

Barron Resource Operations Plan Amendment

Explanatory Notes

October 2011

RTI DL RELEASE - DNRM

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October 2011
#29872

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Chapter 1 Preliminary

These explanatory notes are a plain English version of the sections of the Barron Resource Operations Plan Amendment 2011. The numbering and partitioning of the explanatory notes correspond to those of the Barron Resource Operations Plan Amendment 2011.

This plan has been made to implement the Water Resource (Barron) Amendment Plan 2009. This amendment applies to the:

- unsupplemented surface water in subcatchment area C
- unsupplemented water licences in subcatchment area H
- aspects of water sharing rules in the Mareeba Dimbulah Water Supply Scheme
- groundwater in the Atherton 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

Supplemented water allocation zones are specified in the plan area to define the location of a supplemented water allocation 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 conditions specified in Chapter 4, Part 3.

Unsupplemented water allocation zones have been specified in the plan area to define the location of a unsupplemented water allocation and to provide geographic limits for trading that ensure water allocation security objectives and environmental flow objectives are achieved. Subcatchment area C has been segmented into 14 water allocation zones which are shown in Attachment 1A.

Groundwater licences in the Atherton Subartesian Area and surface water licences in subcatchment area H and Emerald Creek in subcatchment area A are able to be relocated to other land. This section defines the zones that provides geographic limits for the transfer of water licences to other land. The relocation zones for water licences are shown in Attachments 1B, 1C and 1D.

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 of Environment and Resource Management offices at:

28 Peters Street,, Mareeba

29B Mabel Street, Atherton

4th 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 of Environment and Resource Management's Water Monitoring Data Collection Standard (the standard). The standard addresses, among 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
- natural ecosystem monitoring methods.

The 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 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 of Environment and Resource Management's Water Monitoring Data Reporting Standard (the standard). The standard includes format requirements and timeframes within which data must be transferred.

The 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 standard addresses amongst other things:

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

The 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 a 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

Section 12 states that all water entitlements in the plan area must be metered in accordance with the standards approved by the chief executive. Metering of all volumetric water entitlements or seasonal assignments, except water for stock and domestic purposes, will be required within the plan area. Scheme licence holders must also meter all water allocations managed under the relevant licence in accordance with the standards approved by the chief executive.

Metering water use is fundamental to responsible management of the state's water resources and is legislated under the *Water Act 2000* and the *Water Regulation 2002*. Metering provides data for water management activities including the demonstration of compliance with management rules.

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 section 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*. The amendment references new processes for managing unsupplemented surface water and groundwater; it replaces item (vii) of section 14(c) that references processes for dealing with applications for water licences in the Cairns Northern Beaches; and, inserts new items referring to rules for sharing water, seasonal assignments and trades of water allocations in subcatchment area C and H and part of Emerald Creek and transfer of water licences in the Atherton Subartesian Area.

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 29 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.

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Chapter 2 Process for dealing with unallocated water

Part 1 Subcatchment area A (Barron catchment below Tinaroo Falls Dam)

30 Scope of Part 1

This clause states that Part 1 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 Regional Council.

32 Submission for the reserved water to be made available

This clause states that the water will be reserved until Cairns Regional 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
- 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
 - 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 32 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 Regional 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
- 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 Regional 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 2 Subcatchment areas B, C, D, E, F, G and H

37 Scope of Part 2

This part deals with unallocated water in Subcatchment B, C, D, E, F, G and H.

37A Unallocated water unavailable under defined process

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

Part 3 Subartesian water

This plan applies to groundwater in the following Subartesian Areas:

- Cairns Northern Beaches Subartesian Area
- management area A of the Atherton Subartesian Area
- management area B of the Atherton Subartesian Area.

Management areas A and B of the Atherton Subartesian Area are fully allocated and no additional water is available from these areas. Applications for additional water in the Cairns Northern Beaches 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 the Atherton Subartesian Area. These areas are identified in the Water Resource (Barron) Plan 2002.

39 Unallocated subartesian water available in the Cairns Northern Beaches Subartesian Area

This section states that the process for dealing with applications for additional water in the Cairns Northern Beaches Subartesian Area is dealt with under Ch 7A Division 1 of this plan.

40 Unallocated subartesian water in the Atherton Subartesian Area

This section states that there is no unallocated groundwater available in management area A and B. This is due to the total annual volumetric limit for water licences in the area being greater than the sustainable volume of water identified in the Water Resource (Barron) Plan 2002.

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, converting and amending authorisations

Part 1 Converting to and granting of water allocations

Upon release of the Barron Resource Operation Plan Amendment 2011, the unsupplemented water licences listed in Attachment 8 will be converted to water allocations.

52 Application of part 1

Part 1 sets out the rules for converting existing authorisations and the granting of water allocations for taking unsupplemented water. Attachment 8 contains the list of the existing water licences in the Barron River priority area that have been converted to allocations.

53 Rules for the converting of existing water authorisations

Under section 121 of the *Water Act 2000*, all authorisations to be converted to allocations under the plan expire and the chief executive will grant the holders of these expired water authorisations the water allocations stated in Attachment 8.

54. Granting of unsupplemented water allocations

Section 54 directs the chief executive to grant unsupplemented water allocations in accordance with Attachment 8.

Part 2 Amending and granting water licences for taking unsupplemented water

The unsupplemented water licences listed in Attachment 7 will be amended to ensure all water licences for taking water from a watercourse, lake or spring are consistent. Each licence will be assigned to a zone and will be permanently or temporarily transferable to other land within that zone.

55 Scope of Part 2

This part applies only to licences for taking water from a watercourse, lake or spring, it does not apply to groundwater licences.

56 Water licences to be granted

This section states that within 120 days of the release of this amended plan the chief executive must grant water licences to the owners of land listed in this section in accordance with attachments 6A, 6B, 6C, 6D, 6E and 6F.

57 Rules for amending water licences

Section 57 outlines the rules that were applied in determining the details of the amended water licences listed in attachment 7.

58 Water licences to be amended

Section 58 applies the licences listed in Attachment 7 of table 1. This section states that within 120 days of the release of this amended plan the chief executive must amend the licences listed in Attachment 7. The licences must contain the details including the terms and conditions listed in Attachment 7.

