

Queensland



Subordinate Legislation 2002 No. 378

*Water Act 2000*

**WATER RESOURCE (BARRON) PLAN 2002**

**TABLE OF PROVISIONS**

Section		Page
<b>PART 1—PRELIMINARY</b>		
1	Short title . . . . .	5
2	Purposes of plan . . . . .	5
3	Definitions . . . . .	5
<b>PART 2—AREAS AND WATER TO WHICH PLAN APPLIES</b>		
4	Plan area . . . . .	5
5	Subartesian areas . . . . .	6
6	Subartesian management areas . . . . .	6
7	Subcatchment areas . . . . .	6
8	Information about areas . . . . .	6
9	Nodes . . . . .	6
10	Water to which plan applies . . . . .	7
<b>PART 3—OUTCOMES FOR SUSTAINABLE MANAGEMENT OF WATER</b>		
<i>Division 1—Outcomes for plan area</i>		
11	General outcomes . . . . .	7
12	General ecological outcomes . . . . .	8
<i>Division 2—Ecological outcomes for particular parts of the plan area</i>		
13	Application of div 2 . . . . .	9
14	Barron River catchment . . . . .	9
15	Flaggy Creek . . . . .	9

## **PART 4—PERFORMANCE INDICATORS AND OBJECTIVES**

### *Division 1—Preliminary*

16	Application of pt 4 . . . . .	9
----	-------------------------------	---

### *Division 2—Environmental flow objectives*

17	Performance indicators for environmental flow objectives . . . . .	10
18	Environmental flow objectives . . . . .	10

### *Division 3—Water allocation security objectives*

19	Performance indicators for water allocation security objectives . . . . .	10
20	Water allocation security objectives . . . . .	11

## **PART 5—STRATEGIES FOR ACHIEVING OUTCOMES (SURFACE WATER)**

### *Division 1—Preliminary*

21	Application of pt 5 . . . . .	11
22	Decisions consistent with objectives . . . . .	11
23	Assessing impact of decisions . . . . .	12
24	Taking or interfering with water from waterholes or lakes . . . . .	12

### *Division 2—Dealing with unallocated water under a resource operations plan*

25	Matters chief executive must consider . . . . .	13
----	---	----

### *Division 3—Resource operations licences*

26	Water allocations to be managed under a resource operations licence . . . . .	14
27	Matters chief executive must consider . . . . .	14

### *Division 4—Granting water entitlements*

28	Water for hydro-electric power generation . . . . .	15
29	Water entitlements to replace local government authorities . . . . .	15

### *Division 5—Converting authorisations to water allocations*

#### *Subdivision 1—General provisions*

30	Definition for div 5 . . . . .	16
31	Application of div 5 . . . . .	16
32	Location for taking water . . . . .	16
33	Purpose to be stated on water allocation . . . . .	16

#### *Subdivision 2—Supplemented water*

34	Volume of supplemented water . . . . .	17
----	--	----

35	Nominal volume for supplemented water . . . . .	17
36	Priority groups for supplemented water allocations . . . . .	17
	<b><i>Subdivision 3—Unsupplemented water</i></b>	
37	Volume of unsupplemented water . . . . .	18
38	Nominal volume for unsupplemented water . . . . .	18
39	Annual volumetric limit for unsupplemented water . . . . .	18
40	Monthly volumetric limits . . . . .	19
41	Maximum rates for taking unsupplemented water . . . . .	19
42	Conditions for unsupplemented water allocations . . . . .	21
43	Water allocation groups for unsupplemented water allocations . . . . .	21
	<b><i>Division 6—Licences for taking unsupplemented water</i></b>	
44	Volume of unsupplemented water . . . . .	21
45	Annual volumetric limit for unsupplemented water . . . . .	21
46	Maximum rates for taking unsupplemented water . . . . .	22
	<b><i>Division 7—Moratorium notice</i></b>	
47	Continued effect of moratorium notice—Act, s 46(3) . . . . .	23
	<b>PART 6—STRATEGIES FOR ACHIEVING OUTCOMES (SUBARTESIAN WATER)</b>	
	<b><i>Division 1—Preliminary</i></b>	
48	Application of pt 6 . . . . .	24
49	Volume of subartesian water . . . . .	24
	<b><i>Division 2—General strategies</i></b>	
50	Limitation on taking or interfering with water—Act, s 20(6) . . . . .	24
51	Decisions about taking subartesian water . . . . .	25
52	Bore pumping test . . . . .	25
53	Restriction on annual volumetric limit . . . . .	25
54	Relationship with Integrated Planning Act 1997 . . . . .	26
	<b><i>Division 3—Strategies for Atherton Subartesian Area only</i></b>	
55	Annual volumetric limit for existing licences . . . . .	26
56	Licences to increase taking etc. in Management Area A . . . . .	27
57	Licensing existing water taking in Management Area B . . . . .	28
	<b>PART 7—MONITORING AND REPORTING REQUIREMENTS</b>	
58	Monitoring . . . . .	29

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59	Monitoring programs undertaken by holders of a resource operations licence .....	30
60	Resource operations licence holders to give reports .....	30
<b>PART 8—IMPLEMENTING THE PLAN</b>		
61	Priorities for converting to, or granting, water allocations .....	32
62	Implementation schedule. ....	32
<b>PART 9—MINISTER’S REPORT AND AMENDING PLAN</b>		
63	Minister’s report on plan—Act, s 53. ....	33
64	Minor amendment of plan—Act, s 57. ....	33
65	Amending or replacing plan .....	34
	<b>SCHEDULE 1</b> .....	35
	<b>PLAN AREA</b>	
	<b>SCHEDULE 2</b> .....	36
	<b>SUBARTESIAN AREAS</b>	
	<b>SCHEDULE 3</b> .....	37
	<b>SUBCATCHMENT AREAS</b>	
	<b>SCHEDULE 4</b> .....	38
	<b>NODES</b>	
	<b>SCHEDULE 5</b> .....	39
	<b>ENVIRONMENTAL FLOW OBJECTIVES</b>	
	<b>SCHEDULE 6</b> .....	46
	<b>WATER ALLOCATION SECURITY OBJECTIVES</b>	
	<b>SCHEDULE 7</b> .....	48
	<b>TOTAL VOLUMES FOR WATER ALLOCATION GROUPS</b>	
	<b>SCHEDULE 8</b> .....	49
	<b>RATES AND PUMP SIZES</b>	
	<b>SCHEDULE 9</b> .....	50
	<b>PRIORITY AREAS</b>	
	<b>SCHEDULE 10</b> .....	52
	<b>DICTIONARY</b>	

## **PART 1—PRELIMINARY**

### **1 Short title**

This water resource plan may be cited as the *Water Resource (Barron) Plan 2002*.

### **2 Purposes of plan**

The purposes of this plan are—

- (a) for both surface and subartesian water, the following—
  - (i) to define the availability of water in the plan area;
  - (ii) to provide a framework for sustainably managing water and the taking of water;
  - (iii) to identify priorities and mechanisms for dealing with future water requirements;
  - (iv) to provide a framework for reversing, where practicable, degradation that has occurred in natural ecosystems; and
- (b) for surface water only—to provide a framework for establishing water allocations.

### **3 Definitions**

The dictionary in schedule 10 defines particular words used in this plan.

## **PART 2—AREAS AND WATER TO WHICH PLAN APPLIES**

### **4 Plan area**

This plan applies to the area shown as the plan area on the map in schedule 1.

## **5 Subartesian areas**

Each part of the plan area shown as a subartesian area on the map in schedule 2 is a subartesian area for this plan.

## **6 Subartesian management areas**

The Atherton Subartesian Area consists of—

- (a) subartesian management area A, shown on the map in schedule 2; and
- (b) subartesian management area B, shown on the map in schedule 2.

## **7 Subcatchment areas**

Each part of the plan area that is within a subcatchment area shown on the map in schedule 3 is a subcatchment area for this plan.

## **8 Information about areas**

(1) The exact location of the plan area, subartesian area, subartesian management area and subcatchment area boundaries is held in digital electronic form by the department.

(2) The information held in digital electronic form can be reduced or enlarged to show the details of the boundaries.<sup>1</sup>

## **9 Nodes**

(1) A node mentioned in this plan is a place—

- (a) on a watercourse in the plan area; and
- (b) for which environmental flow objectives are set for performance indicators.

(2) The location of each node is shown on the map in schedule 1 and described in schedule 4.

(3) Each node is identified on the map by a number.

