

**EXPLANATORY NOTES FOR THE BARRON  
RESOURCE OPERATIONS PLAN 2005**

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## CHAPTER 1 - PRELIMINARY

The Explanatory Notes are a 'plain English' version of the Barron Resource Operations Plan. The numbering and partitioning of the Explanatory Notes correspond to those of the Barron Resource Operations Plan.

This plan has been made to implement the *Water Resource (Barron) Plan 2002*. This plan applies to the:

- entire Barron River Catchment;
- Walsh River Catchment upstream of Flatrock Gauging Station;
- Mitchell River catchment upstream of Lake Mitchell; and
- groundwater in the Atherton Subartesian Area and Cairns Northern Beaches Subartesian Area.

### 1. Water resource plan implemented through the resource operations plan

This Clause specifies that the purpose of this plan is to implement the *Water Resource (Barron) Plan 2002*. The resource operations plan sets out the rules and requirements that guide the day to day management of stream flows and water infrastructure to achieve the *Water Resource (Barron) Plan 2002* objectives.

### 2. Name of the resource operations plan

This Clause states the name of this plan.

### 3. Commencement of the resource operations plan

This plan commences on the first business day after notification in the Queensland Government *Gazette*.

### 4. Plan area

The plan area is shown on the Map in Attachment 1 and includes the Barron River catchment and parts of the Walsh River and Mitchell River catchments.

### 5. Water to which this plan applies

This Clause states that this plan applies to all water within a watercourse, lake or spring including water collected in a weir or dam constructed across a watercourse, lake or spring in the plan area and groundwater in the Atherton Subartesian and Cairns Northern Beaches Subartesian Areas.

### 6. Resource operations plan zones

Resource operations plan zones have been specified in the plan area to define the location of a water allocation within a particular part of the plan area and to provide geographic limits for trading that ensure water allocation security objectives and environmental flow objectives are achieved. The Mareeba Dimbulah Water Supply Scheme has been segmented into five resource operations plan zones. Trading of allocations may occur between zones, subject to appropriate conditions (refer to Chapter 4, Part 3).

## 7. Information about areas

Interested persons will be able to identify in greater detail where zone boundaries lie in relation to property boundaries and watercourses by inspection of digital information held at the Department's office at:

- 167 Walsh Street Mareeba,
- 29B Mabel Street Atherton, and
- 3<sup>rd</sup> Floor – 5B Sheridan Street Cairns.

## 8. Purpose of a water allocation

This Clause states that a water allocation may only be used for the purpose stated on that water allocation (rural, any or distribution loss). This does not apply where water with the purpose 'rural' or 'any' is being taken under seasonal assignment.

## 9. Departmental water monitoring data collection standard

All water resource monitoring and data retention requirements in this plan must be conducted in accordance with the Department's *Water Monitoring Data Collection Standard*. The standard addresses, amongst other things:

- external standards;
- responsibilities;
- requirements;
- definitions;
- accuracy of continuous recorded data;
- accuracy of intermittent data;
- water sample analysis methods, resolution and minimum reporting limits; and
- natural ecosystem monitoring methods.

The *Water Monitoring Data Collection Standard* is maintained on the Department's website and will be updated regularly to ensure that the most recent industry best practice methods are used. It is the responsibility of the relevant monitoring body to ensure that they are collecting data in accordance with the most recent version of the Standard.

The *Water Monitoring Data Collection Standard* is not continually specified in this plan in order to avoid excessive amendments and allow the standard to be regularly updated to reflect best practice. Any substantive changes to the standard will involve prior notification to the resource operations licence holder, the water licence holder for Copperlode Dam and the water licence holder for Kuranda Weir.

## 10. Departmental water monitoring data reporting standard

Water resource monitoring data must be transferred and published in accordance with the Department's *Water Monitoring Data Reporting Standard*. The *Water Monitoring Data Reporting Standard* includes format requirements and timeframes within which data must be transferred.

The *Water Monitoring Data Reporting Standard* is maintained on the Department's website and will be updated to ensure that the most recent industry best practice methods are used. It is the responsibility of the relevant monitoring body to ensure that they are collecting data in accordance with the most recent version of the Standard.

The *Water Monitoring Data Reporting Standard* addresses amongst other things:

- data format and levels of accuracy;
- data fields; and
- timeframes for reporting requirements.

The *Water Monitoring Data Reporting Standard* is not continually specified in this plan in order to avoid excessive amendments and allow the standard to be regularly updated to reflect best practice. Any substantive changes to the standard will involve prior notification to the resource operations licence holder, the water licence holder for Copperlode Dam and the water licence holder for Kuranda Weir.

## **11. Operating and environmental management rules and monitoring requirements**

This Clause states that, where carrying out an operating and environmental management rules or reporting requirements under this plan would be unsafe, the resource operations licence holder, water licence holder for Kuranda Weir or water licence holder for Copperlode Dam does not need to comply with that rule or requirement. In situation where to do so would be unsafe, the resource operations licence holder, water licence holder for Kuranda Weir or water licence holder for Copperlode Dam must comply with all other rules and requirements of the plan including reporting requirements and may submit an interim program for achieving compliance with the plan rules and requirements under Section 13.

## **12. Metering**

Water entitlements to which this plan applies, including water allocations and water licences, will be metered to provide data for water management activities including demonstrating compliance with management rules. Metering water use is fundamental to responsive management of the State's water resources.

Requirements for metering are covered by regulation under the *Water Act 2000*.

## **13. Implementation**

This Clause is applicable where the resource operations licence holder, water licence holder for Kuranda Weir, or water licence holder for Copperlode Dam are unable to meet specified rules and requirements of this plan on commencement, or as the result of an operational or emergency incident. In instances where the resource operations licence holder, water licence holder for Kuranda Weir, or water licence holder for Copperlode Dam are unable to meet specified rules and requirements on commencement, a process must be followed whereby interim arrangements, approved by the chief executive, may be implemented until such time as the requirements of this plan can be met. In situations where failure to comply is the result of an operational or emergency incident, the resource operations licence holder, water licence holder for Kuranda Weir, or water licence holder for Copperlode Dam may follow the process for implementing approved interim arrangements. Where an approved program is inconsistent with the rules and requirements of this plan, while the program is in place, it overrides those rules and requirements of the plan which it is inconsistent with.

## **14. Sustainable management of water**

This Clause specifies the manner in which this plan seeks to sustainably manage water resources in the plan area, as required under Section 98(1)(e) of the *Water Act 2000*.

## **15. Addressing water resource plan outcomes**

This Clause specifies the manner in which this plan seeks to achieve the general outcomes and ecological outcomes set out in the *Water Resource (Barron) Plan 2002*, as required under Section

98(1)(g) of the *Water Act 2000*. Attachment 2 of this plan sets out how the rules and requirements of this plan are linked to the outcomes of the *Water Resource (Barron) Plan 2002*.

**16 to 26 Section numbers not used**

These Clauses are left blank intentionally. This will allow for some minor amendments to be made to this plan without altering all the Clause numbers.

## **CHAPTER 2 - PROCESS FOR DEALING WITH UNALLOCATED WATER**

Up to 8 000 ML per year of unallocated water is available for future use in the Barron Catchment, comprising—

- 4 000 ML per year of unallocated water upstream of Tinaroo Falls Dam; and
- 4 000 ML per year of unallocated water from Lake Placid on the lower Barron River.

The unallocated water available from Lake Placid is reserved for future urban use for Cairns City Council.

Unallocated water above Tinaroo Falls Dam is reserved until the process for making this water available is developed and is incorporated in this plan through a future plan amendment.

### **PART 1—SUBCATCHMENT AREA C (BARRON CATCHMENT ABOVE TINAROO FALLS DAM)**

#### **27. Scope of Part 1**

This Clause states that Part 1 sets out a process for dealing with unallocated water available in subcatchment area C, which is located above Tinaroo Falls Dam.

#### **28. Unallocated water available under defined process**

This Clause states that unallocated water from subcatchment area C is reserved for future release. Subcatchment area C includes the Barron River catchment above Tinaroo Falls Dam and is defined in Schedule 3 of the *Water Resource (Barron) Plan 2002*.

