water supply reserve up to the volumetric limit specified (in megalitres per annum—ML/a) for town water supply in the Beaudesert Shire Council local government area.

The additional entitlement for Beaudesert Shire Council is to meet the future water needs of the local government area, specifically at Canungra township.

## **Division 3                    Process for granting and amending interim resource operations licence**

### **Subdivision 1            Preliminary**

#### **Process for Act, ss 176 and 184A**

Clause 30 provides that division 3 states a process for the Act for granting or amending an interim resource operations licence (iROL) to meet future water requirements, if unallocated water is granted or reserved from the strategic reserve for infrastructure mentioned in clause 27 (a) or (b). In addition, the process applies only until it is replaced by a process stated in the ROP.

### **Subdivision 2            Application or amendment after notice from chief executive**

#### **Applying for, or to amend, interim resource operations licence**

Clause 31 states the process for a proposed owner of particular infrastructure mentioned in clause 30 to apply for, or to amend, an iROL. The process outlines the details to be included in an application, and the time within which the application must be made after notice is given by the chief executive. This clause permits the chief executive to give a copy of an application to any entity the chief executive considers appropriate.

#### **Additional information may be required**

Clause 32 grants the chief executive the power to give notice to an applicant to request additional information about an application or to verify any information in, or additional to, the application, to be verified by statutory declaration. The application lapses if the applicant does not, without reasonable excuse, respond to the request within the reasonable time stated in the notice.



**Matters chief executive must consider**

Clause 33 specifies the minimum criteria that the chief executive must consider for deciding an application. Other matters may also be considered.

**Deciding application for, or to amend, interim resource operations licence**

Clause 34 details what the chief executive must do if satisfied the application should be approved. The application may be approved in whole or in part, with or without conditions. When granting or amending the iROL, the chief executive must also reserve, from the strategic reserve, unallocated water required for any proposed iWAs to which the approval applies.

**Subdivision 3      Amendment by chief executive****Amendment of interim resource operations licence by chief executive—Act, s 184A**

Clause 35 outlines a process for the Act that enables the chief executive to amend an iROL granted or amended under clause 34, at any time, to the extent the chief executive considers necessary to meet future water requirements. It also enables the chief executive to amend any other iROL to the extent necessary as a consequence of granting or amending an iROL under clause 34. Subclauses 2 to 4 detail notification requirements, including provision for the holder to make written submissions on the proposed amendment by at least 30 business days after the chief executive gives notice of the proposed amendment.

**Matters chief executive must consider**

Clause 36 specifies the minimum criteria that the chief executive must consider in deciding whether to amend the iROL. Other matters may also be considered.

**Deciding to amend interim resource operations licence**

Clause 37 enables the chief executive to amend the iROL to the extent considered necessary after consideration of clause 36 matters and any other matters considered appropriate.

**Subdivision 4      Amendment on application by holder****Amendment of interim resource operations licence by chief executive—Act, s 184A**

Clause 38 outlines a process for the Act that enables the iROL holder to apply for an amendment granted under clause 34. The process outlines the details to be included in an application, and permits the chief executive to give a copy of an application to any entity the chief executive considers appropriate.

**Additional information may be required**

Clause 39 grants the chief executive the power to give notice to an applicant to request additional information about an application or to verify any information in, or additional to, the application, to be verified by statutory declaration. The application lapses if the applicant does not, without reasonable excuse, respond to the request within the reasonable time stated in the notice.

**Matters chief executive must consider**

Clause 40 specifies the minimum criteria that the chief executive must consider in deciding whether to amend the iROL. Other matters may also be considered.

**Deciding to amend interim resource operations licence**

Clause 41 enables the chief executive to amend the iROL to the extent considered necessary after consideration of clause 40 matters and any other matters considered appropriate

## **Subdivision 5      Granting interim water allocations**

### **Granting interim water allocations—Act, s 189**

Clause 42 provides a process under the Act for granting iWAs to an amended iROL that relates to new infrastructure. The clause outlines criteria that the chief executive must be satisfied are met before granting the allocations. The chief executive may request information from the iROL holder.