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<sup>1</sup> The boundary locations in digital electronic form may be inspected at the department's offices at 167 Walsh Street, Mareeba, 5B Sheridan Street, Cairns and 83 Mabel Street, Atherton.

## 10 Water to which plan applies

This plan applies to the following water in the plan area—

- (a) water in a watercourse, lake or spring (“**surface water**”);
- (b) water collected in a weir or dam constructed across a watercourse, lake or spring (also “**surface water**”);
- (c) subartesian water.

## PART 3—OUTCOMES FOR SUSTAINABLE MANAGEMENT OF WATER

### *Division 1—Outcomes for plan area*

## 11 General outcomes

(1) Surface water is to be allocated and managed in a way that seeks to achieve a balance in the following outcomes—

- (a) to ensure a reliable and secure supply of water from the plan area during the time this plan is in force;
- (b) to protect the probability of being able to obtain water under a water allocation;
- (c) to allow water to be used for hydro-electric power generation.

(2) Both surface water and subartesian water are to be allocated and managed in a way that seeks to achieve a balance in the following outcomes—

- (a) to allow water to be used for the following—
  - (i) agriculture;
  - (ii) aquaculture;
  - (iii) industrial needs;
  - (iv) small scale uses;
  - (v) stock and domestic purposes;
  - (vi) tourism and recreational uses;

- (vii) urban needs;
- (b) to provide for the continued use of all water entitlements and other authorisations to take or interfere with water;
- (c) to encourage the efficient use of water;
- (d) to maintain areas of significant tourism and recreational value, including the Barron Falls, Barron Gorge and Tinaroo Falls Dam;
- (e) to allow cultural use by Aboriginal or Torres Strait Islander communities;
- (f) to provide water to support natural ecosystems.

## **12 General ecological outcomes**

(1) Surface water is to be allocated and managed in a way that seeks to achieve a balance in the following outcomes while recognising the natural state of watercourses, lakes and springs has changed because of water infrastructure, flow supplementation and the taking of water—

- (a) to maintain habitats of native plants and animals in watercourses, lakes and springs;
- (b) to maintain riparian systems and their functions influencing the riverine ecosystems;
- (c) to maintain and favour native plants and animals associated with watercourses, lakes and springs and riparian zones;
- (d) to provide wet season flow to benefit native plants and animals in estuaries;
- (e) to maintain long term water quality suitable for riverine and estuarine ecosystems;
- (f) to maintain existing geomorphic features and processes;
- (g) to maintain the capability of one part of the river system to be connected to another through the flow of water—
  - (i) throughout the watercourse network; and
  - (ii) within the riparian zone, floodplain and watercourses, lakes and springs;
- (h) to maintain ecosystem food chains, their balance and the movement of carbon energy.



(2) Subartesian water is to be allocated and managed to maintain subartesian water contributions to the flow of water in watercourses, lakes and springs and to groundwater dependent ecosystems.

*Division 2—Ecological outcomes for particular parts of the plan area*

**13 Application of div 2**

Without limiting section 12, the ecological outcomes mentioned in this division apply to the parts of the plan area mentioned.

**14 Barron River catchment**

Water in the Barron River catchment is to be allocated and managed to provide a flow regime—

- (a) to maintain delivery of freshwater, sediment, nutrients and organic matter to the river's estuary; and
- (b) to maintain the brackish water habitat in the estuary.

**15 Flaggy Creek**

Water in Flaggy Creek is to be allocated and managed to protect areas and species of significant conservation value associated with the creek.

**PART 4—PERFORMANCE INDICATORS AND OBJECTIVES**

*Division 1—Preliminary*

**16 Application of pt 4**

This part applies only to surface water.

***Division 2—Environmental flow objectives*****17 Performance indicators for environmental flow objectives**

The performance indicators for the environmental flow objectives are—

- (a) for assessing periods of low flow—
  - (i) 50% daily flow; and
  - (ii) 90% daily flow; and
  - (iii) daily flow less than 1 ML; and
  - (iv) number of periods of no flow of at least 1 month but less than 3 months; and
  - (v) number of periods of no flow of at least 3 months; and
- (b) for assessing periods of medium to high flow—
  - (i) mean annual flow; and
  - (ii) 1.5 year daily flow volume; and
  - (iii) 5 year daily flow volume; and
  - (iv) 10 year daily flow volume; and
  - (v) 20 year daily flow volume; and
- (c) for assessing seasonal flow patterns—
  - (i) flow regime class; and
  - (ii) annual proportional flow deviation.

**18 Environmental flow objectives**

The environmental flow objectives for this plan are stated in schedule 5.

***Division 3—Water allocation security objectives*****19 Performance indicators for water allocation security objectives**

The performance indicators for the water allocation security objectives are—

- (a) for taking supplemented water—

- (i) annual supplemented water sharing index; and
- (ii) monthly supplemented water sharing index; and
- (b) for taking unsupplemented water—
  - (i) for water allocations in the class CA water allocation group—95% unsupplemented water sharing index; and
  - (ii) for water allocations in the class CB and CC water allocation groups—
    - (A) 50% unsupplemented water sharing index; and
    - (B) 70% unsupplemented water sharing index; and
    - (C) 80% unsupplemented water sharing index.

## **20 Water allocation security objectives**

The water allocation security objectives for this plan are stated in—

- (a) for water allocations to take supplemented water—schedule 6, part 1; and
- (b) for water allocations to take unsupplemented water—schedule 6, part 2.

## **PART 5—STRATEGIES FOR ACHIEVING OUTCOMES (SURFACE WATER)**

### *Division 1—Preliminary*

## **21 Application of pt 5**

This part applies only to surface water.

## **22 Decisions consistent with objectives**

Decisions about the allocation or management of water in the plan area, other than a decision in relation to a water permit, must be consistent with—

- (a) the environmental flow objectives stated in schedule 5; and
- (b) the water allocation security objectives stated in schedule 6.

### **23 Assessing impact of decisions**

(1) The IQQM computer program's simulation for the simulation period is used to assess consistency with the objectives.

(2) If it is not practicable to use the IQQM computer program, another assessment method approved by the chief executive may be used.

(3) The chief executive may approve an assessment method for subsection (2) only if the chief executive is satisfied the method will assess consistency with the objectives at least as accurately as the IQQM computer program.

### **24 Taking or interfering with water from waterholes or lakes**

(1) This section applies to the chief executive in making a decision about—

- (a) a licence for taking unsupplemented water; or
- (b) converting an authorisation for taking unsupplemented water into a water allocation; or
- (c) the management of water under a resource operations licence.

(2) If the licence, water allocation or resource operations licence allows taking or interfering with water from a waterhole or lake, the chief executive must—

- (a) consider the impact the taking may have on the cultural or ecological values of the waterhole or lake; and
- (b) impose a condition on the licence, water allocation or resource operation licence about maintaining the cultural or ecological values of the waterhole or lake.

*Example for paragraph (b)—*

A condition that the water may be taken only if the water level in the waterhole or lake is above the level that is 0.5 m below the level at which it naturally overflows.

(3) However, the chief executive need not impose a condition mentioned in subsection (2)(b) if the chief executive is satisfied—

- (a) the taking of water from the waterhole or lake will not adversely affect its cultural or ecological values; or
- (b) for a licence or water allocation that replaces an authorisation in force immediately before the commencement of this plan—the holder of the authorisation would suffer economic hardship if the condition were imposed.

***Division 2—Dealing with unallocated water under a resource operations plan***

**25 Matters chief executive must consider**

(1) In preparing and implementing a process for dealing with unallocated water under a resource operations plan, the chief executive must consider—

- (a) the efficiency of existing and proposed water use practices; and
- (b) the availability of an alternative water supply for the purpose for which the water is required; and
- (c) the impact the proposed taking of, or interfering with, the water may have on the following—
  - (i) water quality;
  - (ii) inundation of habitats;
  - (iii) the movement of fish and other aquatic species;
  - (iv) the natural movement of sediment;
  - (v) recreation and aesthetic values;
  - (vi) cultural values, including, for example, cultural values of local Aboriginal or Torres Strait Islander communities; and
- (d) whether the proposed taking or interfering is likely to have a direct adverse effect on groundwater flows.

(2) Subsection (1) does not limit the matters the chief executive may consider.

***Division 3—Resource operations licences*****26 Water allocations to be managed under a resource operations licence**

Water allocations converted from the following authorisations are to be managed under the resource operations licence for the Mareeba–Dimbulah Water Supply Scheme—

- (a) an interim water allocation for the Mareeba–Dimbulah Water Supply Scheme;
- (b) other authorisations for the taking of water supplied by the Mareeba–Dimbulah Water Supply Scheme.

