Queensland

Water Act 2000

Water Plan (Barron) 2002

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Reprint note
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Queensland

Water Plan (Barron) 2002

Contents

Contents

Water Plan (Barron) 2002

Part 1 Preliminary

1 Short title

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

2 Purposes of plan

The purposes of this plan are—

(a) to define the availability of water in the plan area; and

(b) to provide a framework for sustainably managing water and the taking of water; and

(c) to identify priorities and mechanisms for dealing with future water requirements; and

(d) to provide a framework for reversing, where practicable, degradation that has occurred in natural ecosystems; and

(e) to provide a framework for establishing water allocations; and

(f) to regulate the taking of groundwater.

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 Groundwater management areas

Each part of the plan area shown as a groundwater management area on the map in schedule 1 is a groundwater management area for this plan.

7 Subcatchment areas

Each part of the plan area that is within a subcatchment area shown on the map in schedule 2 is a subcatchment area for this plan.

7A Water management area

The plan area is a water management area called the Barron Water Management Area.

8 Information about areas

The exact location of the boundaries of the plan area, groundwater management areas and subcatchment areas is held in digital electronic form by the department and may be accessed, free of charge, at each office of the department.

Editor's note—

The location of each office of the department is available at <www.dnrm.qld.gov.au>.

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.

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***) in the plan area;

(b) underground water (***groundwater***).

Part 3 Outcomes for sustainable management of water

11 Outcomes for water in plan area

(1) This part states the outcomes for the sustainable management of water to which this plan applies.

(2) Without limiting subsection (1), the outcomes include the allocation and management of water in a way that—

(a) recognises that the natural state of watercourses, lakes, springs and aquifers has changed because of the taking of, and interfering with, water; and

(b) achieves a balance in the following outcomes—

(i) the economic outcomes mentioned in section 12;

(ii) the social outcomes mentioned in section 13;

(iii) the ecological outcomes mentioned in section 14.

12 Economic outcomes

Each of the following is an economic outcome for water in the plan area—

(a) the provision for the continued use of all water entitlements and other authorisations to take or interfere with water;

(b) the protection of the probability of being able to take water under a water entitlement;

(c) the allowing of water to be used for the following—

(i) agriculture;

(ii) aquaculture;

(iii) hydro-electric power generation;

(iv) industrial needs;

(v) small scale uses;

(vi) stock purposes;

(vii) tourism and recreational uses;

(viii) urban needs;

(d) the encouragement of continual improvement in the efficient use of water;

(e) the provision of mechanisms that support water being made available for the following—

(i) growth in industries dependent on water resources in the plan area;

(ii) stock purposes in the plan area;

(iii) particular groundwater licences in the Atherton groundwater management area.

13 Social outcomes

Each of the following is a social outcome for water in the plan area—

(a) the provision of a reliable and secure supply of water from the plan area during the time this plan is in force;

(b) the maintenance of flows to areas of significant cultural, tourism and recreational value, including the Barron Falls, Barron Gorge and Tinaroo Falls Dam;

(c) the support of water-related cultural values of Aboriginal and Torres Strait Islander communities in the plan area;

(d) the ensuring of availability of water for—

(i) domestic purposes in the plan area; and

(ii) meeting increased demand for urban water supply for Cairns local government area from Lake Placid.

14 Ecological outcomes

Each of the following is an ecological outcome for water in the plan area—

(a) maintenance of flows that support—

(i) the habitats of native plants and animals in watercourses, lakes and springs; and

(ii) riparian systems and their functions influencing the riverine ecosystems; and

(iii) native plants and animals associated with watercourses, lakes and springs and riparian zones; and

(iv) long term water quality suitable for riverine and estuarine ecosystems; and

(v) existing geomorphic features and processes; and

(vi) the continued capability of one part of a river system to be connected to another—

(A) throughout the watercourse network; and

(B) within riparian zones, floodplains, watercourses, lakes and springs; and

(vii) wet season flow to benefit native plants and animals in estuaries; and

(viii) the health and persistence of waterholes; and

(ix) ecosystem food chains, their balance and the movement of carbon energy;