## **Division 4              Resource operations licences**

The Queensland Water Commission is undertaking a review of institutional arrangements associated with water services in SEQ. This includes development of an entitlements framework that would be suitable for the operation of a series of interconnected water supply sources in SEQ. Existing interim water allocations (iWAs) from the Logan River Water Supply Scheme will be converted to water allocations during the life of the plan, excluding those listed in schedule 7. Under the plan, iWAs listed in schedule 7 continue until such time as the broader entitlement framework for the SEQ region and series of interconnected water supply sources in the same region is finalised. At that time, it would be necessary to amend the plan and other water resource plans for SEQ in a single process in order to provide for water entitlements to be managed under a resource operations licence and a system operating plan, in accordance with the broader framework.

### **Water entitlements to be managed under a resource operations licence**

Clause 43 states that interim water allocations and authorisations within the Logan River water supply scheme will be converted to water allocations, excluding those listed in schedule 7; that all authorisations within the Logan River Water Supply Scheme are to be managed under the resource operations licence for the scheme; and to the extent a system operating plan applies to interim water allocations in the plan area, are to be managed in accordance with a system operating plan.

## **Matters chief executive must consider**

Clause 44 specifies the minimum criteria that the chief executive must consider when determining operating arrangements and supply requirements for proposed or existing water infrastructure. The criteria include the impacts the infrastructure may have on environmental, recreational, aesthetic and cultural matters, the joint operation of existing and proposed infrastructure, any existing critical water supply strategy, any system operating plan applying to the plan area and any regional water security program for the SEQ region. Other matters may also be considered.

## **Division 5                    Granting water entitlements**

### **Water entitlements to replace local government authorities**

Clause 45 provides for the granting of water entitlements to replace existing local government authorities to take or interfere with water from particular watercourses in the plan area. The existing authorities are Orders in Council issued under the now repealed *Local Government Act 1936*. These authorities are continued under section 1037 of the Act until replaced with a water entitlement.

The clause states that the authorities must be replaced with water entitlements within 30 business days after the ROP commences, and must impose conditions giving effect to any environmental management or water sharing rules in the ROP.

## **Division 6                    Converting authorisations to water allocations**

By allowing for the establishment of water allocations throughout the plan area, the plan makes a significant change in the way water entitlements will be specified and managed.

Existing water entitlements are currently attached to land and can only be bought and sold with the land to which they attach. Water entitlements that are converted to water allocations can be traded separately from land.

When water entitlements are converted to tradable water allocations, ownership will be recorded on a title registration system called the ‘Water Allocations Register’, which is similar to the State’s Land Titles Register. People will then be free to buy or sell water allocations in much the same way as they buy and sell land.

This market-based system allows people to obtain water and is expected to promote the movement of water to higher value uses. It will also provide an incentive for efficiency, with entitlement holders able to sell any surpluses, or use them to enhance their own production.

The rules under which water allocations can be traded, and the areas where trading can occur, will be developed in consultation with the community as part of the resource operations planning process. Among other things, the rules will be structured to ensure consistency with the plan objectives set for water allocation holders and the environment.

Water allocations within a priority group or water allocation group will also be specified in terms of performance over the simulation period—the water allocation security objective.

Unlike water licences, water allocations are not subject to periodic renewal, and will endure beyond the 10-year life of the plan. However, improved information may lead to better assessments of the water that is available to be shared among users. In such circumstances, the water sharing rules defined in the ROP may be amended. Water users and the general community would be involved in further consultations as part of any such amendment process.

## **Subdivision 1      General**

### **Definition for division 6**

Clause 46 explains that authorisation means any authorisation or authority mentioned in clause 47.

### **Application of division 6**

Clause 47 explains that division 6 applies to authorisations converted to water allocations, water allocations converted from authorisations

and water allocations converted from water entitlements granted under division 5.

Section 121(1)(a) of the Act establishes that on the day the ROP commences, all authorisations to be converted under the plan will expire and the chief executive must supply the holders of these expired water licences with water allocations or other authorities.