#### **29. Process for making the reserved water available**

This Clause states that unallocated water in subcatchment area C will be dealt with once water management rules for unsupplemented water have been prepared and incorporated by amendment, into this plan.

### **PART 2— SUBCATCHMENT AREA A (BARRON CATCHMENT BELOW TINAROO FALLS DAM)**

This plan provides for the reservation of approximately 4 000 ML/annum of unallocated water from the Barron River at Lake Placid to meet future urban requirements for Cairns City.

Reserved water will be made available only where a submission has been made for the water and the chief executive is satisfied that the proposal to take water is consistent with the *Water Resource (Barron) Plan 2002*. The submission must include an assessment of water use efficiency, best management practice and availability of water from other sources.

There will be no access (including temporary access) to the reserved water prior to its release for urban use in the Cairns City Local Government Area.

### **30. Scope of Part 2**

This Clause states that Part 2 sets out processes for dealing with unallocated water that is available from the Barron River below Tinaroo Falls Dam.

### **31. Reservation of water for future release**

This Clause states that 4000 ML per year of unallocated water available from Lake Placid on the Barron River is reserved for future use by Cairns City Council.

### **32. Submission for the reserved water to be made available**

This Clause states that the water will be reserved until Cairns City Council provides a written submission demonstrating how the proposal meets the objectives and outcomes of the *Water Resource (Barron) Plan 2002*, including—

- the efficiency of existing and proposed water use practices;
- availability of alternative water supply; and
- impact of the proposal on—
  - water quality;
  - inundation of habitats;
  - movement of fish and other aquatic species;
  - the natural movement of sediment;
  - recreation and aesthetic values; and
  - cultural values.

### **33. Assessment of submission for the reserved water**

This Clause sets out the matters that must be considered by the chief executive when assessing a submission for the unallocated water, including the matters outlined in Clause 31 and any other relevant approved plans.

### **34. Additional information may be required**

This Clause states that the submitter may be asked to provide additional information to enable the chief executive to assess the submission.

### **35. Deciding the submission**

The chief executive will, based on assessment of a submission—

- make the reserved water available for Cairns City Council; or
- not make the reserved water available.

Where the decision is to make the reserved water available, a number of conditions will be attached to the decision, including—

- the maximum rate of take;
- the volume to be made available; and
- any access conditions.

The chief executive will determine a reserve price for the water at the time the reserved water is made available. The water will be granted as a water licence.

Where the submission is refused and the unallocated water is not made available, the chief executive must notify Cairns City Council of this decision within 30 business days.

**36. Water licence must be granted**

Where the chief executive decides to grant water the process to make the water available will be that process described under Section 212 of the *Water Act 2000*, which requires the chief executive to give the licensee the water licence and an information notice about the granting of the water licence within 30 business days of granting the water licence.

**PART 3—SUBCATCHMENT AREAS B, D, E, F AND G****37. Unallocated water unavailable under defined process**

This Clause states that no water is reserved for future use in subcatchment areas B, D, E, F or G.

**PART 4—SUBARTESIAN WATER**

This plan applies to groundwater in the following three areas:

- Cairns Northern Beaches Subartesian Area;
- Management Area A of the Atherton Subartesian Area; and
- Management Area B of the Atherton Subartesian Area.

Management Area A of the Atherton Subartesian Area is fully allocated and no additional water will be available from this area. Applications for additional water in the Cairns Northern Beaches Subartesian Area and Management Area B of the Atherton Subartesian Area must be dealt with in accordance with the *Water Resource (Barron) Plan 2002*.

**38. Scope of Part 3**

This Part deals with unallocated subartesian water in the Cairns Northern Beaches Subartesian Area and Management Area B of the Atherton Subartesian Area. These areas are identified in the *Water Resource (Barron) Plan 2002*.

**39. Unallocated subartesian water available under defined process**

The process for dealing with applications for additional water in the Cairns Northern Beaches Subartesian Area and Management Area B of the Atherton Subartesian Area must be dealt with under Section 50, Section 54 and Section 57 of the *Water Resource (Barron) Plan 2002*.

**40. Subartesian Management Area A**

This clause states that there is currently no unallocated water available in management area A because the total annual volumetric limit for water licences in the area is greater than the sustainable volume of water identified in the Water Resource Plan (14 500 ML).

**41 to 51 Section numbers not used**

These Clauses are left blank intentionally. This will allow for some minor amendments to be made to this plan without altering all the Clause numbers.

## CHAPTER 3 - GRANTING AND CONVERTING AUTHORISATIONS

### PART 1—GRANTING OF A RESOURCE OPERATIONS LICENCE

A resource operations licence is a licence granted under the *Water Act 2000* to make provision for management of supplemented water supply schemes (i.e. where water from storages supplements run of the river flows). A resource operations licence will be issued to SunWater for the Mareeba Dimbulah Water Supply Scheme and will replace the current interim resource operations licence held by SunWater. Under the resource operations licence, SunWater is required to comply with the rules and requirements in this plan.

#### 52. Resource operations licence

This Clause provides for the granting of a resource operations licence to SunWater for the Mareeba Dimbulah Water Supply Scheme.

Attachment 3 identifies the infrastructure (storages and associated works), and the watercourses used for water distribution, associated with the Mareeba Dimbulah Water Supply Scheme. Attachment 8 provides details of the water allocations managed by the resource operations licence holder.

### PART 2—GRANTING OF WATER LICENCES

A number of water licences will be granted to replace existing water authorisations held by Atherton Shire Council, Stanwell Corporation and Cairns City Council.

#### 53. Water licences granted to Atherton Shire Council

Three water licences will be granted to Atherton Shire Council to replace two Order in Council authorisations continued under Section 1037 of the *Water Act 2000*. These water licences will be granted within 30 business days of commencement of this plan.

#### 54. Water licence granted to Stanwell Corporation

A water licence to take water will be granted to Stanwell Corporation, under s212 of the *Water Act 2000*, in accordance with Section 28 of the *Water Resource (Barron) Plan 2002*. This water licence will be granted within 30 business days of commencement of this plan.

#### 55. Water licences granted to Cairns City Council

Three water licences associated with Copperlode Dam and the Cairns City water supply will be granted to Cairns City Council to replace one Order in Council authorisation continued under Section 1037 of the *Water Act 2000*. These water licences will be granted within 30 business days of commencement of this plan.

## PART 3—RULES FOR CONVERSION TO AND GRANTING OF WATER ALLOCATIONS

Part 3 provides for the conversion of existing interim water allocations in the Mareeba Dimbulah Water Supply Scheme (supplemented) to water allocations.

Water allocation ownership details are recorded on the State's Water Allocation Register. The details of water allocations created under this plan are provided in Attachment 8. However, Attachment 8 is only for the purpose of providing initial details about authorisations being converted to water allocations and it will not be updated to reflect any changes that occur to these water allocations after commencement of this plan.

All water allocations state the nominal volume for the allocation, the location from which water may be taken and the purpose for which water may be taken. The purpose may be 'rural' (e.g. stock, domestic, irrigation, stock intensive, agriculture), 'distribution loss', or 'any' (e.g. urban, industrial). The location from which water may be taken is specified as a *resource operations plan zone* or 'zone'. Water allocation details are recorded on the State water allocation register.

### 56. Schedule of water allocations

This Clause refers to Attachment 8, which lists relevant details of all water allocations to be granted in place of existing water entitlements and details of all water allocations converted from existing water entitlements. Details of the granted or converted water allocations only apply at the time this plan commences and will not be updated to reflect any changes occurring after commencement of this plan.

### *Division 1—Conversion of supplemented authorisations*

#### 57. Application of Division 1

Division 1 applies to all interim water allocations within the Mareeba Dimbulah Water Supply Scheme.

#### 58. Rules for the conversion of existing water entitlements

Water allocations for supplemented water are defined in terms of a nominal volume, a location, a priority group and a purpose. Water allocations are either high priority or medium priority. High priority water allocations have higher Water Allocation Security Objectives.

All water allocations will state a purpose for which water may be taken and a location from which water may be taken. The purpose may be 'rural' (e.g. stock, domestic, irrigation, stock intensive, agriculture), 'distribution loss', or 'any' (e.g. urban, industrial or rural). The location from which water may be taken is specified as a resource operations plan zone or 'zone'. Zones are described in Clause 6 and shown on the map in Attachment 1.