**27 Matters chief executive must consider**

(1) In deciding the operating arrangements and supply requirements for water infrastructure and proposed infrastructure, the chief executive must consider—

- (a) the impact of the infrastructure’s operation on the following—
  - (i) water quality;
  - (ii) instream water levels;
  - (iii) erosion of the bed and banks of watercourses;
  - (iv) riparian vegetation;
  - (v) the extent to which artificial variations in instream water levels and flows may adversely affect natural ecosystems;
  - (vi) recreation and aesthetic values;
  - (vii) cultural values, including, for example, cultural values of local Aboriginal or Torres Strait Islander communities; and
- (b) the impact of the infrastructure or proposed infrastructure on the movement of fish and other aquatic species; and
- (c) the impact of the transfer of water between watercourses; and
- (d) the likelihood of fish deaths caused by the operation of the infrastructure.

(2) Subsection (1) does not limit the matters the chief executive may consider.

### ***Division 4—Granting water entitlements***

#### **28 Water for hydro-electric power generation**

(1) This section applies to the taking of water from the Barron River for generating electricity at the Barron Gorge hydro-electric power station.

(2) Within 30 business days after the resource operations plan commences, the chief executive must grant a water licence to the owner of the power station for the continued taking of water, for the purpose mentioned in subsection (1), from the Barron River at Kuranda.

(3) The maximum rate at which water may be taken under the licence is 25 500 litres a second.

(4) In granting the licence, the chief executive must—

- (a) have regard to arrangements for maintaining flow over the Barron Falls; and
- (b) impose conditions on the licence—
  - (i) requiring water taken under the licence, other than water lost during electricity generation, to be returned to the Barron River immediately downstream of the power station; and
  - (ii) giving effect to any environmental management rules or water sharing rules included in the resource operations plan.

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

(1) This section applies to the following authorities continued under section 1037 of the Act—

- (a) authorities for the Atherton Shire Council to take or interfere with water from the Barron River and Scrubby Creek;
- (b) authorities for the Cairns City Council to take or interfere with water from Freshwater Creek.

(2) Within 30 business days after the resource operations plan commences, the chief executive must replace the authorities with water entitlements for the continued taking or interfering with the water.

(3) The chief executive must impose conditions on the entitlements giving effect to any environmental management rules or water sharing rules included in the resource operations plan.

### *Division 5—Converting authorisations to water allocations*

#### *Subdivision 1—General provisions*

#### **30 Definition for div 5**

In this division—

“**authorisation**” means an authorisation or authority mentioned in section 31.

#### **31 Application of div 5**

This division applies only to—

- (a) authorisations converted, under the resource operations plan, to water allocations; and
- (b) water allocations converted, under the resource operations plan, from authorisations; and
- (c) local government authorities replaced with water entitlements under section 29.

#### **32 Location for taking water**

The location for taking water stated on a water allocation must include the place at which water could have been taken under the authorisation.

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

(1) If the purpose stated on an authorisation is one of the following, or a similar purpose, the purpose stated on the water allocation must be ‘rural’—

- (a) stock;
- (b) domestic;



- (c) irrigation;
- (d) stock intensive;
- (e) agriculture.

(2) If the purpose stated on an authorisation is 'distribution loss', the purpose stated on the water allocation must be 'distribution loss'.

### *Subdivision 2—Supplemented water*

#### **34 Volume of supplemented water**

A water allocation to take supplemented water must state a nominal volume.

#### **35 Nominal volume for supplemented water**

The nominal volume for a water allocation for an authorisation that states an annual volume of water is—

- (a) if the authorisation is for a distribution loss—the volume decided by the chief executive having regard to—
  - (i) the stated volume; and
  - (ii) the annual volumes of water estimated by the chief executive to have been taken under the authorisation during the period, of not more than 10 years, immediately before the commencement of this plan; and
  - (iii) the efficiency of the use of the water mentioned in subparagraph (ii); and
- (b) otherwise—the stated volume.

#### **36 Priority groups for supplemented water allocations**

In the Mareeba–Dimbulah Water Supply Scheme, a water allocation to take supplemented water belongs to—

- (a) for an authorisation identified by an interim resource operations licence as high priority—the high priority group; and
- (b) for other authorisations—the medium priority group.

### ***Subdivision 3—Unsupplemented water***

#### **37 Volume of unsupplemented water**

A water allocation to take unsupplemented water—

- (a) must state a nominal volume and an annual volumetric limit; and
- (b) may state monthly volumetric limits.

#### **38 Nominal volume for unsupplemented water**

In deciding the nominal volume for a water allocation in a water allocation group mentioned in schedule 7, column 1, the chief executive—

- (a) must have regard to—
  - (i) the local availability of water; and
  - (ii) the conditions under which the water may be taken under the authorisation; and
  - (iii) the annual volumes of water estimated by the chief executive to have been taken under the authorisation during the period, of not more than 10 years, immediately before the commencement of this plan; and
  - (iv) the simulated mean annual diversion; and
  - (v) the efficiency of the use of the water mentioned in subparagraph (iii); and
- (b) must ensure the total of the nominal volumes for the water allocation group is not more than the volume stated in schedule 7, column 2, for the group.

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

(1) The annual volumetric limit for a water allocation to take unsupplemented water is—

- (a) for an authorisation that states an annual volume of water—the stated volume; and
- (b) for an authorisation that states the area that may be irrigated—the volume decided by the chief executive having regard to the volume of water required to efficiently irrigate the area, but not

more than the volume, expressed in megalitres, calculated by multiplying the area, in hectares, by—

- (i) for subcatchment area B—3; and
  - (ii) for other subcatchment areas—6.6; and
- (c) for another authorisation—the volume decided by the chief executive having regard to—
- (i) the conditions under which water may be taken under the authorisation; and
  - (ii) the water taking capacity of any existing works for taking water under the authorisation; and
  - (iii) the annual volumes of water estimated by the chief executive to have been taken under the authorisation during the period, of not more than 10 years, immediately before the commencement of this plan; and
  - (iv) the efficiency of the use of the water mentioned in subparagraph (iii).

#### **40 Monthly volumetric limits**

In deciding monthly volumetric limits for a water allocation to take unsupplemented water, the chief executive must have regard to—

- (a) the local availability of water in each month; and
- (b) the conditions under which the water may be taken under the authorisation; and
- (c) the volumes of water estimated by the chief executive to have been taken under the authorisation during the period, of not more than 10 years, immediately before the commencement of this plan; and
- (d) the simulated mean annual diversion; and
- (e) the efficiency of the use of the water mentioned in paragraph (c).

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

The maximum rate at which unsupplemented water may be taken under an allocation is—

- (a) for an authorisation that states a maximum rate—the stated rate; and
- (b) for an authorisation that does not state a maximum rate but for which a related development permit states a pump size mentioned in schedule 8, column 1—
  - (i) if the authorisation holder demonstrates that the actual rate at which water can be taken is different from the rate stated in schedule 8, column 2, for the pump size—the rate decided by the chief executive having regard to—
    - (A) the conditions under which the water may be taken; and
    - (B) the water taking capacity of the pump to which the development permit relates (the “**existing pump**”) under normal operating conditions; and
    - (C) the irrigation or water distribution system related to the existing pump during the period of not more than 10 years immediately before the commencement of this plan; and
    - (D) the efficiency of the water use mentioned in subsubparagraph (C); or
  - (ii) otherwise—the rate stated in schedule 8, column 2, for the pump size; and
- (c) for an authorisation that does not state a maximum rate but for which a related development permit states a pump size other than a pump size mentioned in schedule 8, column 1—the rate decided by the chief executive having regard to the matters mentioned in paragraph (b)(i)(A) to (D); and
- (d) for another authorisation—the rate decided by the chief executive having regard to—
  - (i) the nature of the authorisation; and
  - (ii) an estimate or measurement of the rate at which water is taken under the authorisation.

#### **42 Conditions for unsupplemented water allocations**

In deciding the conditions under which water may be taken under a water allocation to take unsupplemented water, the chief executive must have regard to the conditions stated on the relevant authorisation.

#### **43 Water allocation groups for unsupplemented water allocations**

A water allocation to take unsupplemented water in subcatchment area C belongs to—

- (a) for an authorisation for town water supply purposes—the class CA water allocation group; and
- (b) for an authorisation that states the area that may be irrigated—the class CB water allocation group; and
- (c) for other authorisations—the class CC water allocation group.