Part 3 Amending water licences for taking subartesian water

Subartesian water licences in the Cairns Northern Beaches Subartesian Area and the Atherton Subartesian Area will be amended to have their purpose amended to either 'rural' or 'any'.

59 Scope of part 3

This part applies only to licences for taking water from the Cairns Northern Beaches Subartesian Area and the Atherton Subartesian Area.

60 Amending water licences for taking subartesian water

Section 60 states that the chief executive must amend the licences for taking subartesian water to change the purpose to those described above. The plan does not give a time frame for this to occur, however s217 of the *Water Act 2000* states that it must be done as soon as possible.

61 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.

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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 per cent daily flow and 90 per cent 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 (for example, 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 Barron Water Resource Plan 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 per cent 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 per cent. 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 per cent, 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 per cent

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.

Clause 20 removes subsection 81(1)(e) and inserts a new subsection 81(e) that requires the resource operations licence (ROL) holder for the Mareeba Dimbulah Water Supply Scheme to publish the announced allocations for the scheme on the ROL holder's web site within 5 business days of setting, or resetting, the announced allocation, or, on the first calendar day of every month when the announced allocation is reset under subsection 81(1)(d).

81A Carry over for Mareeba Dimbulah Water Supply Scheme

This section makes provision for the resource operations licence holder to allow a water allocation holder in the Mareeba Dimbulah Water Supply Scheme to carry over part of their unused allocation from one water year into the next water year, subject to certain conditions provided for in this section. The volume of water permitted to be carried over by each water allocation holder is to be determined by the resource operations licence holder. The resource operations licence holder must make public on its website, the methodology for determining the volume of water each water allocation holder is permitted to carry over.

In determining the total volume of unused water permitted to be carried over, the total volume of water carried over must be the lesser of 25 per cent of the total nominal volume for the scheme, or, 97.5 per cent of the total volume of unused water for the scheme at the end of the water year.

To account for evaporative losses, the volume of water that a water user is permitted to carry over must not be more than 97.5 per cent of the water holder's unused volume at the end of the water year.

Any volume of water carried over in the next water year that remains unused by the water user will be removed:

- after six months into the commencement of the water year, or
- when Tinaroo Falls Dam spills, or
- when the water level in Tinaroo Falls Dam is less than or equal to 668.0 metres AHD.

When any of these events occur, the volume of water available to the water allocation holder will be determined by the announced allocation.

81B Taking water under a water allocation

This section states that the maximum amount of water entitled to be taken by the water allocation holder in a water year is the nominal volume stated on a water allocation multiplied by the announced allocation percentage and divided by 100. 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. This section ensures that the nominal volume does not include carry over water.

For example, where the nominal volume of a water allocation equals 200 megalitres and the announced allocation equals 80 per cent, the water allocation volume is calculated as follows:

Example of how to apply announced allocation (no carry over)

Nominal volume of a water allocation equals 200 ML

Announced allocation equals 80 per cent

Water allocation volume = $200 \times 80 \div 100 = 160$ ML

The volume permitted to be taken does not include the volume of water carried over.

Division 2 Water sharing rules**82 High priority water allocations**

The announced allocation for high priority allocation is 100 per cent 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.

84A Commencement and cessation of critical water supply arrangements

This section deals with the commencement triggers and states that when the commencement triggers in the critical water supply arrangements are activated, the critical water supply arrangements apply and the relevant sections under the resource operations plan cease to apply for the critical water supply arrangement period. When the critical water supply arrangements end, the relevant sections of the plan apply again.

85 Changing the critical water supply arrangements

This Section allows the chief executive to amend the critical water supply arrangements at any time and also allows the scheme licence holder to submit proposed amendments at any time.

Part 3 Water allocation change rules**86 Scope of Part 3**

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

Division 3 Assessed changes to water allocations

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

A valid change certificate is a certificate issued under Section 129 of the Water Act 2000.

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 $2\ 000\ \text{ML} \times 0.7 = 1\ 400$ 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
- location.

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
- a change that results in a nominal volume (ML) that is not expressed as a whole number.

92A Change of purpose from 'distribution loss'

This section states that an allocation holder may apply to change the purpose of a water allocation from 'distribution loss' to 'any' or 'rural'. An application for a change of purpose from 'distribution loss' may be granted if the chief executive is satisfied that operational changes and efficiency gains are sufficient that the allocation for the purpose of distribution loss is no longer required.

In making a decision, the chief executive is required to consider information supplied by applicants on a case-by-case basis. The report that accompanies the application must satisfy the requirements specified in section 92A(2)(a) to (e). The chief executive is required to consider the information provided by the applicant under section 134 of the *Water Act 2000*.

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
- if the chief executive refuses the application, then the applicant will be notified.

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 the Individual storage account balance due to a resource distribution, 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 are permitted provided they do not result in water use in any zone exceeding the maximum water use specified in Table 13 for each zone.

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 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 Falls. Stanwell must use their best endeavours to ensure that releases are proportional in volume and consistently released over each week.

112 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 surface water

This chapter sets out the rules for managing unsupplemented water allocations and for dealings with surface water licences located within the Barron catchment.

Part 1 Water allocations

140 Scope of part 1

This part deals with managing the unsupplemented water allocations that have been made in priority area 2. The area that the allocations occur in is the upper Barron River and its tributaries and is described in Schedule 9 of the Water Resource (Barron) Plan 2002 section 2.

140A Water allocation zones for unsupplemented water

Attachment 1A of this plan contains the individual zones that the water allocations must be located in.

Division 1 Subdivisions or amalgamation of water allocations

141 Permitted subdivisions and amalgamations

This section contains the circumstances in which a water allocation can be subdivided or amalgamated. The elements of the subdivided allocations must be consistent with the proportions stated in section 141 (1). Subdividing an allocation cannot change the location of any of the allocation. If part of an allocation being subdivided is desired to be in a different zone it must first be subdivided within its original zone and then a separate application made to change the location.

The elements of the amalgamated allocation must be consistent with the proportions stated in section 141 (2). The allocations intended to be amalgamated must be in the same location as the final amalgamated allocation. If part of an allocation being subdivided is in a different zone a separate application must first be made to change the location.