This Clause also sets out how the nominal volume for a water allocation is calculated. As set out in the *Water Resource (Barron) Plan 2002*, the nominal volume for a supplemented water allocation is the volume stated on the existing authorisation unless the purpose of the water allocation is distribution loss. Where the existing authorisation is for distribution loss, the chief executive must decide the nominal volume having regard to—

- the stated volume;
- 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 this plan; and
- the efficiency of the use of the water.

Nominal volumes for water allocations that are for distribution loss represent offstream losses that occur in the channels and pipelines. Instream losses are accounted for under a transmission operational allowance.

**59 to 69 Section numbers not used**

These clauses are left blank intentionally. This will allow for some minor amendments to be made to this plan without altering all the clause numbers.

## CHAPTER 4 - MAREEBA DIMBULAH WATER SUPPLY SCHEME

Chapter 4 sets out the operating and environmental management rules, water sharing rules and water allocation change rules in the Mareeba Dimbulah Water Supply Scheme. Implementation of the rules in this Chapter is the responsibility of the resource operations licence holder, except for the water allocation change rules, which are the responsibility of the chief executive.

### 70. Application of Chapter 4

This Chapter applies to the resource operations licence holder for the Mareeba Dimbulah Water Supply Scheme and water allocation holders.

### PART 1—OPERATING AND ENVIRONMENTAL MANAGEMENT RULES

#### 71. Use of watercourses for distribution

This Clause states that the resource operations licence holder may use only those watercourses listed in Table 1 for the distribution of supplemented water. Where Table 1 refers to ‘supplementation point’, this means the supplementation point that was in place at the time this plan commenced.

#### 72. Operating level of storages

This Clause sets out the minimum operating levels for storages associated with the Mareeba Dimbulah Water Supply Scheme. The minimum operating levels for Tinaroo Falls Dam and Collins Weir are the same as the dead storage volumes specified for each storage in Attachment 3. The infrastructure operator must not draw water from below the minimum operating level except where approved critical water supply arrangements allow for this to occur.

#### 73. Waterhole management

This Clause requires the resource operations licence holder to ensure that flows are maintained through all waterholes on the Barron River below Tinaroo Falls Dam. The purpose of this Clause is to promote the general ecological outcomes listed under the *Water Resource (Barron) Plan 2002*. For example, Lake Placid is located on a perennial stream and is considered to have significant cultural and ecological values. A flow must be maintained through the lake for maintenance of these cultural and ecological values.

#### 74. Maximum discharge rates in watercourses

Table 2 specifies the total maximum rate at which water may be discharged from supplementation points into each supplemented watercourse. The maximum discharge rates are based on the infrastructure capacity. Any proposed changes to infrastructure that would result in an increase in the maximum discharge rate will require approval by the chief executive and a minor amendment to this plan.

## **75. Change in rate of release**

Rapid changes to the rates of release can cause adverse environmental impacts, such as bank slumping and fish stranding. The resource operations licence holder must ensure changes to the rates of release minimise these impacts.

## **76. Classification of Tinaroo Falls Dam storage level**

Table 3 specifies the storage levels for each month that must be used to classify Tinaroo Falls Dam storage level as low, medium or high. The storage level classification is used for the purpose of determining releases under Section 77 and Section 78.

## **77. Minimum Barron River flows**

This Clause sets out minimum flows that must be maintained at four specified locations in the Barron River (Tinaroo Falls, Mareeba gauging station, Myola gauging station and Lake Placid overflow) by the resource operations licence holder in order to ensure that river health is maintained.

The minimum flow rates in Tables 4 and 5 have been derived from the low flow objectives specified in Schedule 5 of the *Water Resource (Barron) Plan 2002* and are based on the minimum flows set for 50 percent daily flow and 90 percent daily flow at specified locations on the Barron River.

The minimum flows will, largely, be achieved by natural flows, augmented when necessary by releases from Tinaroo Falls Dam.

## **78. Releases from Tinaroo Falls Dam for hydropower and other purposes**

This Clause gives the resource operations licence holder authority to make releases for hydroelectricity generation and other purposes.

The volume of water that may be released is dependent on the volume of water stored within the Tinaroo Falls Dam (storage level classification) and on the volume of flow (ML/day) in the Barron River at Myola.

This Clause allows the resource operations licence holder to release additional water under subclause 2 for hydropower or any other purposes (e.g. where the resource operations licence holder has a supply arrangement with another person or entity), provided the requirements specified are met.

## **79. Relationship between Sections 77 and 78**

The flows stipulated in Sections 77 and 78 are interrelated in that when flows are being maintained under Section 78 the flows stipulated for minimum Barron River flows (Section 77) form part of those flows.

## **80. Additional requirements for releases under Sections 77 and 78**

This Clause requires the resource operations licence holder to make releases from the dam in a way that is consistent with the environmental flow objectives specified in the *Water Resource (Barron) Plan 2002* for the section of the Barron River immediately downstream of Tinaroo Falls Dam (between Nodes 4 and 5). This can be done by releasing an appropriate amount of water to the Barron River via either the river outlet or the compensation outlet. It may otherwise be possible to achieve the flow targets at Myola by releasing water exclusively via supplemented streams such as Granite Creek or Emerald Creek. However, such an arrangement would not be acceptable as the preferred management approach if it deprived the sections of the Barron River between the dam and Mareeba of water needed to meet the environmental flow requirements of that reach.

## PART 2—WATER SHARING RULES

### *Division 1—Announced allocations*

#### **81. Announced allocations**

This Clause specifies the general rules to be taken into account when determining the announced allocations. The initial announced allocation percentage must be set on the first day of the water year (currently 1 July), and will be revised during the water year in response to inflows or other factors that would increase the announced allocation percentage by five percent or more. The announced allocation must be published within five business days of being set or recalculated. For the purposes of this clause, ‘publish’ means:

- the announced allocation must be published in a newspaper circulating generally throughout the area and
- the announced allocation, including parameters must be published on the resource operations licence holders’ internet site for the Mareeba Dimbulah Water Supply Scheme.

The announced allocation can only be used within the relevant water year and its percentage cannot exceed 100 percent. This ensures that the *Water Resource (Barron) Plan 2002* environmental flow objectives and water allocation security objectives can be achieved.

The volume of water taken at any time during a water year under a water allocation or seasonal assignment, must not be greater than the volume allowed under an *announced allocation* at that time. For example, where the nominal volume of a water allocation equals 100 ML and the announced allocation equals 80 percent, then the water allocation volume is calculated as follows—

#### **Example of application of announced allocation**

- Nominal volume of a water allocation equals 100 ML
- Announced allocation equals 80 percent

Water allocation volume =  $100 \times 80 / 100 = 80$  ML

A water allocation holder may either take water up to the volume allowed under an announced allocation (in the example above, 80ML) or they can seasonally assign a portion of that volume of water (for example 50ML), to another party. In the latter situation, it is a volume of water that is seasonally assigned, not a portion of the nominal volume. This means that should the announced allocation be reset, any additional water will be available only to the water allocation holder and not to the assignee, unless a further seasonal assignment is made.

### *Division 2—Water sharing rules*

#### **82. High priority water allocations**

The announced allocation for high priority water allocations is 100 percent when the announced allocation for medium priority water allocations is greater than zero. Where the announced allocation for medium priority water allocations is zero, the specified formula must be used to calculate the announced allocation for high priority water allocations. Where critical water supply arrangements are in place the announced allocation for high priority water must be in accordance with these rules.

### **83. Medium priority water allocations**

Medium priority water allocations must be determined using the specified formula and parameters. The formula takes into account the total available water in storage (including anticipated inflows) that is available for use for medium and high priority water allocations and deducts volumes for high priority water allocations and storage and distribution losses. The announced allocation is expressed as a percentage, which is then applied to the nominal volume of a water allocation to calculate the volume of water that may be taken under that water allocation. A detailed explanation of the parameters used in the formula is provided in Table 7.

### **84. Critical water supply arrangements**

Critical water supply arrangements must be developed by the resource operations licence holder and provided to the chief executive for approval. The purpose of the critical water supply arrangements is to set out rules for the sharing of water in times of severe water shortages. For example, restrictions may be needed for high priority water users prior to the allocation for medium priority users becoming zero. The water allocation security objectives from the *Water Resource (Barron) Plan 2002* for both high and medium priority groups must still be achieved.