#### ***Division 6—Licences for taking unsupplemented water***

#### **44 Volume of unsupplemented water**

A water licence to take unsupplemented water must state an annual volumetric limit and the maximum rate at which water may be taken under the licence.

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

(1) Subsection (2) states the annual volumetric limit for—

- (a) a licence to take unsupplemented water in force on the commencement of this plan; or
- (b) a water licence that, under section 29, replaces an authority continued under section 1037 of the Act.

(2) The annual volumetric limit is—

- (a) for a licence or authority that states a volume of water that may be taken—the stated volume; and
- (b) for a licence that states the area that may be irrigated—the volume decided by the chief executive having regard to the volume of water required to efficiently irrigate the area, but not

more than the volume, expressed in megalitres, calculated by multiplying the area, in hectares, by—

- (i) for subcatchment area B—3; and
  - (ii) for other subcatchment areas—6.6; and
- (c) for another licence or authority—the volume decided by the chief executive having regard to—
- (i) the conditions under which water may be taken under the licence; and
  - (ii) the water taking capacity of any existing works for taking water under the licence; and
  - (iii) the annual volumes of water estimated by the chief executive to have been taken under the licence during the period, of not more than 10 years, immediately before the commencement; and
  - (iv) the efficiency of the use of the water mentioned in subparagraph (iii).

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

The maximum rate at which unsupplemented water may be taken under a licence in force on the commencement of this plan is—

- (a) for a licence that states a maximum rate—the stated rate; and
- (b) for a licence that does not state a maximum rate but for which a related development permit states a pump size mentioned in schedule 8, column 1—
  - (i) if the licence holder demonstrates that the actual rate at which water can be taken is different from the rate stated in schedule 8, column 2, for the pump size—the rate decided by the chief executive having regard to—
    - (A) the water taking capacity of the pump to which the development permit relates (the “**existing pump**”) under normal operating conditions; and
    - (B) the irrigation or water distribution system related to the existing pump during the period of not more than 10 years immediately before the commencement; and

- (C) the efficiency of the water use mentioned in subsubparagraph (B); and
- (D) the conditions under which the water may be taken; or
- (ii) otherwise—the rate stated in schedule 8, column 2, for the pump size; and
- (c) for a licence that does not state a maximum rate but for which a related development permit states a pump size other than a pump size mentioned in schedule 8, column 1—the rate decided by the chief executive having regard to the matters mentioned in paragraph (b)(i)(A) to (D); and
- (d) for another licence—the rate decided by the chief executive having regard to—
  - (i) the nature of the licence; and
  - (ii) an estimate or measurement of the actual rate at which water is taken under the licence.

### *Division 7—Moratorium notice*

#### **47 Continued effect of moratorium notice—Act, s 46(3)**

(1) This section continues, in part, the effect of the moratorium notice, published on 20 September 2000 and amended on 8 April 2002.

(2) This section applies to an application under the Act or the repealed Act if granting the application would have 1 or more of the following effects on water to which this plan relates—

- (a) increase the amount of water taken or interfered with;
- (b) change the location from which the water may be taken or interfered with;
- (c) increase the maximum rate for taking or interfering with the water;
- (d) change the conditions under which the water may be taken;
- (e) change the purpose for which water may be taken.

(3) The application will be accepted but not dealt with until the resource operations plan deals with the allocation of unallocated water in the area to which the application relates.

(4) However, subsection (3) does not apply to an application—

- (a) for a water permit; or
- (b) by an interim resource operations licence holder to transfer an interim water allocation; or
- (c) to transfer an authority to take water in the Mareeba–Dimbulah Water Supply Scheme; or
- (d) to reinstate or replace an expired licence.

(5) The chief executive’s acceptance of an application does not give the applicant priority in having the application decided.

## **PART 6—STRATEGIES FOR ACHIEVING OUTCOMES (SUBARTESIAN WATER)**

### *Division 1—Preliminary*

#### **48 Application of pt 6**

This part applies only to subartesian water.

#### **49 Volume of subartesian water**

A water licence to take subartesian water must state an annual volumetric limit.

### *Division 2—General strategies*

#### **50 Limitation on taking or interfering with water—Act, s 20(6)**

A person may not take or interfere with subartesian water in the Atherton Subartesian Area or the Cairns Northern Beaches Subartesian Area other than—

- (a) for stock or domestic purposes; or
- (b) in accordance with a licence.



## **51 Decisions about taking subartesian water**

(1) This section applies to an application for or about a water licence to take or interfere with subartesian water if granting the application would have 1 or more of the following effects on subartesian water—

- (a) increase the volume of water taken or interfered with;
- (b) change the location from which water may be taken or interfered with;
- (c) change the conditions under which water may be taken.

(2) In deciding the application, the chief executive must have regard to—

- (a) the availability of an alternative water supply for the purpose for which the water is required; and
- (b) the efficiency of the proposed water use practices; and
- (c) whether the proposed taking or interfering is likely to have a direct adverse effect on surface water flows; and
- (d) the cumulative impact of taking or interfering with subartesian water on surface water flows and groundwater flows.

(3) Subsection (2) does not limit the matters the chief executive may consider.

## **52 Bore pumping test**

(1) If the chief executive grants an application to which section 51(1)(a) applies, the chief executive must impose a condition on the licence that a bore pumping test must be conducted within 1 year after the licence is granted.

(2) Subsection (1) does not apply if the annual volumetric limit for the licence after the application is granted is not more than 10 ML.

## **53 Restriction on annual volumetric limit**

(1) In deciding the annual volumetric limit for a licence granted after the commencement of this plan, the chief executive—

- (a) must have regard to the results of a bore pumping test; and
- (b) must not decide a volume that is more than—
  - (i) for a licence to take water for irrigation purposes—

- (A) in the Atherton Subartesian Area—5 ML for each hectare to be irrigated; and
- (B) in the Cairns Northern Beaches Subartesian Area—1.75 ML for each hectare to be irrigated; and
- (ii) for a licence to take water for another purpose—the volume estimated by the chief executive to be required for the purpose.

(2) The chief executive must amend the licence to state the annual volumetric limit decided.

#### **54 Relationship with *Integrated Planning Act 1997***

(1) Works for taking subartesian water for stock or domestic purposes in the Atherton Subartesian Area or the Cairns Northern Beaches Subartesian Area are self-assessable development under the *Integrated Planning Act 1997*, schedule 8, part 2.

(2) Works for taking or interfering with subartesian water for a purpose other than stock or domestic purposes in the Atherton Subartesian Area or the Cairns Northern Beaches Subartesian Area are assessable development under the *Integrated Planning Act 1997*, schedule 8, part 1.

#### ***Division 3—Strategies for Atherton Subartesian Area only***

#### **55 Annual volumetric limit for existing licences**

(1) Subsection (2) applies to a licence in force immediately before the commencement of this plan in the Atherton Subartesian Area if the chief executive is satisfied the volume stated on the licence is more than 1 or more of the following—

- (a) the water taking capacity under normal operating conditions of the existing works for taking water under the licence, decided by the chief executive having regard to the results of a bore pumping test;
- (b) the volume, expressed in megalitres, calculated by multiplying the area in hectares, irrigated under the licence during the period of not more than 10 years immediately before the commencement, by 5;

- (c) the volume estimated by the chief executive to be required for the purpose of the licence.

(2) Within 60 business days after the commencement, the chief executive must amend the licence to decrease the annual volumetric limit for the licence.

(3) In deciding the annual volumetric limit for a licence being amended, renewed or reinstated, the chief executive must have regard to—

- (a) the volume stated on the licence; and
- (b) the water taking capacity of any existing works for taking water under the licence; and
- (c) the annual volume of water estimated by the chief executive to have been taken under the licence during the period, of not more than 10 years, immediately before the commencement; and
- (d) the efficiency of the use of the water mentioned in paragraph (c); and
- (e) if, under the licence, bore pumping tests are required for the bore or bores to which the licence relates—the results of the tests.

(4) Subsection (3) does not limit the matters the chief executive may consider.

## **56 Licences to increase taking etc. in Management Area A**

(1) This section applies to an application for or about a water licence if granting the application would have 1 or more of the following effects on subartesian water in Management Area A—

- (a) increase the volume of water taken or interfered with;
- (b) change the location from which water may be taken or interfered with;
- (c) change the conditions under which water may be taken.

(2) The chief executive may grant the application only if—

- (a) the annual volumetric limit for the licence does not result in the total annual volumetric limits for licences in the Area being more than 14 500 ML; and
- (b) the resource operations plan includes a process for granting the water.