### **Location for taking water**

Clause 48 requires the location for taking water stated on a water allocation to include the place at which water could have been taken under the authorisation. This location to take water is not to be confused with the location of works. For example, a location may be specified as a particular reach of a watercourse, in kilometres or Adopted Middle Thread Distance (see the dictionary in schedule 13), from which water may be accessed.

Traditionally, holders of authorisations were limited to taking water from a specified 'place' that was usually identified by a lot and plan number and was the point where a pump was situated. By changing this to a location, the ROP will allow holders of allocations to take water from anywhere within their designated location, irrespective of where that water is to be used.

### **Purpose to be stated on water allocation**

Clause 49 requires that the purpose stated on a water allocation must be 'any'. The 'any' purpose specification is designed to allow maximum flexibility in a trading environment as the allocation is not tied to a particular activity (e.g. irrigation) and could move to other uses.

## **Subdivision 2      Water allocations to take supplemented water**

Supplemented surface water entitlements in the Logan River Water Supply Scheme currently exist as iWAs. The plan provides that supplemented surface water iWAs in the plan area will be converted to tradable volumetric water allocations through the ROP, excluding

those listed in schedule 7. These water allocations will be tradable in accordance with rules established under the ROP.

The ROP will be completed within two years after the commencement of the water resource plan to convert specified supplemented water entitlements in the Logan River Water Supply Scheme (see clause 72).

### **Elements of a water allocation to take supplemented water**

Clause 50 outlines what must be stated on a water allocation to take supplemented water and includes location and purpose of take, nominal volume and priority group.

### **Nominal volumes for water allocations to take supplemented water**

Clause 51 states that the nominal volume for a water allocation to take supplemented water is the annual volume stated on the authorisation.

### **Priority group for water allocations to take supplemented water**

Clause 52 defines water allocations to take supplemented water in the Logan River Water Supply Scheme as either high or medium priority. If an authorisation is identified by an iROL as high priority, it is in the high priority group. All other authorisations are in the medium priority group.

The high priority group will receive a higher level of reliability of water supply than the medium priority group to reflect the supply provided for under the plan (schedule 6 details the water allocation security objectives).

## **Subdivision 3 Water allocations to take unsupplemented water**

The plan provides for some existing unsupplemented water entitlements (for example, area-based or licences to take water under 'waterharvesting' conditions) to convert to tradable volumetric water allocations through the ROP. Water allocations will be tradable in accordance with rules established under the ROP. The ROP will be

amended within two years (priority area 1) and within four years (priority area 2) after commencement of the water resource plan to effect these conversions (see clause 72).

### **Elements of a water allocation to take unsupplemented water**

Clause 53 outlines what must be stated on a water allocation to take unsupplemented water and includes location and purpose of take, nominal volume, maximum rate of take and annual volumetric limit for the allocation. The allocation may state daily or monthly volumetric limits, flow conditions and any other appropriate elements of the allocation the chief executive considers appropriate.

### **Nominal volumes for water allocations to take unsupplemented water**

The plan proposes that all water entitlements being converted to water allocations will state a nominal volume on the water allocation. The nominal volume represents, in megalitres, the share of water available to holders of water allocations in the particular group of entitlements to which they belong (e.g. town water supply, area-based licences or other entitlements). This volume will be an important part of a water allocation because it will define the water allocation's proportional annual volumetric share of the total water available to a group of water allocations.

The nominal volume should not be confused with the extraction limits that would be applied as part of the water sharing rules to be developed in a ROP—for example, the annual volumetric limit. The water that could actually be taken by the water allocation within a particular year will be subject to the water sharing rules and the actual local availability of water in each subcatchment area. In dry years, the amount of water that could actually be taken by each water allocation may be less than the nominal volume, while in wetter years the amount of water that could be taken may exceed the nominal volume.

Clause 54 states the criteria that must be considered or ensured in deciding the nominal volumes for water allocations to take unsupplemented water. Subclause 2 (a) specifies matters for consideration including the local availability of water, the conditions under which water may be taken under the authorisation, the annual volumes of water estimated by the chief executive to have been taken under the authorisation during the period, of not more than 10 years,



immediately before commencement of the plan, the efficiency of the use of that water, and the simulated mean annual diversion for the authorisation.