(b) the management and allocation of groundwater in the plan area to maintain groundwater contributions to—

(i) the flow of water in watercourses, lakes and springs; and

(ii) groundwater dependent ecosystems;

(c) the management and allocation of water in the Barron River catchment area to provide a flow regime to maintain—

(i) delivery of freshwater, sediment, nutrients and organic matter to the river's estuary; and

(ii) the brackish water habitat in the estuary;

(d) the management and allocation of water in Flaggy Creek 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 1ML; 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, CC and HB water allocation groups—

(A) 50% unsupplemented water sharing index; and

(B) 70% unsupplemented water sharing index; and

(C) 80% unsupplemented water sharing index; and

(D) annual volume probability.

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 for surface water and groundwater

Division 1 Preliminary

21 Application of pt 5

This part applies to surface water and groundwater.

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.

Division 2 Unallocated water

24 Unallocated water reserves

Unallocated water in the plan area is held as a general reserve or a strategic reserve.

24A Purpose for which unallocated water may be granted

Unallocated water in the plan area may be granted only for the following purposes—

(a) for unallocated water held as a general reserve—any purpose;

(b) for unallocated water held as a strategic reserve—town water supply.

24B Reserve volumes

(1) The total of the volumetric limits for all water entitlements to take unallocated water from the general reserve in subcatchment area B is 300ML.

(2) The total of the volumetric limits for all water entitlements to take unallocated water from the strategic reserve in subcatchment area A is 4000ML.

(3) For unallocated water mentioned in subsection (2), the reserve is only available to be taken from the Barron River at Lake Placid for use in the Cairns local government area.

24C Process for granting unallocated water—Act, ss 122 and 212

(1) The process for granting unallocated water under a water allocation or a water licence is a process stated in the *Water Regulation 2016*, part 2, division 2, subdivision 2.

(2) The chief executive must—

(a) keep a record of the volume of unallocated water available; and

(b) update the record after unallocated water has been granted.

25 Matters chief executive must consider

(1) In implementing a process for dealing with unallocated water, 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 Authorised taking or interfering with water without water entitlement

26 Limitations on taking or interfering with water—Act, s 20(2)

(1) This section prescribes for section 20(2) of the Act limitations for taking water under that section.

(2) The total volume of water that may be taken or interfered with for activities prescribed by regulation for section 20(2)(a) of the Act is—

(a) for water taken from part of a watercourse used for distribution of water by a resource operations licence holder—0ML; and

(b) for water taken in subcatchment area C or H—20ML.

Note—

The part of the plan area included in subcatchment areas C and H is the same part included in the Atherton groundwater management area. The 20ML of water that may be taken or interfered with under paragraph (b) includes surface water and groundwater.

(3) A person must not take, under section 20(2)(c) of the Act, groundwater in the Atherton groundwater management area or the Cairns Northern Beaches groundwater management area other than for stock or domestic purposes.

Note—

A person with a water licence or permit that allows the taking of groundwater in the Atherton groundwater management area or the Cairns Northern Beaches groundwater management area may take groundwater from the groundwater management area under the licence or permit.

26A Taking water for stock or domestic purposes

For section 20A(5)(a) of the Act, an owner of land may take water, in any way, from a watercourse (other than a part of a watercourse used for distribution of water by a holder of a

resource operations licence), lake or spring in the plan area for stock or domestic purposes.

Part 5A Additional strategies for achieving outcomes for surface water

Division 1 Preliminary

26B Application of pt 5A

This part applies to surface water.

Division 2 Operational and supply arrangements for water infrastructure

27 Matters chief executive must consider

(1) In deciding the operating arrangements and supply requirements for water 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 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 3 Interference with water in a watercourse, lake or spring

28 Application of div 3

This division applies to an application, made under section 206 of the Act, for a water licence to interfere with water in a watercourse, lake or spring by impounding the flow of water.

29 Limitations on interference with water

The water licence may be granted only if the purpose of the proposed interference is a purpose provided for in this division.

29A Interference with water to enable taking of water for stock or domestic purposes

(1) This section applies if the purpose of the proposed interference with water is to store water to be taken under an authorisation for stock or domestic purposes.