141A Prohibited subdivisions and amalgamations

This section outlines that a subdivision or amalgamation cannot occur where it would result in an increase or decrease in the total volumetric limit. An amalgamation of allocations cannot occur between allocations from different water allocation groups. For example, a town water supply allocation (Class CA) cannot be amalgamated with an irrigation allocation (Class CB).

Division 2 Water allocation change rules

142 Scope of division 2

This division provides the rules for changes to the unsupplemented water allocations described in Schedule 9 of the Water Resource (Barron) Plan 2002, section 2. Water allocation change rules define the conditions that must be met to allow a permanent change to an attribute of a water allocation. Under this division, changes to a water allocation may be made to the location, purpose, daily volumetric rate and rate at which water may be taken, if the rules are met.

Subdivision 1 Permitted changes

This subdivision outlines the changes that are permitted to be made to a water allocation as the change would not result in the likely failure of the water allocation security objectives and/or the environmental flow objectives outlined in the Water Resource (Barron) Plan 2002, or would otherwise be inconsistent with the Water Resource (Barron) Plan 2002 outcomes.

142A Location

This section relates to the location of an allocation, each location is described as a zone and each zone has multiple allocations. In some zones it is permitted to move the allocation into a different zone, where an allocation can or can't be moved is outlined in this section. An annual volumetric limit for a zone is the total quantity of water that can be located within that zone. Tables 14A to 14C state the maximum and minimum volumetric limits that are permitted to be allocated in each zone.

The volumetric limit is calculated from allocations that have had valid change certificates issued. The change does not need to have been registered by the registry office. Section 142A outlines the changes that are permitted to occur to the location.

142B Purpose

This section outlines the changes that can occur to the purpose of an unsupplemented water allocation.

142C Daily volumetric limit

This section outlines the changes that can occur to the daily volumetric limit of an unsupplemented water allocation.

142D Rate at which water may be taken

This section outlines the changes that can occur to the rate at which water may be taken of an unsupplemented water allocation.

Subdivision 2 Prohibited changes

This subdivision outlines the changes which are not permitted to be made to a water allocation as the change would result in the likely failure to achieve the water allocation security objectives and/or the environmental flow objectives outlined in the Water Resource (Barron) Plan 2002, or would otherwise be inconsistent with the Water Resource (Barron) Plan 2002 outcomes.

142E Changes to a water allocation that are prohibited

This section outlines the changes that cannot be made to an allocation. They include the changes in location that cannot occur, the change in purpose that cannot occur and the changes to the rate at which water can be taken that cannot occur.

Subdivision 3 Other changes to water allocations

142F Application for changes not specified as permitted or prohibited

If a requested change to an allocation is not mentioned in the previous sections the application can still be made under section 130 of the *Water Act 2000*. The application must be dealt with according to the processes described in section 130 to 135 of the *Water Act 2000*.

Division 3 Seasonal water assignment rules

A seasonal water assignment means the assignment to another person by the holder of the water allocation for a water year or part of a water year, of all or part of the water that may be taken under the water allocation. As a seasonal water assignment applies to the current water year only, an application for a seasonal water assignment can not be made prior to the commencement of the water year.

143 Scope of division 3

This division outlines the rules for the seasonal assignment of water allocations.

143A Approving seasonal water assignment applications

This section outlines that a seasonal assignment can occur within the same zone, or between zones on the same watercourse, provided that the total annual volumetric limit does not exceed the maximum or minimum volume for each zone.

Division 4 Water sharing rules

144 Scope of division 4

This chapter sets out the rules for water sharing for water allocations which apply to the unsupplemented water allocations located within the Barron River priority area.

Subdivision 1 Reducing the volume of water that may be taken under a water allocation

144A Water allocations belonging to water allocation group CA

In periods of low flow in the watercourses of this priority group it will be necessary to introduce limitations on the daily quantity of water that can be taken under an allocation. Limitations will be introduced when flows at the gauging station on the Barron River at Picnic Crossing drop below the levels outlined in tables 14D. As flows reduce below the threshold levels for 7 consecutive days, limitations will be introduced at intervals of 75 per cent, 50 per cent and 0 per cent of the daily volumetric limit.

144B Water allocations belonging to water allocation group CB- Upper Barron, Ahayah Creek, Petersen Creek and Scrubby Creek zones

In periods of low flow in the watercourses of this priority group in the upper Barron River, Ahayah, Petersen and Scrubby Creek catchments, it will be necessary to introduce limitations on the daily quantity of water that can be taken under an allocation. Limitations will be introduced when flows at the gauging station on the Barron River at Picnic Crossing drop below the levels outlined in tables 14E. As flows reduce below the threshold levels for 7 consecutive days, limitations will be introduced at intervals of 75 per cent, 50 per cent 25 per cent and 0 per cent of the daily volumetric limit.

144C Water allocations belonging to water allocation group CB —Leslie Creek zones

In periods of low flow in Leslie Creek catchment of this priority group, it will be necessary to introduce limitations on the daily quantity of water that can be taken under an allocation. Limitations will be introduced when flows at the gauging station on Leslie Creek at Barron Junction (110022A) drop below the levels outlined in tables 14F. As flows reduce below the threshold levels for 7 consecutive days, limitations will be introduced at intervals of 75 per cent, 50 per cent 25 per cent and 0 per cent of the daily volumetric limit.

144D Water allocations belonging to water allocation group CB—Mazlin Creek zones

In periods of low flow in Mazlin Creek of this priority group, it will be necessary to introduce limitations on the daily quantity of water that can be taken under an allocation. Limitations will be introduced when flows at the gauging station on Mazlin Creek at the Railway Bridge (110018A) drop below the levels outlined in tables 14F. As flows reduce below the threshold levels for 7 consecutive days, limitations will be introduced at intervals of 75 per cent, 50 per cent 25 per cent and 0 per cent of the daily volumetric limit.

Subdivision 2 Increasing the volume of water that may be taken under a water allocation

144E Application of subdivision 2

This subdivisions specifies the rules that will apply when the chief executive has reduced the volume of water that may be taken under a water allocation under the provisions of subdivision 1.