Subclause 2 (b) specifies that the chief executive must ensure the total of the nominal volumes for the water allocations in the water allocation group is not more than the volume stated in schedule 8 for the group. These nominal volumes are calculated using the IQQM and represent the average volume of water taken under authorisations in the simulated period (1890-2003).

The process for determining nominal volumes will involve progressive assessment of groups of area licences throughout the plan area by the department prior to their conversion in the ROP.

### **Annual volumetric limit for taking unsupplemented water**

Clause 55 specifies how the annual volumetric limit for the take of water is determined for existing authorisations that are to be converted to water allocations. The annual volumetric limit means the maximum volume of unsupplemented water that can be taken under a water allocation in a year.

If a licence or authority already states an annual volume, that volume will be the annual volumetric limit.

For a licence or authority that states an area that may be irrigated, the annual volumetric limit will be determined by the chief executive with regard to the volume of water necessary to efficiently irrigate the specified area, using a conversion rate of up to 6ML/ha.

For other authorisations that convert to water allocations, the annual volumetric limit will be decided by the chief executive having regard to the minimum criteria set out in subclause 1 (c). These criteria include the conditions under which water may be taken under the authorisation including any stated area that may be irrigated, the water taking capacity of any works being used or authorised to be used for taking water under the authorisation, the annual volumes of water estimated by the chief executive to have been taken under the authorisation during the period, of not more than 10 years, immediately before the commencement of the plan, and the efficiency of the use of that water. Other matters may also be considered.

Annual volumetric limits are important to ensure that the long-term end-of-system flow objectives are met, as well as providing the basis

for establishing water sharing rules. This is to ensure that overall access to the available resource in each subcatchment is managed within a water allocation group cap.

### **Daily and monthly volumetric limit for taking unsupplemented water**

Clause 56 specifies how the daily or monthly volumetric limit for the take of water is determined for existing authorisations that are to be converted to water allocations. The monthly volumetric limit means the maximum volume of unsupplemented water that can be taken under a water allocation in a month. The daily volumetric limit means the maximum volume of unsupplemented water that can be taken under a water allocation in a day.

For authorisations that convert to water allocations, the daily or monthly volumetric limit will be decided by the chief executive. The criteria to be considered by the chief executive include the local availability of water; conditions under which water may be taken under the authorisation; the volumes of water estimated by the chief executive to have been taken under the authorisation during the period, of not more than 10 years, immediately before the commencement of the plan, and the efficiency of the use of that water; and the simulated mean annual diversion for the authorisation. Other matters may also be considered.

### **Maximum rates for taking unsupplemented water**

Clause 57 specifies how the maximum rate of taking unsupplemented water under a water allocation is determined.

Where an authorisation states a maximum rate, then that is the maximum rate of take for unsupplemented water under that allocation.

Where the maximum rate is not stated but a pump size that is listed in schedule 9, column 1 is specified on an associated development permit, then the rate stated in schedule 9, column 2 applies. However, if the authorisation holder can demonstrate to the chief executive's satisfaction that the rate of take is different from the rate listed in schedule 9, column 2, then in deciding the rate, consideration must be given to conditions under which water may be taken under the authorisation; the water taking capacity of the pump to which the development permit relates under normal operating conditions; and

the irrigation or water distribution system related to the pump and its efficiency over time. If the chief executive is not satisfied by the outcome of this process, then maximum rate is the rate stated in schedule 9, column 2, for the pump size.

These considerations also apply to deciding a rate where an authorisation does not state a maximum rate and where a pump size specified on a related development permit is not mentioned in schedule 9, column 1.

The maximum rate for any other authorisation is determined by the chief executive in consideration of the nature of the existing licence and the estimate of the rate of take or the actual rate at which water is taken under the authorisation. However, the rate cannot be more than that stated in schedule 9, column 2, for the pump size.

### **Conditions for water allocations to take unsupplemented water**

Clause 58 states that the chief executive must consider the conditions stated on an existing authorisation to take unsupplemented water in deciding the conditions under which unsupplemented water may be taken under an allocation. Essentially, a holder of an allocation cannot take water unless authorisation conditions are met. For example, a condition may specify that water can only be taken when the flow rate of a watercourse is above a specified value.