(2) The storage capacity of the proposed interference must not be greater than—

(a) for a water licence to interfere with water in subcatchment area A, B, C or H—20ML; or

(b) otherwise—200ML.

29B Interference with water for provision of pumping pool

(1) This section applies if the purpose of the proposed interference with water is to provide a pumping pool to enable water to be taken under an authorisation.

(2) The storage capacity of the pumping pool must not be greater than 2ML.

(3) In this section—

pumping pool means a pool of water near a pump in a watercourse, lake or spring that ensures the water level of the watercourse, lake or spring is appropriate to enable the pump to function properly.

29C Interference with water to improve security for town water supply

(1) This section applies if the purpose of the proposed interference with water is to provide improved security for town water supplies taken under an authorisation.

(2) The chief executive must not grant the application unless the chief executive is satisfied—

(a) the town has appropriate water supply security strategies, such as demand and drought management strategies, in place; and

(b) there is a demonstrated need for an increased reliability of the water supply.

29D Interference with water to store water for purpose not related to the taking of water under water entitlement

(1) This section applies if the purpose of the proposed interference with water is to store water for a purpose not related to the taking of water under a water entitlement.

Examples of a purpose for subsection (1)—

community landscaping, retention of water for flood mitigation purposes

(2) The interference must not be greater than the volume necessary for the purpose of the interference.

29E Interference with water related to the granting of unallocated water

(1) This section applies if the purpose of the proposed interference with water is related to the granting of unallocated water under the process mentioned in section 24C.

(2) The interference must not be greater than is necessary for the purpose of taking the unallocated water.

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.

33 Purpose to be stated on water allocation

The purpose stated on a water allocation must be—

(a) if the purpose stated on the authorisation is stock, domestic, irrigation, stock intensive, agriculture, dairy, water harvesting, aquaculture or a similar purpose—'rural'; or

(b) if the purpose stated on the authorisation is distribution loss—'distribution loss'; or

(c) otherwise—'any'.

Subdivision 3 Unsupplemented water

37 Elements of water allocation to take unsupplemented water

A water allocation to take unsupplemented water must state the following—

(a) the nominal volume for the allocation;

(b) the annual volumetric limit for the allocation;

(c) the daily volumetric limit for the allocation;

(d) the flow conditions under which water may be taken.

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

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; or

(b) for an authorisation that states the area that may be irrigated—the volume, expressed in megalitres, calculated by multiplying the area, in hectares, by 10; or

(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).

40A Daily volumetric limit

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

(a) for an authorisation that states the volume of water that may be taken in a day—the stated volume; or

(b) for an authorisation that does not state a volume that may be taken in a day but for which a related development permit—

(i) states a pump size mentioned in schedule 8, column 1—the daily volumetric limit stated in schedule 8, column 3 for the pump size; or

(ii) states a pump size other than a pump size mentioned in schedule 8, column 1—the daily volumetric limit decided by the chief executive having regard to the daily volumetric limits stated for similar pump sizes in schedule 8, column 3; or

(c) for another authorisation—the daily volumetric limit decided by the chief executive having regard to—

(i) the type of authorisation; and

(ii) an estimate or measurement of the rate at which water can be taken under the authorisation.

(2) However, for subsection (1)(b), if the authorisation holder satisfies the chief executive that the water taking capacity of the pump is different from the daily volumetric limit decided under the subsection, the daily volumetric limit is the volume decided by the chief executive having regard to the following—

(a) the conditions under which the water may be taken under the authorisation;

(b) the water taking capacity of the pump to which the development permit relates (the ***existing pump***) under normal operating conditions;

(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 section;

(d) the efficiency of the water use associated with the irrigation or water distribution system mentioned in paragraph (c).

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

(1) 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 a purpose or similar purpose mentioned in section 33(a), other than water harvesting, or a purpose mentioned in section 33(c)—the class CB water allocation group; and

(c) for other authorisations—the class CC water allocation group.

(2) A water allocation to take unsupplemented water in subcatchment area H belongs to the class HB water allocation group.