Preparation of the critical water supply arrangements must involve stakeholder and community consultation and the strategy must address the terms of reference specified in Subclause 2.

### **85. Amendment of critical water supply arrangements**

This Clause allows the chief executive to amend the critical water supply arrangements at any time and also allows the resource operations holder to submit proposed amendments at any time.

## **PART 3—WATER ALLOCATION CHANGE RULES**

Water allocation change rules define the conditions that must be met to allow a permanent change to an attribute of a water allocation. All applications to make a change to a water allocation under these rules are dealt with by the chief executive.

The plan provides rules for changes to water allocations including changes to the location and purpose of a water allocation and subdivision and amalgamation of water allocations.

Changes are defined as permitted or prohibited. Permitted changes may be applied for under Section 129 of the *Water Act 2000*, which states that ‘*if the change to which an application relates is permitted under the resource operations plan, the chief executive must give the applicant a certificate stating that the proposed change is allowed under the plan*’.

The chief executive must not approve prohibited changes.

Changes not listed as permitted or prohibited may be applied for under Sections 130 to 134 of the *Water Act 2000*.

### **86. Scope of Part 3**

This Part applies to changes to water allocations managed under a resource operations licence.

## ***Division 1—Permitted changes***

### **87. Barron River zone group**

There is one zone group, called the Barron River zone group, which includes zone B and zone C shown on the map in Attachment 1.

### **88. Location**

This Clause sets out permitted changes in location, based on a distribution of maximum and minimum total nominal volumes for zones and for the Barron River zone group. The zones are identified on the map in Attachment 1. Each zone and the zone group is assigned a maximum total nominal volume and a minimum total nominal volume, which have been set to ensure the environmental flow objectives and water allocation security objectives in the *Water Resource (Barron) Plan 2002* are met.

#### **Example of application to change location**

Maximum total volume in zone X = 1000 ML  
Total volume of water allocations in zone X = 800 ML

Valid change certificates = 10 ML

The available nominal volume for current water year =  $1000 - (800 + 10) = 190$  ML.  
Application is made for permanent change of 100 ML into zone X and as this will not exceed the maximum nominal volume for that zone the change must be approved.

### **89. Priority group**

A change in priority group from medium to high priority is permitted where a conversion factor of 0.7 is applied and provided the total volume for high priority water allocations managed by the resource operations licence holder is maintained at less than or equal to 33 900 ML.

The nominal volume associated with the medium priority water allocation/s must be multiplied by the conversion factor of 0.7 when converting from medium to the high priority group. This conversion factor allows for additional losses that must be applied to the delivery of high priority water.

A change in priority group from high to medium priority is also permitted under this Clause. The nominal volume associated with the high priority water allocation/s must be divided by the conversion factor of 0.7 when converting from high to the medium priority group.

Converted nominal volumes must be rounded down to the nearest whole number.

### **Example of change in priority group from medium to high priority**

Where 2000 ML of water that belongs to the medium priority group is changed to the high priority group, the nominal volume of water belonging to the high priority group is  $2\ 000\ \text{ML} \times 0.7 = 1\ 400\ \text{ML}$ . The conversion factor has been tested through application of the Department's hydrological model.

## **90. Purpose**

This Clause states that a change in purpose between 'rural' and 'any' is permitted.

## **91. Subdivision and amalgamation**

This Clause states that amalgamation or subdivision is permitted provided there is no change to—

- the total nominal volume;
- priority group; and
- location.

### ***Division 2—Prohibited changes***

## **92. Prohibited changes**

Prohibited changes include:

- a change in location (zone), that is not listed as being permitted;
- a change that results in a nominal volume (ML) that is not expressed as a whole number;
- subdivision or amalgamation where a change to the total nominal volume would occur;
- a change to a priority group that is not specified in the *Water Resource (Barron) Plan 2002*; and
- a change that results in a nominal volume (ML) that is not expressed as a whole number.

### ***Division 3—Other changes***

## **93. Application for changes not specified as permitted or prohibited**

Any changes that are not listed as permitted or prohibited may be applied for in accordance with Sections 130 to 134 of the *Water Act 2000*, which involves the following process:

- a notice of the application must be published in the local newspapers;
- the chief executive determines if the application should be approved having regard to the potential impact on other interests including entitlement holders and natural ecosystems;
- if the chief executive approves the application, then the chief executive issues a change certificate that may be lodged with the registrar of water allocations; and
- if the chief executive refuses the application, then the applicant will be notified.

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## PART 4—SEASONAL WATER ASSIGNMENT RULES

### 94. Maximum water use

Table 13 specifies the maximum volume of water that may be used/taken in a zone. It is important to note that a volume of water is seasonally assigned and **not** a nominal volume. Where there is a change to an announced allocation, the water allocation holder will be entitled to the additional water, not the assignee.

### 95. Seasonal water assignment rules

The resource operations licence holder is responsible for dealing with applications for seasonal water assignments.

Seasonal assignments of a volume of water are permitted provided they do not result in water use in any zone exceeding the maximum water use volume specified in Table 13 for each zone and provided the water allocation does not have a purpose of ‘distribution loss’.

## PART 5—RULES FOR TAKING OF WATER RELEASED FROM TINAROO FALLS DAM FOR HYDROPOWER

### 96. Requirement for supply agreement

This Clause requires Stanwell Corporation to pass daily river flow resulting from releases made from Tinaroo Falls Dam to supply water allocations and to meet environmental flow outcomes. Taking of water associated with releases from Tinaroo Falls Dam is prevented unless Stanwell Corporation has a supply agreement with SunWater.

### 97. Supply agreement

This Clause states that existing practices for supply of water by SunWater for the purpose of hydropower generation will be deemed a supply agreement. This supply agreement will be valid until such a time as both SunWater and Stanwell Corporation formalise contractual arrangements and advise the chief executive accordingly.

### 98 to 108 Section numbers not used

These clauses are left blank intentionally. This will allow for some minor amendments to be made to this plan without altering all the clause numbers.

## CHAPTER 5 - KURANDA WEIR

The Barron Gorge hydroelectric power station, currently operated by the Stanwell Corporation, diverts water from the Barron River at Kuranda Weir. This water is sourced from flow in the Barron River and may be supplemented by releases from Tinaroo Falls Dam. The water is returned to the Barron River immediately downstream of the power station.

The *Water Resource (Barron) Plan 2002* recognises that the operation of a hydroelectric power station is reliant on the maintenance of flows in the Barron River at Kuranda.

This Chapter specifies operating rules for Kuranda Weir, including releases to maintain a residual flow over the weir. The residual flow is necessary to provide for flows over the Barron Falls and for maintenance and enhancement of ecological values and other values associated with the Barron Falls.

### **109. Application of Chapter 5**

This Clause states that this Chapter applies to the water licence holder for Kuranda Weir.

### **110. Compatibility with water supply scheme operations**

This Clause specifies that the water licence holder must pass water for all downstream orders for customers supplied by SunWater from Tinaroo Falls Dam.

### **111. Storage releases to Barron River Falls**

The release rules for Kuranda Weir specify that a flow of 70 ML must be passed over the weir each week for the purpose of providing and maintaining a perennial flow over the Barron River Falls. Stanwell must use their best endeavours to ensure that releases are proportional in volume and consistently released over each week.

### **112. Water licence to interfere with flow**

Stanwell's water licence to interfere with flow at Kuranda Weir must be amended by the chief executive to ensure that requirements under Sections 110 and 111 are recognised as water licence conditions. The licence must also be amended to include conditions giving effect to the monitoring and reporting requirements specified in Chapter 10 of the plan.

### **113 to 123 Section numbers not used**

These Clauses are left blank intentionally. This will allow for some minor amendments to be made to this plan without altering all the Clause numbers.

## CHAPTER 6 - COPPERLODE DAM

Cairns City's urban water is supplied, in part, by releases from Copperlode Dam into Freshwater Creek, where diversion works supply water to the city's water supply treatment plant. Operating rules for the water licence holder for Copperlode Dam are set out in this Chapter.