### **Water allocation groups for water allocations to take unsupplemented water**

Clause 59 specifies groupings of water allocations to take unsupplemented water as authorisations for town water supply purposes (Class A group); authorisations that state an area that may be irrigated or a volume of water that may be taken in a period of 12 months, other than an authorisation for town water supply purposes or stock or domestic purposes (Class B group); authorisations to take unsupplemented water in the area of the Logan River Water Supply Scheme (Class C group), and; other authorisations (Class D).

## **Division 7                      Water licences to take   un-supplemented water**

### **Amending water licences to take un-supplemented water**

Clause 60 relates to amending licences to take un-supplemented water that were in existence on commencement of the plan (for example, area-based or water harvesting entitlements).

In parts of the plan area that will not be covered by the ROP, existing licences and other authorisations to take water will continue to have effect and will not be converted to allocations. However, the plan provides that these licences may be amended for consistency with plan objectives to state a purpose, an annual volumetric limit, a maximum rate of take and flow conditions.

### **Annual volumetric limit for taking un-supplemented water**

Clause 61 specifies how the annual volumetric limit for the take of water is determined for existing authorisations in force on commencement of the plan. The annual volumetric limit means the maximum amount of un-supplemented water that can be taken under a water entitlement in a period of 12 months.

If a licence already states a volume of water that may be taken in a period of 12 months, that volume will be the annual volumetric limit.

For a licence or authority that states an area that may be irrigated, the annual volumetric limit will be determined by the chief executive with regard to the volume of water necessary to efficiently irrigate the specified area, using a conversion rate of up to 6ML/ha.

For other authorisations that convert to water allocations, the annual volumetric limit will be decided by the chief executive having regard to the criteria set out in subclause (1)(c). Other matters may also be considered.

### **Maximum rates for taking un-supplemented water**

Clause 62 specifies how the maximum rate for taking un-supplemented water under a water licence is determined.

Where a water licence states a maximum rate, that rate will be the maximum rate of take for un-supplemented water under that licence.

Where the maximum rate is not stated but a pump size that is listed in schedule 9, column 1 is specified on a related development permit, then the rate stated in schedule 9, column 2 applies. However, if the licence holder can demonstrate to the chief executive's satisfaction that the rate of take is different from the rate listed in schedule 9, column 2, then in deciding the rate, regard must be had for the conditions under which water may be taken under the licence; the water taking capacity of the pump to which the development permit relates under normal operating conditions; and the irrigation or water distribution system related to the pump and its efficiency over time. If the chief executive is not satisfied by the outcome of this process, then the maximum rate cannot be more than that stated in schedule 9, column 2, for the pump size. These considerations also apply to deciding a rate where a licence does not state a maximum rate and where a pump size specified on a related development permit is not mentioned in schedule 9, column 1.

The maximum rate for any other licence is determined by the chief executive in consideration of the nature of the existing licence and an estimate of the rate, or measurement of the actual rate, at which water is taken under the licence.

## **Division 8                      Critical water supply strategy**

As continued take of water during critical water supply periods can affect all users and town water supply, there is a need to develop a critical water supply strategy for the plan area.

### **Critical water supply strategy**

Clause 63 states that a critical water supply strategy for water in the plan area must be developed as part of the ROP. The strategy is needed to ensure essential supplies are met in times of drought conditions worse than any that have occurred in the period of historical record.

Subclause 2 provides that if the strategy is not included in the ROP at the time it is approved, the ROP must state that an amendment may be made to the ROP in accordance with the Act to include the strategy within one year after commencement of the ROP.

Subclause 3 states that in deciding the critical water supply strategy, the chief executive must consider any existing strategy for critical

water supply management, any system operating plan and any regional water security program for the SEQ region.

### **Water sharing and infrastructure operating rules**

Clause 64 specifies what rules and details must be included in the critical water supply strategy and the necessary consultation with affected parties in deciding the strategy's content. It also requires that the strategy include monitoring and reporting requirements.