(3) Despite subsection (2), the chief executive may grant an application to which subsection (1)(b) applies if—

- (a) the application is to amend an existing licence to include mention of other land; and
- (b) the other land is owned by the same person and is contiguous to the land already mentioned in the licence.

### **57 Licensing existing water taking in Management Area B**

(1) This section applies to the parts of Management Area B for which a licence was not required for the taking of, or interfering with, subartesian water before the commencement of this plan.

(2) Within 1 year after the commencement, the chief executive must grant a water licence to each owner of land on which existing works for taking subartesian water are situated.

(3) In deciding the annual volumetric limit for the licence, the chief executive must have regard to—

- (a) the water taking capacity of the works; and
- (b) the annual volume of water estimated by the chief executive to have been taken during the period, of not more than 10 years, immediately before the commencement; and
- (c) the efficiency of the use of the water mentioned in paragraph (b); and
- (d) if the results of bore pumping tests for the bore or bores to which the licence relates are available—the results.

(4) The chief executive must not grant a licence with an annual volumetric limit of more than—

- (a) for a licence to take water for irrigation purposes—5 ML for each hectare of crops to be irrigated; and
- (b) for a licence to take water for another purpose—the volume estimated by the chief executive to be required for the purpose.

(5) Subsection (3) does not limit the matters the chief executive may consider.

## **PART 7—MONITORING AND REPORTING REQUIREMENTS**

### **58 Monitoring**

- (1) The monitoring requirements for the plan are—
- (a) water monitoring, for—
    - (i) river flow; and
    - (ii) taking water; and
    - (iii) water quality; and
    - (iv) in the Atherton Subartesian Area and the Cairns Northern Beaches Subartesian Area—water levels and water quality in subartesian aquifers; and
    - (v) water requirements for future consumption; and
    - (vi) efficiency of water use; and
  - (b) natural ecosystems monitoring, for—
    - (i) volume, frequency, duration and season of streamflows; and
    - (ii) health and distribution of animal, plant and micro-organism species and communities; and
    - (iii) condition of riverine and estuarine habitats including the following—
      - (A) waterholes and lake ecosystems;
      - (B) stream-bed habitats;
      - (C) upper and in-channel riparian zones;
      - (D) floodplains;
      - (E) wetlands; and
    - (iv) river forming flows; and
    - (v) groundwater dependent ecosystems.
- (2) The monitoring requirements are to be achieved by—
- (a) monitoring programs undertaken by holders of resource operations licences; and

- (b) monitoring programs administered by the chief executive and relevant State agencies.

### **59 Monitoring programs undertaken by holders of a resource operations licence**

(1) The monitoring programs mentioned in subsections (2) and (3) must assist in enabling the chief executive to assess the effectiveness of the strategies under parts 5 and 6.

(2) Each resource operations licence holder must develop and undertake monitoring programs, satisfactory to the chief executive, that include monitoring the matters mentioned in section 58(1) in the water supply scheme in which the holder manages water.

(3) For subsection (2), the programs must include monitoring—

- (a) water quantity including—
  - (i) the flow of water at gauging stations; and
  - (ii) the supply and taking of water; and
  - (iii) inflows of water to the dams and weirs mentioned in the holder's resource operations licence; and
  - (iv) the quantity of water released from the dams and weirs; and
  - (v) the level of water in the dams and weirs; and
- (b) water quality including chemical, physical and biological measurements; and
- (c) the operation of outlet works relating to the dams and weirs including, for example, multi-level offtakes; and
- (d) the operation of fish ways; and
- (e) the operation of devices to minimise the impact on natural ecosystems of the transfer of water between watercourses.

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

(1) Each resource operations licence holder must give the chief executive a written report containing the following information—

- (a) details of the information obtained by monitoring the matters mentioned in section 59;

- (b) details of decisions made by the holder in managing water and water infrastructure, including, for example, decisions about the following—
    - (i) making water available to water users under the holder's usual procedures for managing water in a water supply scheme;
    - (ii) managing the flow of water;
    - (iii) restrictions on the taking or supply of water;
    - (iv) infrastructure modifications or installations;
  - (c) information about any non-compliance by the holder with the resource operations plan;
  - (d) details about remedial action taken by the holder—
    - (i) in relation to a requirement under the resource operations plan; or
    - (ii) in response to an event or thing affecting water quality;
  - (e) details of any emergency action taken by the holder that may affect the achievement of the outcomes under part 3.
- (2)** A report about a matter mentioned in subsection (1)(a), (1)(b)(i) or (1)(b)(ii) must be given—
- (a) for each financial year in which the holder manages water under this plan; and
  - (b) within 3 months after the end of the financial year to which the report relates.
- (3)** A report about a matter mentioned in subsection (1)(b)(iii), (1)(b)(iv), (1)(c) or (1)(d) must be given within 1 month after the matter happens.
- (4)** A report about a matter mentioned in subsection (1)(e) must be given the next business day after the action is taken.

## **PART 8—IMPLEMENTING THE PLAN**

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

Each area described in schedule 9 is a priority area for this plan for the conversion to or granting of water allocations to take water in the plan area.

### **62 Implementation schedule**

(1) This section states—

- (a) the proposed arrangements for implementing this plan; and
- (b) the priorities for the conversion to or granting of water allocations.

(2) Within 1 year after the commencement of this plan, it is proposed to prepare a resource operations plan—

- (a) to convert authorisations in a priority area to water allocations; and
- (b) to deal with unallocated surface water available for future water requirements in the plan area; and
- (c) for water in a priority area—to make environmental management rules, water sharing rules, water allocation change rules and seasonal water assignment rules; and
- (d) to implement the monitoring requirements in part 7.

(3) Within 3 years after the commencement, it is proposed to prepare a new resource operations plan or amend the plan mentioned in subsection (2) to amend licences to take surface water to be consistent with this plan.

(4) Subsections (2) and (3) do not limit the matters that may be included in the resource operations plan.



## **PART 9—MINISTER’S REPORT AND AMENDING PLAN**

### **63 Minister’s report on plan—Act, s 53**

(1) The Minister’s report<sup>2</sup> on this plan must be prepared—

- (a) for the first report—after the commencement of the resource operations plan; and
- (b) for subsequent reports—for each financial year this plan is in force; and
- (c) within 6 months after the end of the financial year to which the report relates.

(2) If the Minister is satisfied about any of the matters mentioned in section 65, the report, in its assessment of the effectiveness of the implementation of the plan in achieving the plan’s outcomes, must include a consideration of the matters.

### **64 Minor amendment of plan—Act, s 57**

The following types of amendment may be made to this plan under section 57(b) of the Act—

- (a) an amendment or addition of an environmental flow objective if the amendment or addition achieves an equivalent or improved ecological outcome without adversely affecting the water allocation security objectives or the outcomes under part 3;
- (b) an amendment or addition of a water allocation security objective if the amendment or addition does not adversely affect existing water allocations, environmental flow objectives or the outcomes under part 3;
- (c) an amendment or addition of a priority area;
- (d) an amendment or addition of a node;
- (e) an amendment or addition of a priority group;
- (f) an amendment or addition of a water allocation group;
- (g) an amendment to subdivide a subcatchment area;

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<sup>2</sup> See section 54 (Matters the reports must include) of the Act.

- (h) an amendment to subdivide a volume stated in schedule 7;
- (i) an amendment or addition of a monitoring or reporting requirement under part 7;
- (j) an amendment to section 47<sup>3</sup> if notice of the amendment is published as if it were a moratorium notice under section 42 of the Act.

### **65 Amending or replacing plan**

The Minister must consider amending this plan or preparing a new plan to replace this plan if the Minister is satisfied—

- (a) in relation to general outcomes—
  - (i) water entitlements in the plan area are not sufficient to meet water needs sourced from the plan area having regard to—
    - (A) the extent to which water is being taken under the water entitlements; and
    - (B) the efficiency of present, and expected future, water use; and
    - (C) emerging requirements for additional water; and
    - (D) alternative water sources including, for example, recycled water and water savings from improvements in the efficiency of water use; and
    - (E) the likely timeframe in which additional water will be required; and
  - (ii) there are economically viable and ecologically sustainable uses for additional water; or
- (b) the plan's ecological outcomes are not being achieved.