Division 6 Licences for taking unsupplemented water

44 Elements of water licence

(1) A water licence to take unsupplemented water must state each of the following—

(a) the purpose for which water may be taken under the licence;

(b) the nominal entitlement for the licence;

(c) the daily volumetric limit for the licence;

(d) the maximum rate at which water may be taken under the licence;

(e) if a condition applies to the licence, including, for example, a flow condition under which water may be taken or a condition about storing water taken under the licence—the condition.

(2) However—

(a) subsection (1)(b) does not apply to a licence that states a purpose of 'hydro-electric' or 'relift'; and

(b) subsection (1)(c) does not apply to a licence that states a purpose of 'relift'.

44A Purpose to be stated on water licence

(1) The purpose to be stated on a water licence to take unsupplemented water that replaces an existing licence must be—

(a) if the purpose stated on the existing licence is stock or domestic—'stock and domestic'; or

(b) if the purpose stated on the existing licence is irrigation, stock intensive, agriculture, dairy, water harvesting, aquaculture or a similar purpose—'rural'; or

(c) if the purpose stated on the existing licence is relift or a similar purpose—'relift'; or

(d) if the purpose stated on the existing licence is hydro-electric or a similar purpose—'hydro-electric'; or

(e) otherwise—'any'.

(2) In this section—

existing licence means a water licence to take unsupplemented water in force immediately before the commencement of this section.

45 Nominal entitlement

(1) Subsection (2) states the nominal entitlement for a water licence to take unsupplemented water.

(2) The nominal entitlement is—

(a) for a licence that states a volume of water that may be taken—the stated volume; or

(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 subcatchment area C or H—10; and

(iii) for other subcatchment areas—6.6; or

(c) for another licence—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).

45B Daily volumetric limit

The daily volumetric limit to take unsupplemented water under a water licence is the daily volumetric limit mentioned in section 40A or decided by the chief executive under that section as if the water licence were a water allocation.

46 Maximum rates for taking unsupplemented water

The maximum rate at which unsupplemented water may be taken under a water licence is—

(a) for an authorisation that states a maximum rate—the stated rate; or

(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 column 2 of the schedule 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 sub-subparagraph (C); or

(ii) otherwise—the rate stated in column 2 of the schedule for the pump size; or

(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); or

(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.

Part 6 Additional strategies for achieving outcomes for groundwater

Division 1 General provisions

48 Application of pt 6

This part applies to groundwater.

49 Elements of water licence

A water licence to take groundwater must state—

(a) the purpose for which water may be taken under the licence; and

(b) the nominal entitlement for the licence.

49A Purpose to be stated on water licence

(1) The purpose to be stated on a water licence to take groundwater that replaces an existing licence must be—

(a) if the purpose stated on the existing licence is irrigation, stock intensive, agriculture, dairy, water harvesting, aquaculture or a similar purpose—'rural'; or

(b) otherwise—'any'.

(2) The purpose to be stated on a water licence to take groundwater, other than a water licence mentioned in subsection (1), must be—

(a) 'rural'; or

(b) 'any'.

(3) In this section—

existing licence means a water licence to take groundwater in force immediately before the commencement of this section.

Division 2 Criteria for amending particular water licences in Atherton groundwater management area to achieve plan outcomes

52 Purpose of div 2

The purpose of this division is to support water being made available in the Atherton groundwater management area by providing for the nominal entitlements, decided under particular criteria, for amended water licences in the Atherton groundwater management area.

53 Application of div 2

(1) This division applies to an existing water licence to take groundwater within former subartesian management area B if—

(a) the licence was granted on an application (the ***original application***) for a new or amended water licence made between 7 November 2002 and 27 November 2006; and

(b) the original application indicated the water was required for the purpose of irrigation; and

(c) when the original application was decided, the nominal entitlement stated on the licence granted was—

(i) less than the maximum annual volume of water applied for in the original application; and

(ii) not more than 5ML each hectare of land proposed to be irrigated in the original application; and

(d) the licence has not, before the commencement, been amended in accordance with a direction or order of the Land Court; and

(e) on or before 16 January 2015, the holder of the licence asked the chief executive, in writing, to act under this division in relation to the nominal entitlement for the amended water licence.