144F Water allocations belonging to water allocation group CA

For water allocations in water allocation group CA, and, if the total volume of water that may be taken has been reduced under subdivision 1, the chief executive is directed to increase the total volume of water that can be taken under a water allocation belonging to water allocation group CA if the streamflow as measured at the Picnic Crossing gauging station (gauging station number 110003A) is within the range shown in table 14H, column 1, to the percentage of the daily volumetric limit shown opposite the streamflow range in column 2.

144G Water allocations belonging to water allocation group CB—Upper Barron, Ahayah Creek, Petersen Creek and Scrubby Creek zones

For water allocations in water allocation group CB that are located in Upper Barron, Ahayah Creek, Petersen Creek and Scrubby Creek zones, and, if the total volume of water that may be taken has been reduced under subdivision 1, the chief executive is directed to increase the total volume of water that can be taken under a water allocation belonging to water allocation group CB if the streamflow as measured at the Picnic Crossing gauging station (gauging station number 110003A) is within the range shown in table 14I, column 1, to the percentage of the daily volumetric limit shown opposite the streamflow range in column 2.

144H Water allocations belonging to water allocation group CB—Leslie Creek zones

For water allocations in water allocation group CB that are located in the Leslie Creek zone, and, if the total volume of water that may be taken has been reduced under subdivision 1, the chief executive is directed to increase the total volume of water that can be taken under a water allocation belonging to water allocation group CB if the streamflow as measured in Leslie Creek at Barron Junction (110022A) gauging station is within the range shown in table 14J, column 1, to the percentage of the daily volumetric limit shown opposite the streamflow range in column 2.

144I Water allocations belonging to water allocation group CB—Mazlin Creek zones

For water allocations in water allocation group CB that are located in the Mazlin Creek zone, and, if the total volume of water that may be taken has been reduced under subdivision 1, the chief executive is directed to increase the total volume of water that can be taken under a water allocation belonging to water allocation group CB if the streamflow as measured in Mazlin Creek at Railway Bridge (110018A) gauging station is within the range shown in table 14K, column 1, to the percentage of the daily volumetric limit shown opposite the streamflow range in column 2.

Note that limitations in Peterson Creek catchment are triggered by flows gauged in the Barron River despite the catchments not being physically connected. This is due to flow recordings obtained from a gauging station that was located on Peterson Creek from 1993 to 2000, showing a very strong correlation to flows in the Barron River.

Subdivision 3 Notification

144J Notification

This section states that the chief executive must notify allocation holders within 48 hours of limitations being introduced or withdrawn, the notifications must be publicly available and must contain the date and time on which the limitation to the amount of water that may be taken under a water allocation are increased or reduced.

Part 2 Water licence dealings

145 Scope of part 2

Certain water licence dealings are permitted within the plan area. Part 2 sets out how to deal with the following applications:

- take water from or interfere with water in a watercourse, lake or spring;
- granting of certain water licences in a watercourse, lake or spring;

- dealing with an application to transfer a water licence to other land or to seasonally assign water under a water licence to other land.

Division 1 Dealing with certain water licence applications

146 Scope of division 1

This division applies to certain water licence applications for taking water or interfering with water that this plan applies to. This includes applications which seek to:

- increase the nominal entitlement for taking water
- increase the interference with water
- change the location from which water may be taken;
- increase the maximum rate for taking water
- change the conditions under which water may be taken.

The provisions of this chapter apply to applications, including those previously submitted, where no decision has been made.

This chapter does not apply to:

- an application made under the following provisions of the *Water Act 2000*:
 - Section 221—reinstating an expired water licence
 - Section 224—amalgamating water licences
 - Section 225—subdividing a water licence
 - Section 229—effect of disposal of part of land to which a water licence to take water attaches.
- an application made in accordance with Chapter 2 of the plan.

146A Applications to be refused

This section states that the chief executive must refuse all applications to which this division applies unless this division explicitly provides for granting the application.

146B Applications for water licences for stock and domestic purpose

This section details the requirements for applications which seek to take water from a watercourse, lake or spring, where the application is for taking water for stock or domestic purposes, and the location from which water will be taken is not within any of the resource operations plan zones listed.

The chief executive may grant the application if the application does not have any other water entitlement for the land to which the application applies, there is no suitable water source to the land to which the application relates, unallocated water is not available, and the plan of survey for the land was registered prior to the plan's commencement.

If the application is approved by the chief executive, it can only be granted as a water licence for stock and domestic purposes. The application can be granted in full or in part, with or without conditions. Note that the water rights of riparian land owners to take stock and domestic water are not affected by this plan.

146C Applications for water licences to interfere with the flow of water

This section outlines the requirements for the chief executive to accept and decide an application to interfere with the flow of water. The chief executive can accept applications if the purpose is to:

- store water for a purpose not related to taking water under an entitlement
- store water for a stock and domestic purpose
- conserve water that is not to be taken (for example, flood mitigation purposes)

- to provide a pumping pool to enable water to be taken under an existing authorisation.

The chief executive may approve the application if it is satisfied the application is for one of the above purposes and the proposed storage is not bigger than what is required to achieve the above purpose while having regard to:

- instream water levels
- the natural movement of sediment
- the bed and banks of the watercourse or lake
- habitats for native plants and animals
- the movement of fish and other aquatic species
- the cultural and ecological values of watercourses, waterholes, lakes or spring
- the impact the proposed interference may have on existing water supplies on the property to which the application relates.

Although an application may be acceptable under the above criteria, s146C (4) provides maximum sizes of storages that can be constructed in each area of the plan.

146D Applications to amend a water licence to increase the daily volumetric limit

Section 146D states that applications seeking to amend an existing water licence to increase the daily volumetric limit will only be dealt with where there is an existing development permit associated with the water licence.

This section allows the chief executive to deal with an application for increasing the daily volumetric limit if the change would make it consistent with the capabilities specified in schedule 8 of the Water Resource (Barron) Plan 2002 for the pump stated on the existing development permit. For example, a licence may state a daily volumetric limit, but an existing development permit specifies a pump size for which schedule 8 of the Water Resource (Barron) Plan 2002 allows a higher daily volumetric limit. The chief executive may approve this application provided the application is made within one year of the release of this plan.

146E Applications to amend a water licence to increase the maximum rate at which water may be taken

Section 146E states that applications seeking to amend an existing licence to increase the maximum rate of take of water will only be dealt with where there is an existing development permit associated with the water licence.