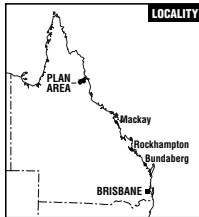
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3 Section 47 (Continued effect of moratorium notice—Act, s 46(3))

# SCHEDULE 1

## PLAN AREA

sections 4 and 9



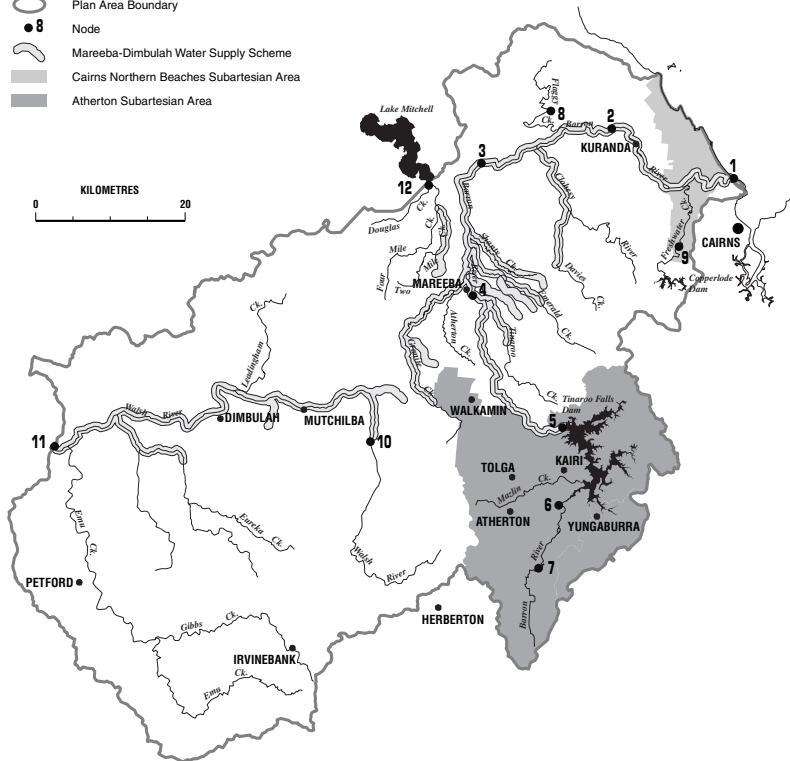
**Nodes:**

1. Barron River at River Mouth (AMTD 0.0 km)
2. Barron River at Myola (AMTD 27.1 km)
3. Barron River at Bihwon (AMTD 49.3 km)
4. Barron River at Mareeba (AMTD 70.2 km)
5. Barron River at Tinaroo Falls (AMTD 101.1 km)
6. Barron River at Picnic Crossing (AMTD 127.0 km)
7. Barron River at Goonara (AMTD 146.0 km)
8. Flaggly Creek at Recorder (AMTD 13.0 km)
9. Freshwater Creek at Freshwater (AMTD 23.1 km)
10. Walsh River at Nullinga (AMTD 259.7 km)
11. Walsh River at Flatrock (AMTD 197.9 km)
12. Mitchell River at end of MDIA (AMTD 601.2 km)

**LEGEND**

- Plan Area Boundary
- Node
- Mareeba-Dimbulah Water Supply Scheme
- Cairns Northern Beaches Subartesian Area
- Atherton Subartesian Area

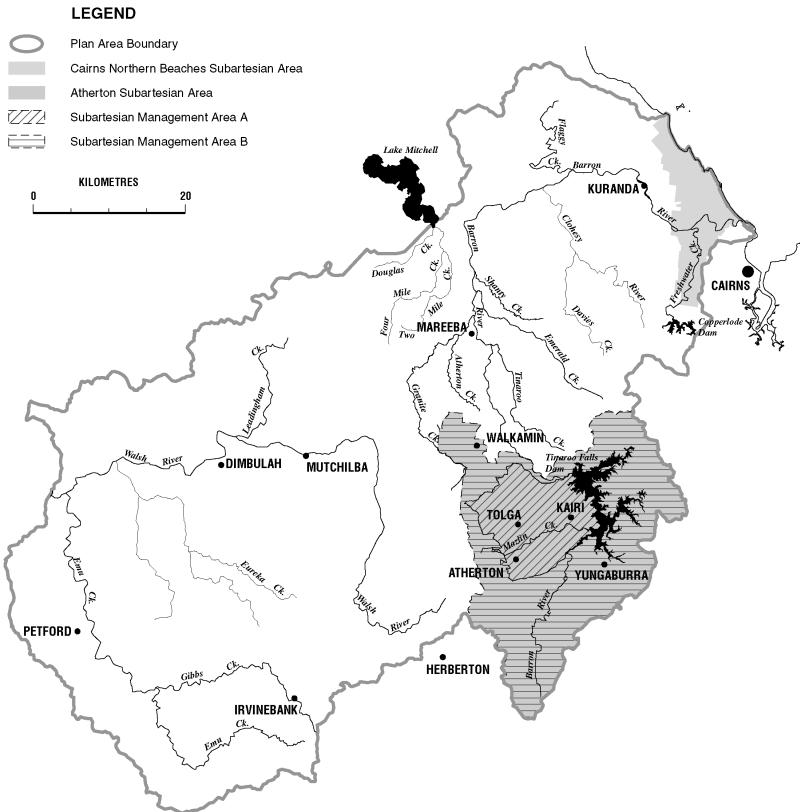
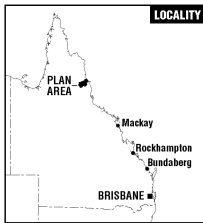
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KILOMETRES



## SCHEDULE 2

### SUBARTESIAN AREAS

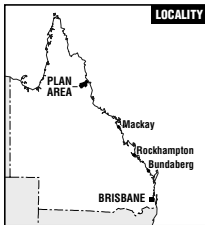
sections 5 and 6






# SCHEDULE 3

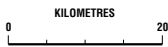
## SUBCATCHMENT AREAS

section 7



### LEGEND

-  Plan Area Boundary
-  Subcatchment Area
-  Subcatchment Area Boundary



**SCHEDULE 4****NODES**

section 9

<b>Node</b>	<b>Location</b>
1	Barron River at river mouth (AMTD 0.0 km)
2	Barron River at Myola (AMTD 27.1 km)
3	Barron River at Bilwon (AMTD 49.3 km)
4	Barron River at Mareeba (AMTD 70.2 km)
5	Barron River at Tinaroo Falls (AMTD 101.1 km)
6	Barron River at Picnic Crossing (AMTD 127.0 km)
7	Barron River at Goonara (AMTD 146.0 km)
8	Flaggy Creek at recorder (AMTD 13.0 km)
9	Freshwater Creek at Freshwater (AMTD 23.1 km)
10	Walsh River at Nullinga (AMTD 259.7 km)
11	Walsh River at Flatrock (AMTD 197.9 km)
12	Mitchell River downstream of Biboohra (AMTD 601.2 km)

## SCHEDULE 5

### ENVIRONMENTAL FLOW OBJECTIVES

section 18

#### PART 1—LOW FLOW OBJECTIVES

1. At each node mentioned in table 1, column 1, minimise the extent to which the 50% daily flow stated in columns 2 to 4 for each water flow season for the node—

- (a) is equalled or exceeded in less than 35% of the days in each water flow season for the simulation period; and
- (b) is equalled or exceeded in more than 65% of the days in each water flow season for the simulation period.

**TABLE 1**

Column 1 Node	Column 2 January–April 50% daily flow	Column 3 May–August 50% daily flow	Column 4 September–December 50% daily flow
1	2193	931	483
2	1847	813	399
3	1340	672	353
4	1068	616	337
5	758	460	216
6	392	211	102
7	307	166	81
8	122	47	7
9	222	97	68
10	169	13	2
11	842	10	0
12	64	0	0

## SCHEDULE 5 (continued)

2. At each node mentioned in table 2, column 1, the percentage of the total number of days in the water flow season in the simulation period that the 50% daily flow stated for the water flow season for the node in table 1 is equalled or exceeded be at least the percentage stated in table 2.

TABLE 2

Column 1	Column 2	Column 3	Column 4
Node	January–April	May–August	September–December
1	37%	38%	15%
2	36%	37%	15%
4	22%	30%	10%
5	10%	25%	7%
9	34%	17%	6%

3. At node 8, the 50% daily flow be at least the flow stated for each water flow season in table 1 between 49% and 50% of the total number of days in the water flow season in the simulation period.

4. At each node mentioned in table 3, column 1, minimise the extent to which the 90% daily flow stated in columns 2 to 4 for each water flow season for the node is equalled or exceeded in less than 75% of the days in each water flow season for the simulation period.