## **Division 9                      Miscellaneous**

### **Releasing water through fish ways**

Clause 65 requires the use of fish ways to release water from dams or weirs where possible. This aims to mitigate the effects of water infrastructure on fish movement along watercourses. Environmental management rules for infrastructure in the ROP must reflect this requirement.

### **Measuring devices**

Clause 66 requires meters to be used to measure volumes taken under water entitlements, other than for stock and domestic purposes, in accordance with the State-wide metering regulation to the Act.

Metering water extractions will promote improved compliance monitoring, reporting and overall management of the resource throughout the catchment, particularly for compliance with the water sharing rules and rate of take limits. It will also lead to improved information being available for future assessments and assist in assessments of the effectiveness of the plan's strategies.

## **Part 6                                Monitoring and reporting requirements**

Monitoring and reporting are essential elements of plan implementation because they provide a basis for measuring and enforcing compliance with the plan’s objectives and requirements. They also provide a trigger for any review of the plan that may be necessary and help identify further research needs.

Monitoring and regular reporting on the plan will ensure that any emerging issues are addressed promptly through plan amendment, rather than awaiting the mandatory 10-year review. In this way, water users and other interested parties can have confidence in the security of water entitlements beyond the 10-year life of the plan.

### **Monitoring**

Clause 67 details the water and natural ecosystems monitoring requirements used to assist assessing the effectiveness of proposed management strategies (under part 5) for achieving the outcomes of the plan stated in part 3. The monitoring requirements are to be achieved by programs undertaken by water infrastructure operators under the ROP. Monitoring programs may also be administered by the chief executive or other relevant State agencies. Other monitoring programs may be used if considered relevant to matters mentioned in subclause (1) by the chief executive.

### **Monitoring programs to be undertaken by holders of resource operations licences**

Clause 68 details specific requirements of a resource operations licence holder’s monitoring program and they must be satisfactory to the chief executive. Subclause 3 provides that the strategies must assist the chief executive to assess the effectiveness of the strategies under part 5 of the water resource plan.

### **Resource operations licence holders to give reports**

Clause 69 sets out the reporting requirements for a resource operations licence holder in relation to the monitoring programs in

clause 68. It specifies the content required, and time limits for completing the reports.

### **Minister's report on plan—Act, s 53**

Clause 70 specifies the reporting requirements for the Minister, including the timing and content of reports. The report assesses the effectiveness of the implementation of the plan in achieving the plan outcomes. If the Minister is satisfied about any of the matters outlined as triggers in clause 74 for a plan amendment or replacement of the plan, the report must include a consideration of the matters.

As a result of preliminary investigations undertaken in developing the plan, the plan does not regulate the take of or interference with groundwater or overland flow water. However, this clause includes a requirement that the Minister report on groundwater and overland flow water three years after the resource operation plan's commencement, to the extent that information is available about the level of development of works for taking overland flow water and subartesian water in the plan area.

In accordance with section 1009 of the Act, the chief executive must make a copy of the report available for inspection or purchase by the public, during office hours on business days, at the head office or the appropriate regional office of the department.

## **Part 7                      Implementing and amending    this plan**

The water resource plan will be primarily implemented through a ROP. The ROP will set out how existing water entitlements will convert to tradable volumetric water allocations in accordance with the water resource plan. The ROP will also define, for each part of the plan area, the water sharing and environmental flow rules that will be applied in the day-to-day management of stream flows and water infrastructure to ensure the water resource plan's outcomes are achieved. Water service providers will be required to show through monitoring and reporting that operating arrangements for their supply infrastructure comply with these rules.



A critical water supply strategy detailing how water will be managed and shared in times of drought will be another important element of the resource operations plan. In addition, the ROP will detail trading rules for each part of the plan area to ensure that the water resource plan's environmental flow objectives and water allocation security objectives are not compromised under a water market system.

### **Priorities for converting to, or granting, water allocations**

Clause 71 refers to schedule 11 for description of the priority areas within the plan area for converting entitlements to, or granting, water allocations.

Priority area 1 is the area of the Logan River Water Supply Scheme.

Priority area 2 includes the Running and Christmas Creek subcatchments which are considered a priority for improved flow management, entitlement specification and potential trading.