This allows the chief executive to deal with an application for increasing the maximum rate of take if the change would make it consistent with the capabilities specified in schedule 8 of the Water Resource (Barron) Plan 2002 for the pump stated on the existing development permit. For example, a water licence may state a rate of take, but an existing development permit specifies a pump size for which schedule 8 of the Water Resource (Barron) Plan 2002 specifies a higher rate for taking water than the pump on the existing development permit.

The chief executive may determine a new rate of take if the existing development permit specifies works which are capable of taking water at a greater rate than is shown on the water licence, but not exceeding the rate specified in schedule 8 of the Water Resource (Barron) Plan 2002.

Applications to increase the maximum rate of take must be refused if the rate applied for would exceed the capabilities of any previously authorised pump or works.

Applications must be made within one year of the release of this plan.

Division 2 Transferring water licences to other land

147 Scope of division 2

This plan enables the movement of water licences in certain catchments from one parcel of land to another. This division applies to transferring water licences to other land under section 223 of the *Water Act 2000* and in accordance with section 15A of the *Water Regulation 2002*. Water licences can only be transferred in the following areas:

- Cherry Creek and tributaries in subcatchment area H
- Spring Creek and tributaries in subcatchment area H
- Rocky Creek and tributaries in subcatchment area H
- Barney Springs in subcatchment area H
- Emerald Creek in subcatchment area A.

147A Zones for transferring water licences to other land

This section outlines the zones where a water licence can be transferred to other land. The zones are detailed in Attachments 1B and 1C.

147B Rules for transferring water licences to other land

This section outlines the rules that the chief executive must follow in determining whether a licence can be transferred to other land.

Division 3 Seasonal water assignment

A seasonal water assignment means the assignment by the water licence holder of the water licence for a water year, of all or part of the water that may be taken under the water licence. As a seasonal water assignment applies to the current water year only, an application for a seasonal water assignment can not be made prior to the commencement of the water year.

148 Scope of division 3

This division applies to dealing with applications relating to seasonal assignment of water licences under chapter 2, part 6, division 3 of the *Water Act 2000*.

148A Water that may be seasonally assigned

This section states that any water in the listed subcatchments may be seasonally assigned for any purpose, except water for stock and domestic purposes, stock and domestic licences cannot be seasonally assigned to other land.

148B Rules for seasonal water assignment

This section outlines the rules that the chief executive must consider in determining whether to approve a seasonal water assignment. The chief executive may grant an application for the seasonal assignment of water under a water licence only where:

- the water is to be taken from the same zone as water taken under the water licence
- the water to be seasonally assigned from the annual volumetric limit and/or the seasonal volumetric limit does not exceed the quantity that is still authorised to be taken under the annual volumetric limit and/or the seasonal volumetric limits of the water licence. The chief executive cannot seasonally assign water that has already been used.

Note that even though an application may be acceptable under these rules the chief executive can also consider other issues that is consider to be applicable, particularly issues that relate to effects on other entitlements and environmental flows.

Chapter 7a Subartesian water

149 Scope of chapter 7A

This chapter deals with subartesian water in the Atherton Subartesian Area and the Cairns Northern Beaches Subartesian Area.

Part 1 Water licence dealings

150 Scope of part 1

This part provides guidance for managing and dealing with subartesian water licences in the described Subartesian Areas.

Division 1 Water licence applications for the Cairns Northern Beaches Subartesian Area

151 Scope of division 1

This division deals with all applications for water licence dealings that relate to taking water from the Cairns Northern Beaches Subartesian Area.

151A Dealing with water licence applications

For water licence applications in the Cairns Northern Beaches Subartesian Area the plan directs readers to part 6, division 3 of the Water Resource (Barron) Plan 2002 and chapter 2, part 6 of the *Water Act 2000*. The water resource plan outlines the matters the chief executive must consider in deciding an application. It also outlines what dealings are not covered by this section.

Division 2 Dealing with water licence applications for the Atherton Subartesian Area

152 Scope of division 2

The Atherton Subartesian Area consists of 2 areas (Management area A and Management area B); both of these Subartesian Areas are considered to be fully allocated. This division deals with applications for water licences that would be made under section 206 of the *Water Act 2000* that would have the effect of increasing the total nominal entitlement for taking subartesian water in the Atherton Subartesian Area.

This division is also relevant for undecided applications made prior to this plan being released.

This division does not apply to the following sections of the *Water Act 2000*:

- Section 221—reinstating an expired licence
- Section 224—amalgamating water licences
- Section 225—subdividing a water licence
- Section 229—effect of disposal of part of the land to which a water licence to take water attaches.

152A Subartesian management area A

Area A has been determined to have a sustainable extraction rate of 14,500ML per annum. If an application seeks to increase the quantity of water currently entitled to be extracted in area A, that application must be refused. If the application does not seek to increase the quantity of water entitled to be extracted from area A then that application can be considered for approval after the assessing officer has had regard to:

- availability of alternative water supplies
- the efficiency of existing and proposed water use practices
- whether the proposed taking is likely to have an effect on flows in watercourses
- the cumulative impact of taking subartesian water on surface water flows and subartesian water flows.

152B Subartesian management area B

This section states that if an application can be specifically dealt with in part 6, division 2 of the Water Resource (Barron) Plan 2002 then it can be considered, if the application is not covered in that section then it must be refused.

Division 3 Transferring water licences to other land in the Atherton Subartesian Area

153 Scope of division 3

This plan enables the transfer of groundwater licences from one parcel of land to another within the Atherton Subartesian Area. This division deals with applications to transfer water licences that would be made under section 223 of the *Water Act 2000* and in accordance with section 15A of the Water Regulation 2002.

153A Zones for transferring water licences to other land

This section outlines the zones where a groundwater licence can be transferred to other land. The zones are detailed in Attachment 1D, Map 1 for Management area A and Map 2 for Management area B.