### 124. Application of Chapter 6

This Clause states that this Chapter applies to the water licence holder for Copperlode Dam.

### 125. Rates of release

Rapid changes to the rates of release can cause bank slumping and fish stranding. The water licence holder must ensure changes to the rates of release minimise these impacts.

### 126. Minimum flows in Freshwater Creek

The water licence holder must ensure minimum flows are maintained immediately below the Freshwater Creek town water supply diversion works to provide for maintenance of aquatic habitats and existing entitlement holders. However the water licence holder may prepare and submit alternative operating arrangements for times of critical water shortage.

If the chief executive approves alternative operating arrangements, then this plan must be amended to include provisions for the alternative operating arrangements.

### 127. Quality of water released from Copperlode Dam

This Clause ensures that the water licence holder is releasing the best quality water available, to minimise the impact of cold water and water with low dissolved oxygen on aquatic habitats downstream of the dam.

### 128. Use of watercourses for distribution of water

This Clause specifies which watercourses may be used for the distribution of water.

### 129 to 139 Section numbers not used

These Clauses are left blank intentionally. This will allow for some minor amendments to be made to this plan without altering all the Clause numbers.

## CHAPTER 7 - UNSUPPLEMENTED WATER

This Chapter has two main parts. Part 1 deals with the granting and amending of certain water licences that are for the retake of water that was taken under another entitlement held by the water licence holder and then released into unsupplemented watercourses for retake and use at another location. Part 2 deals with water licence applications in the plan area.

Applications for water licences for the take of water outside of subcatchment area C will be refused. However, the chief executive will consider some applications for water licences in the plan area that do not result in an increase in the take of water. This Part sets out which water licence applications will be considered. Applications will be decided in accordance with Section 210 of the *Water Act 2000* and the decision must be consistent with the *Water Resource (Barron) Plan 2002* environmental flow objectives and water allocation security objectives.

The water licence application number 58705K01, lodged by Cairns City Council will be refused under Section 143. However, up to 4 000 ML/annum of water is reserved for future urban needs for Cairns City under the provisions of Chapter 2, Part 2 of this plan.

This Part specifically applies to water licence applications outside subcatchment area C. Any water licence application made for subcatchment area C will be accepted but will not be dealt with until rules for the management of the subcatchment area are included in the resource operations plan.

### PART 1—GRANTING AND AMENDING WATER LICENCES

#### 140. Water licences granted to holders of specified land

Two water licences will be granted in accordance with Attachment 7 of this plan, to holders of the land described in Subsection 1. These are water licences to retake water released under other entitlements that the person granted the water licence holds. Conditions must be included on the granted water licences as detailed in Attachment 7 and in this Clause. Additional conditions may be imposed on the issued licence.

#### 141. Amendment of water licences 07898WK and 12325K

This Clause states that water licences 07898WK and 12325K to retake water released into unsupplemented streams under other entitlements held by the water licence holder, will be amended in accordance with those details contained in Attachment 7. Conditions must be included on the granted water licences as detailed in Attachment 7 and in this Clause. Additional conditions may be imposed on the issued licence.

### PART 2—DEALING WITH WATER LICENCE APPLICATIONS

#### 142. Water licence applications to which Part 1 applies

This Clause states the type of water licence dealings to which this Part applies.

**143. Applications to be refused**

This Clause states that all water licence applications that are not dealt with under this Part must be refused.

**144. Applications for subcatchment area C of the *Water Resource (Barron) Plan 2002***

This Clause states that while water licence applications within subcatchment area C will be accepted they will not be dealt with until rules for the management of water in subcatchment area C have been included in the resource operations plan.

It is anticipated that the process for dealing with unallocated water in subcatchment area C will use a competitive, market-based release process. Applications for water received prior to the release of unallocated water will not be given priority in this release process.

**145. Previous water licences**

This Clause states that a water licence application to reinstate an expired water licence will be dealt with where:

- it can be demonstrated that there is historical use of the water associated with the water licence; and
- works to take the water associated with the water licence were in place at the time the water licence expired.

**146. Applications to interfere with the flow of water**

This Clause states that a water licence application for instream works (e.g. dam or weir) will be considered, where storage is for:

- stock and domestic purposes;
- a pumping pool associated with an existing water entitlement; or
- purposes not associated with the taking of water (e.g. temporary permits associated with state road works).

In assessing whether granting a water licence is appropriate, the chief executive will consider the sufficiency of any other existing or approved storage on the land for the same purposes, alternative sources of supply and other measures that may be used (eg. riverine protection permits).

Maximum storage capacities are specified for each purpose associated with the application for interference.

**147. Applications to increase the maximum rate of take**

This Clause states that applications to increase the maximum rate of take from existing works will be considered where the increase in maximum rate of take is consistent with Schedule 8 of the *Water Resource (Barron) Plan 2002*, or, if no applicable pump rate is listed in Schedule 8 of the *Water Resource (Barron) Plan 2002*, where the works associated with a deemed or existing development permit have the capacity to take water at a higher maximum rate.

**148. Applications to change flow conditions**

This Clause states that applications to change flow conditions under which the water may be interfered with or taken will be considered provided applicants can demonstrate that the outcomes and objectives in the *Water Resource (Barron) Plan 2002* are not compromised.

**149 to 159 Section numbers not used**

These Clauses are left blank intentionally. This will allow for some minor amendments to be made

to this plan without altering all the Clause numbers.

## **CHAPTER 8 - PERFORMANCE ASSESSMENT**

The Department will develop and implement a performance monitoring and assessment framework to regularly review the performance of the *Water Resource (Barron) Plan 2002* against the outcomes for sustainable management of water. The outcomes relate to security for water users and provision of environmental water for aquatic ecosystems. The outcomes are achieved through implementing the strategies specified in the *Water Resource (Barron) Plan 2002*.

The framework consists of water monitoring, natural ecosystem monitoring and assessment of the monitoring information collected. Assessment will determine:

- whether management arrangements in this plan are being complied with; and
- the contributions of the strategies of the *Water Resource (Barron) Plan 2002* towards achieving ecological and general outcomes.

The framework includes:

- water monitoring and natural ecosystem monitoring programs.
- additional information obtained through other monitoring activities occurring within the plan area where relevant; and
- assessment of this information.

### **160. Water Monitoring**

Data will be collected and recorded in order to determine current and future trends in water use and water use efficiency. Several years of data collection may be required before trends can be determined. Data will be collected from a variety of sources including metering, agency monitoring programs and associated programs. The data collected as part of the monitoring programs will be based on indicators for each outcome. Where relevant, water quality data will also be collected as part of Departmental or associated programs. These activities will also contribute to an improved information base for future water planning within the Barron plan area.

### **161. Natural ecosystems monitoring and assessment**

Natural ecosystem monitoring will involve identification of ecological assets that are linked to the ecological outcomes of the *Water Resource (Barron) Plan 2002*. An ecological asset can be a species, group of species, a biological function or particular ecosystem or place of value for which water is critical.

It is impractical to monitor every species or process associated with the identified ecological assets. Instead, indicators that are representative of each asset will be monitored. Monitoring of an indicator will involve looking for evidence that the water requirements of an ecological asset (or its representative indicator) have been provided. A detailed understanding of the biology of organisms is required in order to find critical ecological responses (e.g. breeding behavior, successful recruitment) that depend on specific aquatic conditions (for example, water depth, water velocity, length of time of inundation and seasonal timing).

The Department will need to determine if flow requirements specified in the rules of this plan provide opportunities for an ecological response.

Where required, further investigations will be undertaken to increase our understanding of the environmental water requirements of the organisms. The monitoring program will be altered when necessary in response to new and improved information.

As further information is obtained and the understanding of the biology of a particular organism increases, it is envisaged that ongoing assessment of the links between water management and achieving ecological outcomes will be more accurate and informative.

Sites for natural ecosystem monitoring will be established at locations where either this plan's rules and requirements have an influence on the indicators of the ecological assets or where it is suitable to carry out investigations to increase our understanding of the organisms' environmental water requirements. The timing and the nature of data collection will be determined by the specific flow events that occur within the plan area or by the type of investigative work undertaken.