(2) In this section—

former subartesian management area B means subartesian management area B under the *Water Resource (Barron) Plan 2002* as in force immediately before the commencement.

54 Definitions for div 2

In this division—

amended water licence means a water licence to which this division applies that is amended under section 217 of the Act because of the commencement of this division.

original application, for a water licence, see section 53(1)(a).

previous nominal entitlement, for a water licence, means the nominal entitlement stated on the licence immediately before the amendment of the licence under section 217 of the Act because of the commencement of this division.

unamended water licence means a water licence as in force immediately before the amendment of the licence under section 217 of the Act because of the commencement of this division.

55 Nominal entitlement for amended water licences

(1) The nominal entitlement for an amended water licence is the nominal entitlement for the licence decided by the chief executive having regard to the matters mentioned in section 56, but not more than—

(a) 5ML each hectare of land area proposed to be irrigated in the original application for the licence; or

(b) the amount equal to 5ML each hectare of irrigable land for the unamended water licence less the total volumetric limits of all other water entitlements that, as at 1 July 2014, authorised the taking of water for use on the supplied land for the unamended water licence.

(2) If, before the commencement, a licence to which this division applies was subdivided, amalgamated or transferred, the chief executive must apply the limitation criteria mentioned in subsection (1)(a) and (b) proportionally to the subdivided, amalgamated or transferred licence.

(3) In this section—

irrigable land, for an unamended water licence, means the irrigable area of the supplied land for the unamended water licence.

supplied land, for a water licence, means all land parcels supplied by the water licence as at 1 July 2014.

56 Criteria for deciding nominal entitlement

(1) In deciding the nominal entitlement for an amended water licence, the chief executive must have regard to the following matters—

(a) the previous nominal entitlement of the water licence;

(b) the extent to which the potential productive capacity of the licence holder's proposed enterprise is dependent on groundwater;

(c) the area proposed to be irrigated under the amended licence for the purposes of the licence holder's proposed enterprise;

(d) the efficiency of the use of groundwater in conducting the licence holder's proposed enterprise;

(e) the local availability of groundwater;

(f) the effect that amending the nominal entitlement of the licence under this division will have on the achievement of the social, economic and ecological outcomes under part 3;

(g) any submission about this division of the proposed amending plan that is made before the commencement by the licence holder under section 49 of the Act as applied by section 56 of the Act.

(2) Subsection (1) does not limit the matters the chief executive may consider for deciding the nominal entitlement.

(3) In this section—

proposed amending plan means the proposed amending water resource plan, prepared by the Minister under chapter 2, part 3, division 2, subdivision 5 of the Act, to amend this plan on the commencement.

Division 3 Strategies for Cairns Northern Beaches groundwater management area only

57B Decisions about taking groundwater

(1) This section applies to an application for or about a water licence to take groundwater in the Cairns Northern Beaches groundwater management area, if granting the application would increase the volume of groundwater 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 existing and proposed water use practices; and

(c) whether the proposed taking is likely to have a direct adverse effect on surface water flows; and

(d) the cumulative impact of taking groundwater on surface water flows and groundwater flows.

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

(4) This section does not apply to an application to—

(a) reinstate, under section 221 of the Act, an expired water licence; or

(b) amalgamate, under section 224 of the Act, 2 or more water licences in force immediately before the commencement of this section; or

(c) replace, under section 225 of the Act, an original licence if the original licence is to be replaced with 2 or more water licences; or

(d) replace, under section 229 of the Act, an expired licence with 1 or more licences.

57C Restriction on nominal entitlement

In deciding the nominal entitlement for a water licence to take groundwater in the Cairns Northern Beaches groundwater management area, the chief executive must not decide a volume that is more than—

(a) for a licence to take water for irrigation purposes—1.75ML for each hectare of crop to be irrigated; or

(b) for a licence to take water for another purpose—the volume estimated by the chief executive to be required for the purpose.