153B Rules for transferring water licences to other land

This section outlines the rules that the chief executive must consider before determining whether a groundwater licence may be transferred to other land. They include:

- does the licence state the elements of a water licence to take subartesian water as detailed under section 49 of the Water Resource (Barron) Plan 2002
- is the proposed water licence in the same relocation zone as the existing water licence
- the volume being transferred must be a whole number unless the nominal entitlement of the existing licence is not a whole number
- the volume being transferred must be less than or equal to the nominal entitlement of the existing water licence
- the conditions for the existing water licence must be able to be applied to the proposed water licence.

Division 4 Seasonal water assignment in the Atherton Subartesian Area

A seasonal water assignment means the assignment by the water licence holder of the water licence for a water year, of all or part of the water that may be taken under the water licence. As a seasonal water assignment applies to the current water year only, an application for a seasonal water assignment can not be made prior to the commencement of the water year

154 Scope of division 4

This division applies to dealing with applications relating to seasonal assignment of groundwater licences in the Atherton Subartesian Area under chapter 2, part 6, division 3 of the *Water Act 2000*.

154A Water that may be seasonally assigned

This section states that water can be seasonally assigned if it is authorised to be extracted in the zones identified in Attachment 1D Map 1 and 2.

154B .Rules for seasonal water assignment

This section outlines the rules that the chief executive must consider before determining whether a groundwater licence may be seasonally assigned to other land. They are:

- the water is to be taken from the same relocation zone as water taken from the water licence
- the volume of water to be assigned must not exceed the unused portion of the licence that is, the applicant cannot seasonally assign water that they have already used.

Despite the above rules, this section also allows the applicant to seasonally assign from one zone to another if the parcels of land for the existing water licence and the proposed seasonal assignments are contiguous parcels of land. This section however is not intended to enable that water to then be seasonally assigned throughout the neighbouring zone it must remain on the contiguous land parcel until the end of the water year.

Part 2 Water sharing rules

155 Scope of part 2

In periods of low aquifer levels it may be necessary to limit the take of water. This part applies to entitlements for the taking of groundwater from the Atherton Subartesian Area. The approach to limiting the take of water in management areas A and B will be quite different. Management area A limitations will be determined by aquifer levels at the start of the water year, while Management area B limitations will be determined by streamflow at departmental stream gauging stations.

Division 1 Subartesian management area A

155A Scope of division 1

This section sets out the water sharing rules for the Atherton Subartesian management area A.

155B Limiting water taken under a licence

Water sharing limitations are to be decided and announced at the start of the water year. Whether or not limitations are to be introduced is determined by the aquifer levels in the five departmental monitoring bores listed in table 14L. The level of the aquifer in a minimum of three of the bores must have been at or above the corresponding trigger levels for at least 30 days for the percentage of nominal entitlement to apply. Depending on the level of the aquifer in the bore and the period that the aquifer has been at the level will determine whether extractions can occur at 100 per cent, 75 per cent 25 per cent or 0 per cent of the nominal entitlement.

The chief executive must have assessed and decided the percentages of water that may be taken under an entitlement by the start of the water year and a review must be undertaken at the start of each month to determine whether the percentage can be increased. If the aquifer level review indicates that the percentages of water that can be taken can increase then another announcement will be made.

The chief executive cannot decrease the maximum volume of water that can be taken after the initial announcement, it can only be increased. This rule does not apply if restrictions are imposed for emergencies and water shortages under chapter 2, part 2 and division 2 of the *Water Act 2000*.

Subdivision 3 Notification

155C Notification

This section states that the decisions made under section 155B must be made publicly available within 48 hours of the decision being made and must contain the date and time that the decision takes effect.

Division 2 Subartesian management area B

156 Scope of division 2

This division sets out the water sharing rules for the Atherton Subartesian management area B. Note that these rules only apply to the management area B zones of B1, B2, B3, B4, B9 and B10, there are no rules directing the introduction of limitations in the remaining area B zones.

Subdivision 1 Reducing the volume of water that may be taken under a water licence or seasonal assignment

156A Water licences and seasonal water assignment notices in zones B1, B2, B3, B4 and B9

Water sharing limitations are to be introduced when flows at the Picnic Crossing gauging station (gauging station number 110003A) described in tables 14M drop below the trigger levels designated.

Limitations will restrict the percentage of the entitlement that can be taken per month. The flows at the gauging station must be in the range shown in table 14M, column 1, for seven consecutive days for the chief executive to reduce the amount of water an entitlement or seasonal assignment holder can take in a month to the percentage shown opposite the streamflow range in column two. The volume of the flows will determine whether users must reduce their extraction to either 15 per cent, 10 per cent or 5 per cent of their entitlement per month.

156B Water licences and seasonal water assignment notices in zones B10

Water sharing limitations are to be introduced when flows at the Barron Junction gauging station (gauging station number 110022A) described in table 14N drop trigger the levels designated.

Limitations will restrict the percentage of the entitlement that can be taken per month. The flows at the gauging station must be in the range shown in table 14N, column 1, for seven consecutive days for the chief executive to reduce the amount of water an entitlement holder can take in a month to the percentage shown opposite the streamflow range in column 2. The volume of the flows will determine whether users must reduce their extraction to either 15 per cent, 10 per cent or 5 per cent of their entitlement per month.

Subdivision 2 Increasing the volume of water that may be taken under a water licence or seasonal assignment

156C Application of subdivision 2

This subdivision applies to situations where the chief executive has reduced the total volume of water that may be taken in a month under subdivision 1. Subdivision provides the rules for increasing the amount of water that may be taken in a month.

156D Water licences and seasonal water assignment notices in zones B1, B2, B3, B4 and B9

When streamflows at at the Picnic Crossing gauging station (gauging station number 110003A) are within the range stated in table 14, column 1 and limits have already been applied to the taking of subartesian water the chief executive is required to increase the total volume of water that an entitlement or seasonal assignment holder may take in a month. The chief executive must increase the percentage of the nominal entitlement that can be taken in a month to the percentage shown opposite the streamflow range in column 2.

156E Water licences and seasonal water assignment notices in zones B10

When streamflows at at Barron Junction gauging station (gauging station number 110022A) are within the range stated in table 14, column 1 and limits have already been applied to the taking of subartesian water, the chief executive is required to increase the total volume of water that an entitlement or seasonal assignment holder may take in a month. The chief executive must increase the percentage of the nominal entitlement that can be taken in a month to the percentage shown opposite the streamflow range in column 2.