Other monitoring programs carried out in the Barron plan area seek to address differing issues and hence involve collection of different types of information. These programs are often conducted by agencies such as the Environmental Protection Agency, the Department of Primary Industries and Fisheries, universities and Cooperative Research Centres (CRCs), and include short-term, local projects of 2 or 3 year duration which are targeted at particular resource issues. Although they are not directly related to this plan, they may provide additional data and findings for assessment purposes.

## **162. Assessment**

An assessment of the overall performance of the *Water Resource (Barron) Plan 2002* will be based on analysis of the data collected under Clause 160 and Clause 161. The assessment will allow the chief executive to determine if the strategies of the *Water Resource (Barron) Plan 2002* have been successful in seeking to achieve the general and ecological outcomes of the *Water Resource (Barron) Plan 2002*.

Where it is determined that the general or ecological outcomes in the *Water Resource (Barron) Plan 2002* are not being achieved the Minister must consider amending or replacing the *Water Resource (Barron) Plan 2002* in accordance with Section 55 of the *Water Resource (Barron) Plan 2002*. The findings and progress of the assessment will be presented, along with all of the other monitoring results, in the Minister's annual report.

## **163 to 173 Section numbers not used**

These Clauses are left blank intentionally. This will allow for some minor amendments to be made to this plan without altering all the Section numbers

## CHAPTER 9 - RESOURCE OPERATIONS LICENCE HOLDER MONITORING

Monitoring requirements for the resource operations licence holder are designed for two specific purposes. These are—

- *compliance monitoring*—This is required to determine if rules and requirements of this plan have been successfully implemented. Implementation of the rules and requirements is directly linked to the strategies for achieving the *Water Resource (Barron) Plan 2002* outcomes.
- *impact monitoring*—The impacts that the operation of water infrastructure may have on downstream or ponded environs need to be monitored. There is the potential for impacts such as fish stranding and bank slumping to prevent the outcomes of the *Water Resource (Barron) Plan 2002* from being achieved.

### 174. Scope of Chapter 9

This Clause states that this Chapter applies to the resource operations licence holder for the Mareeba Dimbulah Water Supply Scheme.

### *Division 1—Water quantity*

Division 1 sets out the monitoring requirements for the resource operation licence holder in relation to the operating and environmental management rules in this plan. This monitoring will enable the resource operations licence holder to demonstrate compliance with the rules and requirements and enable the Department to assess both resource operations licence holder compliance and the effectiveness of flow management strategies.

### 175. Stream flow and storage water level data

This Clause states that the resource operations licence holder must measure and record details relating to all storage releases from Tinaroo Falls Dam, including the reason for releases, the volume released, the rates of release and stream and waterhole levels and flows. Department monitoring gauges are located in various locations along the Barron River and the resource operations licence holder will be able to collect data from the Department where this data will fulfil the measuring requirements at specific locations.

### 176. Maximum supplementation rates in watercourses

This Clause requires the resource operations licence holder to record the daily volumes released into supplemented watercourses.

### 177. Releases from Tinaroo Falls Dam

This Clause requires the resource operations licence holder to record the volume, rate of release and reason for each storage release made from Tinaroo Falls Dam.

### 178. Announced allocations

This Clause requires the resource operations licence holder to record the details of each announced allocation, including how it was determined.

**179. Water taken by water users**

The resource operations licence holder must record the volume of water taken for each water user by zone. This information must be collated as the total volume for water taken for each zone for each quarter and the total volume of water taken for the water year for each water user. The total volume of water entitled to be taken by all water users must also be recorded.

**180. Water taken for distribution losses**

The resource operations licence holder is required to measure and record the amount of water lost in distribution for water allocations in the Mareeba Dimbulah Water Supply Scheme.

**181. Seasonal water assignment of water allocations**

This Clause requires the scheme licence holder to record the details of assignees (the person/s that an interest or right is being transferred to) and assignors and the volume of water seasonally assigned by assignees and assignors.

**182. Critical water supply arrangements**

This Clause requires the resource operations licence holder to record specific information relating to the imposition of critical water supply arrangements, specifically the basis, timing and nature of restrictions imposed on water users.

***Division 2—Impact of storage operation on aquatic ecosystems***

Division 2 sets out requirements for monitoring of potential impacts to aquatic environments that may result from the operation of storages. Compliance with the requirements in this plan does not remove the need for the resource operations licence holder to ensure compliance with all other relevant legislation. Notwithstanding the requirements in the resource operations plan, if the resource operations licence holder becomes aware of an incident or storage operation practice that may cause or threaten to cause material or serious environmental harm as defined by the *Environmental Protection Act 1994*, the resource operations licence holder has an obligation under Section 320 of the *Environmental Protection Act 1994* to report the incident to the Environmental Protection Agency.

**183. Water quality**

The resource operations licence holder must monitor the water quality of Tinaroo Falls Dam and Collins Weir to determine the impact that the storage has on water quality. This information will be used to help improve the management of storages with the aim of minimising the impacts that water quality may have on downstream habitats.

**184. Cyanobacteria (blue-green algae)**

Storage management can have an effect on populations of cyanobacteria and in turn the occurrence/or intensity of algal blooms. These algae can be harmful to humans, stock and aquatic ecosystems. The resource operations licence holder is required to measure the levels of cyanobacteria in Tinaroo Falls Dam to manage the risk.

**185. Bank condition**

Infrastructure management can have an effect on bank condition. The resource operations licence holder is required to assess any repeated instances of impact on bank condition resulting from the

operation of infrastructure. It is the responsibility of the resource operations licence holder to ensure that their management practices for operating infrastructure are designed to reduce adverse impacts on bank conditions. The resource operations licence holder may become aware of instances of bank slumping and/or erosion via any internal and/or external sources including reports from staff, the public, landholders or through local and state government agencies.

### **186. Fish stranding**

Fish stranding applies to fish and other aquatic animals such as platypus and turtles. This may occur if the water level downstream of a storage suddenly recedes (due to the cessation of a water release) leaving fish stranded. It is the responsibility of the resource operations licence holder, as the infrastructure operator, to assess instances of any fish strandings and take all practical measures to minimise their occurrence. The resource operations licence holder may become aware of instances of fish stranding via any internal and/or external sources including reports from staff, the public, landholders or through local and state government agencies.

## ***Division 3—Data transfer***

### **187. Quarterly data transfer**

This Clause identifies the data measured, collected and recorded under Division 1 of this Chapter, which must be submitted to the chief executive on a quarterly basis.

### **188. Monitoring data must be made available**

The resource operations licence holder must retain all data that forms the basis for decisions regarding the operation of storages to allow those decisions to be fully audited if needed.

The chief executive may request data at any time to check compliance of the resource operations licence holder with the rules and requirements specified in this plan.

## ***Division 4—Reporting***

### ***Sub-division 1—Annual report***

The annual report is based on data provided to the chief executive each quarter, plus information provided in operational and emergency reports during the year. The report allows the chief executive to review the resource operations licence holder's operations for the year.

### **189. Annual report**

The resource operations licence holder must submit an annual report to the chief executive that summarises and discusses the data collected during the water year. The annual report also provides the resource operations licence holder with an opportunity to discuss any implementation or compliance issues.

Infrastructure operation requirements in this plan have been based on existing works. Any substantial changes to these works (i.e. not including minor changes such as repairs or replacement of components due to regular maintenance) must be reported to the chief executive to keep the chief executive up to date with scheme arrangements and to allow the chief executive to assess potential impacts of changes on water allocation security objectives and environmental flow objectives.

### ***Sub-division 2—Operational reporting***

Operational reports are required to ensure the Department is aware of any operational incidents that may impact on the resource operations licence holder's ability to implement the requirements of this plan. This report provides information that will assist the chief executive to determine if any immediate action is required in response to the occurrence of the operational incidents.

#### **190. Operational reporting**

Under this Clause, the resource operations licence holder must notify the chief executive of any approved seasonal assignments, in accordance with the *Water Monitoring Data Reporting Standard*.

On becoming aware of an operational incident, the resource operations licence holder must ensure that the Department has been notified. An operational report on the incident must be submitted within the timeframe specified in the *Water Monitoring Data Reporting Standard* and must report on the types of incidents outlined. The format for the report should include the details of the incident, the cause of the incident and any responses carried out as a result of the incident. Any other supporting information should be attached to the report. The requirements of reports for announced allocations, restrictions on high priority water and seasonal assignments are also outlined.