## SCHEDULE 5 (continued)

TABLE 3

<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>
<b>Node</b>	<b>January–April 90% daily flow</b>	<b>May–August 90% daily flow</b>	<b>September–December 90% daily flow</b>
1	523	471	264
2	404	385	195
3	320	314	176
4	291	288	172
5	181	182	104
6	94	82	44
7	74	65	35
8	4	15	1
9	90	68	58
10	4	2	0
11	8	0	0
12	0	0	0

5. At each node mentioned in table 4, column 1, the percentage of the total number of days in the water flow season in the simulation period that the 90% daily flow stated for the water flow season for the node in table 3 is equalled or exceeded be at least the percentage stated in table 4.

TABLE 4

<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>
<b>Node</b>	<b>January–April</b>	<b>May–August</b>	<b>September–December</b>
1	74%	57%	30%
2	71%	56%	50%
4	50%	43%	35%
5	13%	38%	32%
9	59%	24%	8%

## SCHEDULE 5 (continued)

6. At node 8, the 90% daily flow be at least the flow stated for each water flow season in table 3 between 89% and 90% of the total number of days in the water flow season in the simulation period.

7. At each node mentioned in table 5, column 1, the percentage of the total number of days in the simulation period on which the daily flow is less than 1 ML be between the minimum and maximum percentages stated for the node in column 2.

TABLE 5

<b>Column 1</b>	<b>Column 2</b>
<b>Node</b>	<b>Minimum–Maximum percentage</b>
1	0–1
2	0–1
3	0–1
4	0–1
5	0–1
6	0–1
7	0–1
8	0–14
9	0–1
10	5–25
11	26–46
12	0–63

8. At each node mentioned in table 6, column 1—

- (a) minimise the extent to which the number of periods of no flow of at least 1 month but less than 3 months in the simulation period are less than the minimum or more than the maximum number stated for the node in column 2; and
- (b) minimise the extent to which the number of periods of no flow of at least 3 months in the simulation period are less than the

## SCHEDULE 5 (continued)

minimum or more than the maximum number stated for the node in column 3.

TABLE 6

Column 1 Node	Column 2 Minimum–maximum number	Column 3 Minimum–maximum number
10	23–29	2–4
11	82–100	5–7
12	132–162	13–17

**9.** At nodes 1 to 7 and 9, there be no periods of no flow of at least 1 month in the simulation period.

**10.** At node 8, in the simulation period, there be—

- (a) between 6 and 8 periods of no flow of at least 1 month but less than 3 months; and
- (b) between 1 and 3 periods of no flow of at least 3 months.

## PART 2—MEDIUM TO HIGH FLOW OBJECTIVES

**11.** At each node mentioned in table 7, column 1—

- (a) the mean annual flow in the simulation period, expressed as a percentage of the mean annual flow for the pre-development flow pattern, be at least the percentage stated for the node in column 2; and
- (b) the 1.5 year daily flow volume (the “**1.5 year DFV**”), expressed as a percentage of the 1.5 year DFV for the pre-development flow pattern, be at least the percentage stated for the node in column 3; and

## SCHEDULE 5 (continued)

- (c) the 5 year daily flow volume (the “**5 year DFV**”), expressed as a percentage of the 5 year DFV for the pre-development flow pattern, be at least the percentage stated for the node in column 4; and
- (d) the 10 year daily flow volume (the “**10 year DFV**”), expressed as a percentage of the 10 year DFV for the pre-development flow pattern, be at least the percentage stated for the node in column 5; and
- (e) the 20 year daily flow volume (the “**20 year DFV**”), expressed as a percentage of the 20 year DFV for the pre-development flow pattern, be at least the percentage stated for the node in column 6.

TABLE 7

Column 1 Node	Column 2 Mean annual flow %	Column 3 1.5 year DFV %	Column 4 5 year DFV %	Column 5 10 year DFV %	Column 6 20 year DFV %
1	75	84	88	86	84
2	73	85	86	86	85
3	60	71	73	72	72
4	47	43	46	48	50
5	27	2	11	18	29
6	88	99	99	99	99
7	96	99	99	99	99
8	99.9	99.9	99.9	99.9	99.9
9	65	63	71	72	72
10	99	99	99	99	99
11	99	99	99	99	99
12	99	99	99	99	99

## SCHEDULE 5 (continued)

**PART 3—SEASONAL FLOW OBJECTIVES**

**12.** At nodes 1 to 12, the flow regime class be maintained as late summer flow regime class.

**13.** At each node mentioned in table 8, column 1, the annual proportional flow deviation be not more than the annual proportional flow deviation stated for the node in column 2.

**TABLE 8**

<b>Column 1</b>	<b>Column 2</b>
<b>Node</b>	<b>Annual proportional flow deviation</b>
1	1.5
2	1.5
3	1.9
4	2.3
5	3.2
6	1.1
7	0.4
8	0.1
9	1.7
10	0.2
11	1.4

## **SCHEDULE 6**

### **WATER ALLOCATION SECURITY OBJECTIVES**

section 20

#### **PART 1—SUPPLEMENTED WATER**

**1.** For water allocations in a high priority group in the Mareeba–Dimbulah Water Supply Scheme—

- (a) the annual supplemented water sharing index be at least 95%;  
and
- (b) the monthly supplemented water sharing index be at least 95%;  
and
- (c) the extent to which the annual supplemented water sharing index is less than 100% be minimised; and
- (d) the extent to which the monthly supplemented water sharing index is less than 100% be minimised.

**2.** For water allocations in a medium priority group in the Mareeba–Dimbulah Water Supply Scheme—

- (a) the annual supplemented water sharing index be at least 75%;  
and
- (b) the monthly supplemented water sharing index be at least 90%;  
and
- (c) the extent to which the annual supplemented water sharing index is less than 80% be minimised; and
- (d) the extent to which the monthly supplemented water sharing index is less than 95% be minimised.

## SCHEDULE 6 (continued)

**PART 2—UNSUPPLEMENTED WATER**

3. For a water allocation group mentioned in the table, column 1, the 50%, 70%, 80% and 95% unsupplemented water sharing indices be at least the percentage stated for the water allocation group in columns 2 to 5.

TABLE

<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>	<b>Column 5</b>
<b>Water allocation group</b>	<b>50%</b>	<b>70%</b>	<b>80%</b>	<b>95%</b>
CA	—	—	—	95
CB	95	88	82	—
CC	95	88	85	—

**SCHEDULE 7****TOTAL VOLUMES FOR WATER ALLOCATION  
GROUPS**

section 38

<b>Column 1</b>	<b>Column 2</b>
<b>Water allocation group</b>	<b>ML</b>
CA	3 755
CB	14 755
CC	4 100



**SCHEDULE 8****RATES AND PUMP SIZES**

section 41

<b>Column 1</b>	<b>Column 2</b>
<b>Pump size (mm)</b>	<b>Rate (litres/second)</b>
32	3
40	7
50	15
65	27
80	39
100	50
150	84
200	110

## **SCHEDULE 9**

### **PRIORITY AREAS**

section 61

#### **1 Mareeba–Dimbulah priority area**

The Mareeba–Dimbulah priority area consists of the following—

- (a) the part of the Barron River downstream of Tinaroo Falls Dam, including the ponded area;
- (b) the part of Tinaroo Creek between the supplementation point and the creek's confluence with the Barron River;
- (c) the part of Ada Creek between the supplementation point and the creek's confluence with Tinaroo Creek;
- (d) the part of Granite Creek between the supplementation point and the creek's confluence with the Barron River;
- (e) the part of Nicotine Creek between the supplementation point and the creek's confluence with Granite Creek;
- (f) the part of Atherton Creek between the supplementation point and the creek's confluence with Granite Creek;
- (g) the part of Cobra Creek between the supplementation point and the creek's confluence with the Barron River;
- (h) the part of Emerald Creek between the supplementation point and the creek's confluence with the Barron River;
- (i) the part of Levison Creek between the supplementation point and the creek's confluence with Emerald Creek;
- (j) the part of Shanty Creek between the supplementation point and the creek's confluence with Emerald Creek;
- (k) the part of Brindle Creek between the supplementation point and the creek's confluence with Davies Creek;
- (l) the part of Davies Creek between its confluence with Brindle Creek and its confluence with the Clohesy River;

## SCHEDULE 9 (continued)

- (m) the part of the Clohesy River between its confluence with Davies Creek and its confluence with the Barron River;
- (n) the part of the Walsh River between Collins Weir AMTD 269.1 km, including the ponded area, and Flatrock Gauging Station AMTD 197.9 km;
- (o) the part of Eureka Creek between Solanum Weir, including the ponded area, and the creek's confluence with the Walsh River;
- (p) the part of Murphy's Creek between the supplementation point and the creek's confluence with the Walsh River;
- (q) the part of Two Mile Creek between the supplementation point and the creek's confluence with Douglas Creek;
- (r) the part of an unnamed tributary of the Barron River between the supplementation point and the tributary's confluence with the Barron River at approximately AMTD 70.5 km;
- (s) the part of Leadingham Creek between the supplementation point and the creek's confluence with the Walsh River.