### **Implementation schedule**

Clause 72 provides a schedule for implementation of the plan and conversion to, or granting of, water allocations. Whereas certain elements are to be implemented on commencement of the plan or shortly afterwards, this clause provides the longer term staged implementation arrangements. The priority stages are based on relative urgency.

Within two years after the commencement of the plan, the matters detailed in subclause 2 will be implemented through a ROP. Within four years after the commencement of the plan, the matters detailed in subclause 3 will be implemented through an amendment to the ROP. Subclause 4 provides that subclauses 2 and 3 do not limit the matters that may be included in the ROP.

### **Minor or stated amendment of plan—Act, s 57**

Clause 73 states the types of amendments that may be made to the plan under section 57(b) of the Act that do not require public notification. These amendments allow for efficient and timely responses to changes occurring in the plan area that may be adversely affecting the achievement of plan outcomes.

## **Amending or replacing plan**

Clause 74 outlines the situations where the Minister must consider whether either amending the plan, or preparing a new plan to replace it, is necessary. Clause (a) ensures that options for making additional water available to meet any future water demand can be considered for inclusion in the plan. This is provided that existing entitlements are being efficiently utilised and an economically viable and ecologically sustainable need for the extra water supplies exists. Under clauses (b) and (c) respectively, the Minister may also amend or replace the plan if ecological outcomes are not being achieved or the plan is inconsistent with the SEQ regional plan.

## **Schedule 1      Plan area**

Schedule 1 contains a map of the area of the Logan Basin to which the plan applies, as well as the location of nodes within the plan area. See clauses 4 and 7 and schedule 4 for more information.

## **Schedule 2      Subcatchment areas**

Schedule 2 contains a map of the subcatchment area boundaries within the plan area. See clause 5 and schedule 3 for more information.

## **Schedule 3      Subcatchment area names**

Schedule 3 lists the subcatchment area names in the plan area. See clause 5 and schedule 2 for more information.

## Schedule 4      Nodes

Schedule 4 lists the nodes used in the plan and their location. The location is given as a measurement of Adopted Middle Thread Distance (AMTD). This gives the distance, measured along the middle of the water system, that a particular node is located from the mouth of that water system, or from a junction with the main watercourse. See clause 7 and schedule 13 for more information.

## Schedule 5      Environmental flow objectives

Schedule 5 states the environmental flow objectives for particular performance requirements. See part 4, division 1 for more information.

### Part 1              Low flow objectives

This part states the no flow and low flow objectives that should be achieved at particular nodes. The following table describes the purposes of the various indicators.

Performance Indicator	Description	Key Ecological and Geomorphological Functions
50% and 90% daily flow	A statistical measure of low flow into estuaries.	Maintaining ambient hydrodynamic conditions in the estuaries, maintaining connectivity between pools and between non-tidal reaches and estuaries.

Performance Indicator	Description	Key Ecological and Geomorphological Functions
Daily flow less than 1 megalitre	A broad-brush indicator of low flows and used to determine changes, from reference condition, to periods of low flows.	Dewatering of aquatic habitats, isolation of pools, no fluvial transport of organic matter or sediment, dominance of marine influence in estuaries.
Number of periods of no flow (for example, of at least 1 month but less than 3 months)	Indicator of drying spells, and measure of difference between pre-development and scenario case.	Dewatering of aquatic habitats, isolation of pools, no fluvial transport of organic matter or sediment, dominance of marine influence in estuaries.

Source: Brizga, S.O.: *Burrum River Environmental Flow Strategy*, March 2002.

## Part 2 Medium to high flow objectives

This part states the medium to high flow objectives to be achieved at particular nodes. This schedule consists of mandatory objectives. The following table describes the purposes of the various indicators.

Performance Indicator	Description	Key Ecological and Geomorphological Functions
Mean annual flow	A broad brush indicator to quickly indicate volumes of water removed from the system. Mean annual flow does not take into account flow variability.	An important determinant of water availability in riverine systems and overall freshwater input to estuarine and marine areas.
1.5 year daily flow volume	A measure of a volume of flow expected to occur, on average, every 1.5 years.	Localised movement in stream beds, inundation of riparian vegetation.
5 year daily flow volume	A measure of a volume of flow expected to occur, on average, every 5 years.	Bed movement in whole reaches, riparian zone and wetland wetting.
20 year daily flow volume	A measure of a volume of flow expected to occur, on average, every 20 years. A significantly large flow event that occurred 5 times throughout the simulation period.	“Resets” changes in stream bed stability, provision of wetland connectivity and replenishment.