### ***Sub-division 3—Emergency reporting***

Emergency reports are required to make the Department aware of any emergencies that may impact on the resource operations licence holder's ability to implement the requirements of this plan. This report provides information that will assist the chief executive to determine if any immediate action is required in response to the emergency.

#### **191. Emergency reporting**

The resource operations licence holder must notify the chief executive, of the incidence of any emergency and must provide a full report of the emergency occurring within the timeframe specified in the *Water Monitoring Data Reporting Standard*. An emergency for the purpose of this plan includes an incident that, by the nature of its severity, extent or timing might be regarded as an emergency (for example contamination of water supply, structural damage to infrastructure or a danger to human health). The resource operations licence holder should ensure that they have a communications strategy in place that sets out appropriate lines of communication in the event of an emergency.

#### **192 to 202 Section numbers not used**

These Clauses are left blank intentionally. This will allow for some minor amendments to be made to this plan without altering all the Clause numbers.

## **CHAPTER 10 - WATER LICENCE HOLDER FOR KURANDA WEIR MONITORING**

Monitoring requirements for the water licence holder for Kuranda Weir are designed for two specific purposes. These are—

- *compliance monitoring*—This is required to determine if the rules and requirements within this plan have been successfully implemented. Implementation of these requirements is directly linked to the strategies for achieving the *Water Resource (Barron) Plan 2002* outcomes.
- *impact monitoring*—The impacts that the operation of water infrastructure may have on downstream or ponded environs need to be monitored. There is the potential for impacts such as fish stranding and bank slumping to prevent the outcomes of the *Water Resource (Barron) Plan 2002* from being achieved.

### **203. Scope of Chapter 10**

This Clause states that this Chapter applies to the water licence holder for Kuranda Weir.

### ***Division 1—Water quantity***

#### **204. Stream flow**

This Clause states that the water licence holder for Kuranda Weir must measure and record details relating to inflow into Kuranda Weir and all releases from the weir to the Barron Falls. Department monitoring gauges are located in various locations along the Barron River and the water licence holder will be able to collect data from the Department where this data will fulfil the measuring requirements at specific locations.

#### **205. Water taken from Kuranda Weir**

This Clause states that the water licence holder for Kuranda Weir must measure and record details relating to diversions from Kuranda Weir for the purposes of hydro-power generation, including the rate of diversion and the daily volume diverted.

### ***Division 2—Impact of storage operation on aquatic ecosystems***

Division 2 sets out requirements for monitoring of potential impacts to aquatic environments that may result from the operation of infrastructure held by the water licence holder for Kuranda Weir. Compliance with the requirements in this plan does not remove the need for the water licence holder to ensure compliance with all other relevant legislation. Notwithstanding the requirements in the resource operations plan, if the water licence holder becomes aware of an incident or storage operation practice that may cause or threaten to cause material or serious environmental harm as defined by the *Environmental Protection Act 1994*, the water licence holder has an obligation under Section 320 of the *Environmental Protection Act 1994* to report the incident to the Environmental Protection Agency.

#### **206. Water quality**

The water licence holder must monitor water quality in Kuranda Weir to determine the impact that the storage has on water quality. This information will be used to help improve the management of

storages with the aim of minimising the impacts that water quality may have on downstream habitats.

### **207. Cyanobacteria (blue-green algae)**

Storage management can have an effect on populations of cyanobacteria and in turn the occurrence or intensity of algal blooms. These algae can be harmful to humans, stock and aquatic ecosystems. The water licence holder for Kuranda Weir is required to measure the levels of cyanobacteria in Kuranda Weir to manage the risk.

### **208. Barron River Falls**

The water licence holder for Kuranda Weir must establish a monitoring and assessment program in order to determine the appropriate flow regime such that ecological and cultural values associated with the Barron Falls are maintained. The monitoring and assessment program must establish and monitor appropriate indicators to assess the adequacy of the flow requirements in meeting the following WRP objectives—

- connectivity through the watercourse network; and
- aquatic habitats and ecosystem food chains.

## ***Division 3—Data transfer***

### **209. Quarterly data transfer**

Water use, stream flow and storage height data must be submitted to the chief executive on a quarterly basis to enable compliance checks.

### **210. Data retention**

The water licence holder for Kuranda Weir must retain all data that forms the basis for decisions regarding the operation of storages to allow those decisions to be fully audited if needed.

The chief executive may request data at any time to check compliance of the water licence holder for Kuranda Weir with the rules and requirements specified in this plan.

## ***Division 4—Reporting***

### ***Sub-division 1—Annual report***

The annual report is based on data provided to the chief executive each quarter, plus information provided in operational and emergency reports during the year. The report allows the chief executive to review the water licence holder's operations for the year.

### **211. Annual report**

The water licence holder must submit an annual report to the chief executive that summarises and discusses the data collected during the water year. The annual report also provides the water licence holder with an opportunity to discuss any implementation or compliance issues.

Infrastructure operation requirements in this plan have been based on existing works and any substantial changes to these works (i.e. not including minor changes such as repairs or replacement of components due to regular maintenance) must be reported to the chief executive to keep the chief executive up to date with scheme arrangements and to allow the chief executive to assess potential

impacts of changes on water allocation security objectives and environmental flow objectives.

The water licence holder must also discuss the adequacy of the flow regime for the Barron Falls in meeting *Water Resource (Barron) Plan 2002* objectives. Where monitoring and assessment demonstrate that the Barron Falls flow requirement is not achieving these objectives the water licence holder must recommend alternative operating arrangements to ensure an appropriate flow regime is implemented.

### ***Sub-division 2—Operational reporting***

Operational reports are required to ensure the Department is aware of any operational incidents that may impact on the water licence holder's ability to implement the requirements of this plan. This report provides information that will assist the chief executive to determine if any immediate action is required in response to the occurrence of the operational incidents.

#### **212. Operational reporting**

On becoming aware of an operational incident, the water licence holder must ensure that the Department has been notified within the timeframe specified in the *Water Monitoring Data Reporting Standard*. An operational report on the incident must be submitted within the required timeframe and must report on the types of incidents outlined. The format for the report should include the details of the incident, the cause of the incident and any responses carried out as a result of the incident. Any other supporting information should be attached to the report.

### ***Sub-division 3—Emergency reporting***

Emergency reports are required to make the Department aware of any emergencies that may impact on the water licence holder's ability to implement the requirements of this plan. This report provides information that will assist the chief executive to determine if any immediate action is required in response to the emergency.

#### **213. Emergency reporting**

The water licence holder must notify the chief executive, immediately, on the incidence of any emergency and must provide a full report within the timeframe specified in the *Water Monitoring Data Reporting Standard*. An emergency for the purpose of this plan includes an incident that, by the nature of its severity, extent or timing might be regarded as an emergency (for example contamination of water supply, structural damage to infrastructure or a danger to human health). The water licence holder should ensure that they have a communications strategy in place that sets out appropriate lines of communication in the event of an emergency.

#### **214 to 224 Section numbers not used**

These Clauses are left blank intentionally. This will allow for some minor amendments to be made to this plan without altering all the Clause numbers.

## CHAPTER 11 - WATER LICENCE HOLDER FOR COPPERLODE DAM MONITORING

Monitoring requirements for the water licence holder for Copperlode Dam are designed for two specific purposes. These are—

- *compliance monitoring*—This is required to determine if the rules and requirements within this plan have been successfully implemented. Implementation of the rules and requirements is directly linked to the strategies for achieving the *Water Resource (Barron) Plan 2002* outcomes.
- *impact monitoring*—The impacts that the operation of water infrastructure may have on downstream or ponded environs need to be monitored. There is the potential for impacts such as fish stranding and bank slumping to prevent the outcomes of the *Water Resource (Barron) Plan 2002* from being achieved.

### 225. Application of Chapter 11

This Clause states this Chapter applies to the water licence holder for Copperlode Dam.

### *Division 1—Water quantity*

Division 1 sets out the monitoring requirements for the water licence holder for Copperlode Dam in relation to the operating rules in Chapter 6 of this plan. This monitoring will enable the water licence holder for Copperlode Dam to demonstrate compliance with the rules and requirements and enable the Department to assess both water licence holder compliance and the effectiveness of the flow management strategies.