**2 Barron River above Lake Tinaroo priority area**

The Barron River above Lake Tinaroo priority area consists of the Barron River above Lake Tinaroo but does not include any of the Barron River's tributaries.

## SCHEDULE 10

### DICTIONARY

#### section 3

**“AMTD”** means the adopted middle thread distance which is the distance in kilometres, measured along the middle of a watercourse, that a specific point in the watercourse is from the watercourse’s mouth or junction with the main watercourse.

**“annual proportional flow deviation”** means the statistical measure of changes to flow season and volume in the simulation period calculated using the formula for annual proportional flow deviation described in Technical Report 5 of ‘Fitzroy Basin Water Allocation and Management Planning Technical Reports’<sup>4</sup> published by the department.

**“annual supplemented water sharing index”**, for water allocations in a particular priority group, means the percentage of years in the simulation period in which the allocations are fully supplied.

**“annual volumetric limit”**, for a water entitlement, means the maximum volume of water that may be taken under the entitlement in a water year.

**“authorisation”** means a licence, permit, interim water allocation or other authority to take water given under the Act or the repealed Act, other than a permit for stock or domestic purposes.

**“bore pumping test”** means a method, approved by the chief executive, of calculating the yield from a bore.

**“daily flow”**, for a place, means the volume of water that flows past the place in a day.

**“50% daily flow”**, for a water flow season, means the flow in megalitres that is equalled or exceeded on 50% of the days in the season in the simulation period for the pre-development flow pattern.

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4 A copy of the reports is available for inspection on the department’s website.

## SCHEDULE 10 (continued)

**“90% daily flow”**, for a water flow season, means the flow in megalitres that is equalled or exceeded on 90% of the days in the season in the simulation period for the pre-development flow pattern.

**“existing works”** means works that—

- (a) allow the taking of water; and
- (b) either—
  - (i) were in existence on 20 September 2000; or
  - (ii) were started, but not completed by 20 September 2000 and—
    - (A) if a variation to a moratorium notice was granted for the works under section 42A of the Act—have been, or are being, completed in accordance with the moratorium notice, as varied; or
    - (B) otherwise—were completed by 30 November 2001.

**“flow regime class”** means the measure of flow regime seasonality worked out using the method stated in Haines, A.T., Finlayson, B.L. and McMahon, T.A., ‘A global classification of river regimes. Applied Geography, 1988’.

**“food chain”** means a series of organisms each of which is the food of the next member of the chain.

**“IQQM computer program”** means the department’s Integrated Quantity and Quality Modelling computer program, and associated statistical analysis and reporting programs, that simulate daily stream flows, flow management, storages, releases, instream infrastructure, water diversions, water demands and other hydrologic events in the plan area.

**“late summer flow regime class”** see the Pioneer Valley Water Resource Plan Environmental Flow Report, December 2001.<sup>5</sup>

**“mean annual flow”** means the total volume of flow in the simulation period divided by the number of years in the simulation period.

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5 A copy of the report may be inspected at the department’s head office, Brisbane or on the department’s website.

## SCHEDULE 10 (continued)

**“monthly supplemented water sharing index”**, for water allocations in a particular priority group, means the percentage of months in the simulation period in which the allocations are fully supplied.

**“monthly volumetric limit”** means the maximum volume of water that may be taken under a water entitlement in a month.

**“node”** see section 9.

**“nominal volume”** means the volume of water, in megalitres, that represents the share of the water available to be taken by holders of water allocations in a priority group or a water allocation group.

**“period of no flow”**, for a node, means a period in which the flow of water in the watercourse at the node is less than 1 ML a day.

**“pre-development flow pattern”** means the pattern of water flows, during the simulation period, decided by the chief executive using the IQQM computer program as if—

- (a) there were no dams or other water infrastructure in the plan area; and
- (b) no water was taken under authorisations in the plan area.

**“priority area”** see section 61.

**“related development permit”**, for an authorisation, means the development permit for the works for taking water under the authorisation.

**“resource operations plan”** means the resource operations plan to implement this plan.

**“simulated mean annual diversion”**, for an authorisation or a group of authorisations, means the total volume of water simulated to have been taken under the authorisation or authorisations, if the authorisation or authorisations were in existence for the whole of the simulation period, divided by the number of years in the simulation period.

**“simulation period”** means the period from 1 January 1913 to 31 December 1995.

**“started”**, for existing works, means—

- (a) construction of the works had physically started or, if construction had not physically started, a contract had been

## SCHEDULE 10 (continued)

entered into to start construction, and construction had started, by 20 September 2000; and

- (b) an independently verifiable construction program existed for progressive construction towards completion of the works; and
- (c) detailed design plans existed showing, among other things, the extent of the works; and
- (d) if a permit under the *Local Government Act 1993*, section 940<sup>6</sup> was required for the works—the permit had been issued; and
- (e) if a development permit was required for the works—the permit had been given.

**“stock purposes”**, in relation to taking water, means watering stock of a number that would normally be depastured on the land.

**“subartesian area”** see section 5.

**“subartesian management area A”** see section 6.

**“subartesian management area B”** see section 6.

**“subcatchment area”** see section 7.

**“supplementation point”** means the most upstream point on a watercourse, lake or spring at which the natural flow is supplemented by water from a dam or weir.

**“supplemented water”** means water supplied under an interim resource operations licence, resource operations licence or other authority to operate water infrastructure.

**“surface water”** see section 10.

**“unsupplemented water”** means water that is not supplemented water.

**“50% unsupplemented water sharing index”**, for a group of authorisations, means the total volume of water simulated to have been taken annually under the authorisations in at least 50% of years in the simulation period, if the authorisations were in existence for the whole of the simulation period, expressed as a percentage of the simulated mean annual diversion for the authorisations.

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6 *Local Government Act 1993*, section 940 (Issue of permit)

## SCHEDULE 10 (continued)

**“70% unsupplemented water sharing index”**, for a group of authorisations, means the total volume of water simulated to have been taken annually under the authorisations in at least 70% of years in the simulation period, if the authorisations were in existence for the whole of the simulation period, expressed as a percentage of the simulated mean annual diversion for the authorisations.

**“80% unsupplemented water sharing index”**, for a group of authorisations, means the total volume of water simulated to have been taken annually under the authorisations in at least 80% of years in the simulation period, if the authorisations were in existence for the whole of the simulation period, expressed as a percentage of the simulated mean annual diversion for the authorisations.

**“95% unsupplemented water sharing index”**, for a group of authorisations, means the total volume of water simulated to have been taken annually under the authorisations in at least 95% of years in the simulation period, if the authorisations were in existence for the whole of the simulation period, expressed as a percentage of the simulated mean annual diversion for the authorisations.

**“water allocation group”** means a water allocation group mentioned in section 43.

**“water flow season”** means any of the following periods in a year—

- (a) the period from 1 January to 30 April (**“January–April”**);
- (b) the period from 1 May to 31 August (**“May–August”**);
- (c) the period from 1 September to 31 December (**“September–December”**).

**“waterhole”** means a part of a watercourse that contains water after the watercourse ceases to flow, other than a part of a watercourse that is within the storage area of a dam on the watercourse.

**“water supply scheme”** means a scheme for the supply of water under an interim resource operations licence, a resource operations licence or another authority to manage water entitlements.

**“1.5 year daily flow volume”** means the daily flow that has a 67% probability of being reached at least once a year.

**“5 year daily flow volume”** means the daily flow that has a 20% probability of being reached at least once a year.



## SCHEDULE 10 (continued)

**“10 year daily flow volume”** means the daily flow that has a 10% probability of being reached at least once a year.

**“20 year daily flow volume”** means the daily flow that has a 5% probability of being reached at least once a year.

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## ENDNOTES

1. Approved by the Governor in Council on 19 December 2002.
2. Notified in the gazette on 20 December 2002.
3. Laid before the Legislative Assembly on . . .
4. The administering agency is the Department of Natural Resources and Mines.