Source: Brizga, S.O.: *Burrum River Environmental Flow Strategy*, March 2002.

## Part 3 Seasonal flow objectives

This part states the seasonal flow objectives to be achieved at particular nodes. The following table describes the purposes of the various indicators.

Performance Indicator	Description	Key Ecological and Geomorphological Functions
Annual proportional flow deviation	A measure of variability of flow.	Significant because native in-stream flora and fauna have adapted to variable flow patterns.
Flow regime class	An indicator of the seasonality of flows, and when large flows normally start occurring.	Lifecycles of riverine, estuarine and marine biota. Trigger flows for ecological processes should reflect timing.

Source: Brizga, S.O.: *Burrum River Environmental Flow Strategy*, March 2002.

## Schedule 6 Water allocation security objectives

Schedule 6 states the water allocation security objectives of the plan. See part 4, division 2 for more information.

## Part 1 Supplemental water

This part states the water allocation security objectives for supplemented water allocations. The following table describes the performance indicator used for the objectives.

Water User Type	Performance Indicators	Description
Supplemented water	Monthly supplemented water sharing index	The percentage of months that a water user in a particular priority group could have expected to get 100% of their monthly demand over the simulated period.

## Part 2 Unsupplemented water

This part states the water allocation security objectives for unsupplemented water allocations. The following table describes the performance indicators used for the objectives.

Water User Type	Performance Indicators	Description
Unsupplemented water (all entitlements)	Mean unsupplemented water sharing index	The average total volume of water simulated to have been taken annually during the simulation period, within a particular subcatchment area and for a particular water allocation group.
Unsupplemented water (Class B, C and D entitlements)	70% unsupplemented water sharing index	The percentage of the simulated mean annual diversion that water users, in a particular water allocation group, could have expected to take in the 70th percentile wettest years.
Unsupplemented water (Class A entitlements)	95% Unsupplemented water sharing index	The percentage of the simulated mean annual diversion that water users, in a particular water allocation group, could have expected to take in the 95th percentile wettest years.

## **Schedule 7      Interim water allocations**

Schedule 7 states the interim water allocations that will not be converted to water allocations under this plan. See clause 43 for more information.

## **Schedule 8      Total volumes for water allocation groups**

Schedule 8 states the nominal volumes for water allocation groups. See clause 54 for more information.

## **Schedule 9      Rates and pump sizes**

Schedule 9 states the maximum rate of take of water in litres per second according to pump sizes. See clauses 57 and 62 for more information.

## **Schedule 10     Water allocation groups**

Schedule 10 states the water allocation groups for each subcatchment area.

In the context of supplemented water, a group of users are water allocation holders in a particular priority group (high or medium) in a water supply scheme.

In the context of unsupplemented water, water users are the water allocation holders within a subcatchment area grouped according to, for Class A, those who have a water allocation that is converted from a water entitlement for town water supply purposes; for Class B, those who have a water allocation that is converted from a water entitlement that currently specifies an area or volume for agricultural purposes;

for Class C, those who have a water allocation that is converted from a water entitlement to take unsupplemented water from within the extent of the Logan River Water Supply Scheme; and, for Class D, those who have a water allocation that is converted from other entitlements. See clause 59 for more information.

## **Schedule 11     Priority areas**

Schedule 11 describes the two priority areas for converting to, or granting of, water allocations. See clause 71 for more information.

## **Schedule 12     Formula**

Schedule 12 contains the formula used to determine the annual proportional flow deviation. See schedule 13.

## **Schedule 13     Dictionary**

Schedule 13 contains the dictionary of defined terms used in the plan.

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### ENDNOTES

- 1 Laid before the Legislative Assembly on . . .
- 2 The administering agency is the Department of Natural Resources and Water.