Subdivision 3 Notification

156F Notification

This section states that the decisions made under subdivision 1 or subdivision 2 must be made publicly available within 48 hours of the decision being made and must contain the date and time that the decision takes effect.

157 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 this information is relevant; and
- assessment of this information.

160 Scope of chapter 8

This chapter sets out the monitoring that the chief executive is required to undertake under this plan. The monitoring must be consistent with the reporting standard specified in section 10.

161 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.

162 Natural ecosystems monitoring and assessment

This section requires the chief executive to collect and keep information on ecological assets and their critical water requirements. This information must be made publicly available.

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 (for example, 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 chief executive 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 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.

163 Assessment

An assessment of the overall performance of the Water Resource (Barron) Plan 2002 will be based on analysis of the data collected under Section 162 and Section 163. 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 Act 2000*. The findings and progress of the assessment will be presented, along with all of the other monitoring results, in the Minister's annual report.

164 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 the stated rules within the plan have been successfully implemented. Implementation of the rules 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 chapter applies to the resource operations licence holder for the Mareeba Dimbulah Water Supply Scheme. It sets out the monitoring and reporting that is required and the data collection standards that it must be consistent with.

174A Monitoring data must be made available

This section states that the resource operation licence holder must provide the chief executive with any monitoring data required under this chapter and that that data must be consistent with the Water Monitoring Data Reporting Standards specified in section 10.

Part 1 Water quantity

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

175 Stream flow (storage inflow and tailwater flow) and storage water level

This section states that the resource operations licence holder must measure and record details relating to water level and continuous daily stream flow data at the locations detailed in table 15.

176 Maximum supplementation rates in watercourses

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

177 Releases from Tinaroo Falls Dam

This section 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 section 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 following volumes of water for each water user by zone:

- total volume of water taken each quarter

- total volume of water entitled to be taken at any time
- total volume of water carried over from the previous water year.

The method used for determining the total volume of water entitled to be taken at any time 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

The resource operations licence holder is required to record the details of licence holders, including the volumes of water, who seasonally assign their entitlement along with the details of the receiver of the assignment. This information must also include the effective dates of the seasonal assignments.

182 Carry over water between water years

When water allocation holders are permitted to carry over unused water to the following year, the resource operations licence holder is required to record the details of the volumes of water that is carried over by each water allocation holder and the total volume of water carried over.

Part 2 Impact of storage operations on aquatic ecosystems

Part 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

To determine the impact that the storage has on water quality the resource operations licence holder must monitor the water quality of Tinaroo Falls Dam and the Barron River directly below where water is discharged from the irrigation channel into the river. 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 inspect and assess 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.

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 and record instances of any fish strandings and take all practical measures to minimise their occurrence.

Part 3 Data transfer

187 Quarterly data transfer

The resource operations licence holder must forward all the monitoring data required under Chapter 9 to the chief executive when requested within the timeframe requested.

Part 4 Reporting

188 Reporting requirements

Part 4 outlines the reporting requirements of the resource operations licence holder.

Division 1 Quarterly reporting

189 Quarterly reporting by the resource operations licence holder

Every quarter the resource operations holder must prepare and submit to the chief executive a quarterly report that contains a summary of the following data:

- stream flow and storage water level
- quantity of water that has been released from storages
- the total volume of water in each zone that was entitled to be taken and what was actually taken
- water quality
- bank condition.

Division 2 Annual reporting

190 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 must include information on the following:

- water quantity monitoring results
- details of the impact of storage operations on aquatic ecosystems
- details of any issues that arose as a result of the implementation and application of the rules and requirements of this plan.

191 Water quantity monitoring

This section outlines the details that the resource operation holder must contain in their report regarding water quantities. The annual report must also include details of any changes to storages, delivery infrastructure and monitoring devices and the impact that the changes may have on compliance with the rules and requirements of this plan. The resource operations holder should also utilise the annual report to discuss any issues that have arisen as a result of implementing the rules and requirements in this plan.

192 Impact of storage on aquatic ecosystems

This section outlines the details that the resource operation holder must contain in their annual report regarding the impacts of storages on aquatic ecosystems. The report must contain the results and a discussion and assessment of all the monitoring required under this plan. A general summary of the environmental considerations and outcomes of decisions made by the resource operations licence holder, this summary must include adverse environmental impacts.

Division 3 Operational reporting

Operational reports are required to ensure the chief executive is made 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.

193 Operational reporting by the resource operations licence holder

This section outlines the requirements of the resource operations licence holder to notify the chief executive of any operational incidents that relate to:

- non-compliance with the rules and requirements of this plan, particularly if they will affect the outcomes of the plan
- fish stranding and bank slumping within the supplemented watercourses of the plan area.

It also requires the resource operations licence holder to notify the chief executive of the initial announced allocations and any subsequent revisions, and any arrangements for addressing circumstances where they are unable to supply water allocations.

Within five business days of notifying the chief executive of any incidents or activities detailed above, the resource operations licence holder must provide the chief executive with a report as detailed in this section.

Division 4 Emergency reporting

Emergency reports are required to make the chief executive 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.

194 Emergency reporting by the resource operations holder

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.

195 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 stated rules within the 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 chapter sets out the monitoring requirements that apply to the water licence holder for Kuranda Weir. The monitoring must be done as per the water monitoring data collection standard outlined in section 9 of this plan.

203A Monitoring data must be made available

The monitoring data collected under this chapter must be reported as per section 10 of this plan and when requested made available to the chief executive within the time requested.

Part 1 Water quantity

204 Stream flow (storage inflow and tailwater flow) and storage water level

This section states that the water licence holder for Kuranda Weir must measure and record the daily quantity of water that is released from the Kuranda weir to the Barron River falls.

205. Water taken from Kuranda Weir

This section 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.

Part 2 Impact of storage operation on aquatic ecosystems

Part 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 Barron River Falls

This section requires the water licence holder at the Barron River Falls to monitor and assess the stretch of river between where the hydroelectric power station extracts its water and where it releases it. This is to determine if the extraction of the water, and subsequent reduced flows downstream, is impacting on aquatic ecosystems.

Part 3 Reporting

207 Reporting requirements

Part 3 outlines the reporting requirements of the water licence holder for Kuranda weir.