### 226. Stream flow and water use

This Clause states that the water licence holder must measure and record the daily volume taken from Freshwater Creek.

### 227. Releases from Copperlode Dam

This Clause states that the water licence holder must measure and record details relating to all storage releases from Copperlode Dam, including the reason for releases, the volume released, the inlet level used for the release and the rates of release.

### *Division 2—Impact of storage operation on aquatic ecosystems*

Division 2 sets out requirements for monitoring of potential impacts to aquatic environments that may result from the operation of storages. Compliance with the requirements in this plan does not remove the need for the water licence holder to ensure compliance with all other relevant legislation. Notwithstanding the requirements in the resource operations plan, if the water licence holder becomes aware of an incident or storage operation practice that may cause or threaten to cause material or serious environmental harm as defined by the *Environmental Protection Act 1994*, the water licence holder has an obligation under Section 320 of the *Environmental Protection Act 1994* to report the incident to the Environmental Protection Agency.

**228. Water quality**

The water licence holder must monitor water quality in Copperlode Dam to determine the impact that the storage has on water quality. This information will be used to help improve the management of storages with the aim of minimising the impacts that water quality may have on downstream habitats.

**229. Cyanobacteria (blue-green algae)**

Storage management can have an effect on populations of cyanobacteria and in turn the occurrence or intensity of algal blooms. These algae can be harmful to humans, stock and aquatic ecosystems. The water licence holder for Copperlode Dam is required to measure the levels of cyanobacteria in Copperlode Dam to manage the risk.

***Division 3—Data transfer*****230. Quarterly data transfer**

Water use, stream flow and storage height data must be submitted to the chief executive on a quarterly basis to enable compliance checks.

**231. Data retention**

The water licence holder for Copperlode Dam must retain all data that forms the basis for decisions regarding the operation of storages to allow those decisions to be fully audited if needed.

The chief executive may request any data at any time to check compliance with the rules and requirements specified in this plan.

***Division 4—Reporting******Sub-division 1—Annual report***

The annual report is based on data provided to the chief executive each quarter, plus information provided in operational and emergency reports during the year. The report allows the chief executive to review the operations of the water licence holder for Copperlode Dam for the year.

**232. Annual report**

The water licence holder for Copperlode Dam must submit an annual report to the chief executive that summarises and discusses the data collected during the water year. The annual report also provides the water licence holder for Copperlode Dam with an opportunity to discuss any implementation or compliance issues.

Infrastructure operation requirements in this plan have been based on existing works and any substantial changes to these works (i.e. not including minor changes such as repairs or replacement of components due to regular maintenance) must be reported to the chief executive to keep the chief executive up to date with scheme arrangements and to allow the chief executive to assess potential impacts of changes on water allocation security objectives and environmental flow objectives.

### ***Sub-division 2—Operational reporting***

Operational reports are required to ensure the Department is aware of any operational incidents that may impact on the ability of the water licence holder for Copperlode Dam to implement the requirements of this plan. This report provides information that will assist the chief executive to determine if any immediate action is required in response to operational incidents.

#### **233. Operational reporting**

On becoming aware of an operational incident, the water licence holder for Copperlode Dam must ensure that the Department has been notified within the timeframe specified in the *Water Monitoring Data Reporting Standards*. An operational report on the incident must be submitted within the required timeframe and must report on the types of incidents outlined. The format for the report should include the details of the incident, the cause of the incident and any responses carried out as a result of the incident. Any other supporting information should be attached to the report. The requirements of reports for announced allocations, restrictions on high priority water and seasonal assignments are also outlined.

### ***Sub-division 3—Emergency reporting***

Emergency reports are required to make the Department aware of any emergencies that may impact on the ability of the water licence holders for Copperlode Dam to implement the requirements of this plan. This report provides information that will assist the chief executive to determine if any immediate action is required in response to the emergency.

#### **234. Emergency reporting**

The water licence holder for Copperlode Dam must notify the chief executive of the incidence of any emergency and must provide a full report within the timeframe specified in the *Water Monitoring Data Reporting Standards*. An emergency for the purpose of this plan includes an incident that, by the nature of its severity, extent or timing might be regarded as an emergency (for example contamination of water supply, structural damage to infrastructure or a danger to human health). The water licence holder for Copperlode Dam should ensure that they have a communications strategy in place that sets out appropriate lines of communication in the event of an emergency.

#### **235 to 245 Section numbers not used**

These Clauses are left blank intentionally. This will allow for some minor amendments to be made to this plan without altering all the Clause numbers.

## CHAPTER 12 - AMENDMENTS TO THE RESOURCE OPERATIONS PLAN

### PART 1 – AMENDMENTS NOT REQUIRING PUBLIC NOTIFICATION

The *Water Act 2000*, Section 106(b) provides for amendments to be made to a resource operations plan where the amendment is stated in the resource operations plan or where the amendment is only minor and is not substantive in nature.

#### **246. Application of Part 1**

This Clause states that the amendments specified in this Part will be made under Section 106(b) of the *Water Act 2000* as minor amendments to the plan, and therefore without the need for the amendments to be publicly advertised.

#### **247. Amendment necessary to implement an amendment to the *Water Resource (Barron) Plan 2002***

This Clause states that any amendment that is necessary as a consequence of an amendment to the *Water Resource (Barron) Plan 2002* may be made to this plan.

#### **248. Amendment to monitoring requirements**

This Clause states that any amendment to monitoring and assessment provisions may be made where that amendment will result in a more efficient and/or improved monitoring program for the Department, the resource operations licence holder, the water licence holder for Copperlode Dam or the water licence holder for Kuranda Weir.

#### **249. Amendment to infrastructure details**

This Clause states that an amendment may be made to infrastructure details within this plan, where the amendment is to correct an error, or is to provide for works that will improve environmental management of flows.

#### **250. Amendment to Chapter 6**

This Clause states that an amendment may be made to this plan, where the amendment is to include details of alternative operating arrangements for minimum flows for periods of *critical water shortage* for Copperlode Dam.

#### **251. Amendment to Chapter 4**

This Clause states that an amendment may be made to Chapter 4 of this plan, where the amendment is to include details of critical water supply arrangements, change the total maximum discharge rate at supplementation points of a watercourse listed in Table 3, to change the details of transmission and operation loss allowance specified in Table 11 of this plan, or to change the maximum or minimum nominal volumes listed in the zone distribution tables (for permanent changes and seasonal assignment of water allocations).

The amendments to change the details of total maximum discharge rates or transmission and operation loss allowance may be necessary for approved changes to works that are consistent with the outcomes in the *Water Resource (Barron) Plan 2002*.

**252. Amendment to trading and seasonal assignment of ‘distribution loss’ water allocations**

This Clause provides for minor amendments to this plan that will enable water allocations with a purpose of ‘distribution loss’ to be traded and seasonally assigned by facilitating a change to the purpose of the water allocation from ‘distribution loss’.

The resource operations licence holder will need to demonstrate that the proposed amendments meet the objectives of the *Water Resource (Barron) Plan 2002*. The resource operations licence holder will need to conduct a consultation exercise with water allocation holders for the Mareeba Dimbulah Water Supply Scheme to ascertain their support for the proposed amendments. The resource operations licence holder must demonstrate that the majority of water allocation holders support the proposal. Most practically, this would mean through the Water Supply Scheme’s Customer Council.

**253. Amendment to specification of water year**

This Clause provides for minor amendment to this plan that will enable a change to the specification of the water year.

The resource operations licence holder will need to demonstrate that the proposed amendment meets the objectives of the *Water Resource (Barron) Plan 2002*. The resource operations licence holder will need to conduct a consultation exercise with water allocation holders for the relevant Water Supply Scheme to ascertain their support for the proposed amendments. The resource operations licence holder must demonstrate that the majority of water allocation holders support the proposal.

**PART 2 – AMENDMENTS REQUIRING PUBLIC NOTIFICATION****254. Amendments under the *Water Act 2000***

This Clause provides examples of the types of amendments that the chief executive may make to this plan in accordance with Section 105 of the *Water Act 2000*.