Division 1 Quarterly reporting

208 Quarterly reporting by the water licence holder

Every quarter the water licence holder must prepare and submit to the chief executive a quarterly report that contains a summary of the following data:

- flow of water released from the Kuranda weir to the Barron River falls under the requirements of this plan
- quantity and rate of water that is taken from the Kuranda weir for hydro-electric power generation.

Division 2 Annual reporting

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.

209 Annual reporting by the water licence holder

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 must include information on the following:

- water quantity monitoring results
- details of any changes to storages, delivery infrastructure and monitoring devices and the impact that the changes may have on compliance with the rules and requirements of this plan.

The resource operations holder should also utilise the annual report to discuss any issues that have arisen as a result of implementing the rules and requirements in this plan.

210 Impact of storage operation (hydro-electric power station operation) on aquatic ecosystems

This section outlines the details that the water licence holder must contain in their annual report regarding the impacts of the Kuranda weir and its operational and release decisions on the aquatic ecosystem. The report must contain a general summary of the environmental considerations and outcomes of decisions made by the water licence holder, this summary must include adverse environmental impacts. The report must also contain discussions on the adequacy of the flows released from the weir under this plan and any recommendations for alternative flow release arrangements or proposed changes to the monitoring program.

Division 3 Operational reporting

Operational reports are required to ensure the chief executive is made 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.

211 Operational reporting by the water licence holder

This section outlines the requirements of the water licence holder to notify the chief executive within one business day of becoming aware of any operational incidents that relate to non-compliance with the rules and requirements of this plan.

Within five business days of notifying the chief executive of any incidents or activities detailed above, the water licence holder must provide the chief executive with a report as detailed in this section.

Division 4 Emergency reporting

Emergency reports are required to make the chief executive 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.

212 Emergency reporting by the water licence holder

The water licence holder must notify the chief executive, of the incidence of any emergency and must provide a full report of the emergency. 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 report should contain the details of the emergency, conditions under which the emergency occurred, responses or activities carried out as a result of the emergency and any rules in this plan that are, or were, unable to be complied with as a result of the emergency.

213 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 stated rules within the plan have been successfully implemented. Implementation of the rules 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 preventing the outcomes of the Water Resource (Barron) Plan 2002 from being achieved.

225 Scope of Chapter 11

This chapter sets out the monitoring requirements that apply to the water licence holder for Copperlode Dam. The monitoring must be done as per the water monitoring data collection standard outlined in section 9 of this plan.

225A Monitoring data must be made available

The monitoring data collected under this chapter must be reported as per section 10 of this plan and when requested made available to the chief executive within the time requested.

Part 1 Water quantity

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

226 Stream flow (storage inflow and tailwater flow) and storage water level

This section states that the water licence holder for Copperlode Dam must measure and record the water level and average daily stream flow at the locations detailed in table 17.

226A Water taken from Freshwater Creek

This section states that the water taken from Freshwater Creek by the Cairns Regional Council under a water licence must be measured and recorded daily.

227 Releases from Copperlode Dam

This section 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.

Part 2 Impact of storage operation on aquatic ecosystems

Part 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 Department of Environment and Resource Management.

228 Water quality

The water licence holder must monitor water quality in Copperlode Dam, monitoring must include the parameters detailed in table 18. 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.

Part 3 Data transfer

230 Quarterly data transfer

Every quarter the water licence holder must transfer to the chief executive a quarterly report that contains the following data:

- flow of water records collected for section 226 and 226A
- water quality records collected for section 228.

Part 4 Reporting

231. Reporting requirements

Part 4 outlines the reporting requirements of the water licence holder for Copperlode Dam.

Division 1 Quarterly reporting

232 Quarterly reporting by the water licence holder

Every quarter the water licence holder must prepare and submit to the chief executive a quarterly report that contains a summary of the following data for Copperlode Dam:

- flow of water records collected for section 226 and 226A
- releases from the dam under the requirements of section 227
- water quality records collected for section 228.

Division 2 Annual reporting

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.

233 Annual reporting by the water licence holder

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 must include information on the following:

- water quantity monitoring results
- impact of storage operations on water quality
- details of any changes to storages, delivery infrastructure and monitoring devices and the impact that the changes may have on compliance with the rules and requirements of this plan.

The water licence holder should also utilise the annual report to discuss any issues that have arisen as a result of implementing the rules and requirements in this plan.

234 Impact of storage operation on aquatic ecosystems

This section outlines the details that the water licence holder must contain in their annual report regarding the impacts of Copperlode Dam and its operational and release decisions on the aquatic ecosystem. The report must contain a general summary of the environmental considerations and outcomes of decisions made by the water licence holder, this summary must include adverse environmental impacts. The report must also contain discussions on issues including stratification in the storage, the impact of the storage and its operation on the quality of water, blue-green algae population changes and any proposed changes to the monitoring program that the water licence holder may have.

Division 3 Operational reporting

Operational reports are required to ensure the chief executive is made 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.

235 Operational reporting by the water licence holder

This section outlines the requirements of the water licence holder to notify the chief executive within one business day of becoming aware of any operational incidents that relate to non-compliance with the rules and requirements of this plan.

Within five business days of notifying the chief executive of any incidents or activities detailed above, the water licence holder must provide the chief executive with a report as detailed in this section.

Division 4 Emergency reporting

Emergency reports are required to make the chief executive 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.

236 Emergency reporting

The water licence holder must notify the chief executive, of the incidence of any emergency and must provide a full report of the emergency. 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 report should contain the details of the emergency, conditions under which the emergency occurred, responses or activities carried out as a result of the emergency and any rules in this plan that are, or were, unable to be complied with as a result of the emergency.

237 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 Barron 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 new subsection states that an amendment may be made to Part 1 and Part 2 of Chapter 4 of this plan, where the amendment is necessary to change the operating and environmental rules, water sharing rules and seasonal assignment rules to implement or amend critical water supply arrangements under sections 84 and 85.

251A Amendment to Chapter 7

Amendments can be made to this chapter if the amendment is required to enable alternative water sharing rules for unsupplemented surface water.

251B Amendment to Chapter 7A

Amendments can be made to this chapter if the amendment is required to enable alternative water sharing rules for subartesian water.