Part 7 Monitoring and reporting requirements

58 Monitoring and reporting requirements

(1) To help the Minister assess the effectiveness of the management strategies for achieving the outcomes mentioned in part 3, the resource operations plan must state—

(a) the monitoring requirements for water and natural ecosystems for this plan; and

(b) the reporting requirements for this plan for operators of infrastructure interfering with water in the plan area.

(2) Subsection (1) does not limit the monitoring requirements the chief executive may impose for this plan.

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 Amending plan

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;

(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.

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

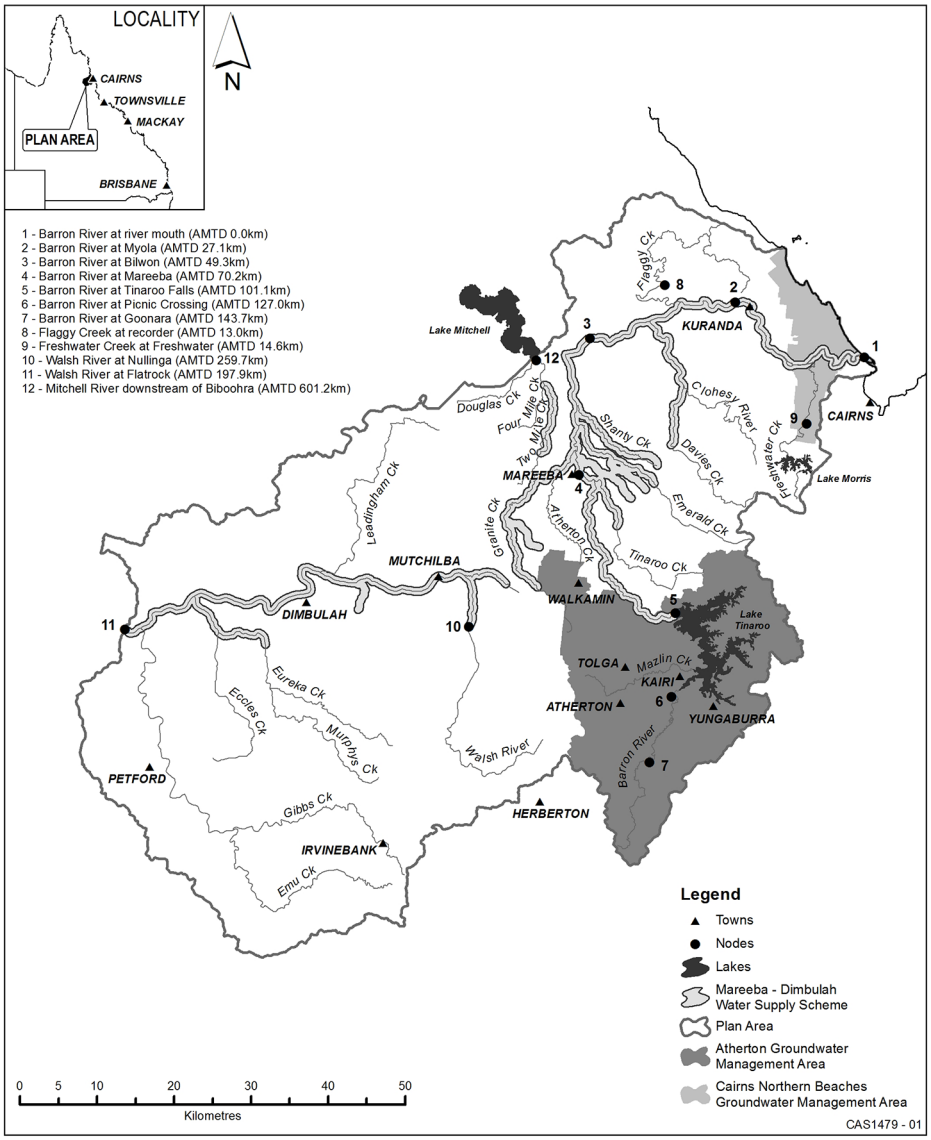
(E) the likely timeframe in which additional water will be required; and

(ii) there are economically viable and ecologically sustainable uses for additional water; or

(b) the plan's ecological outcomes are not being achieved.

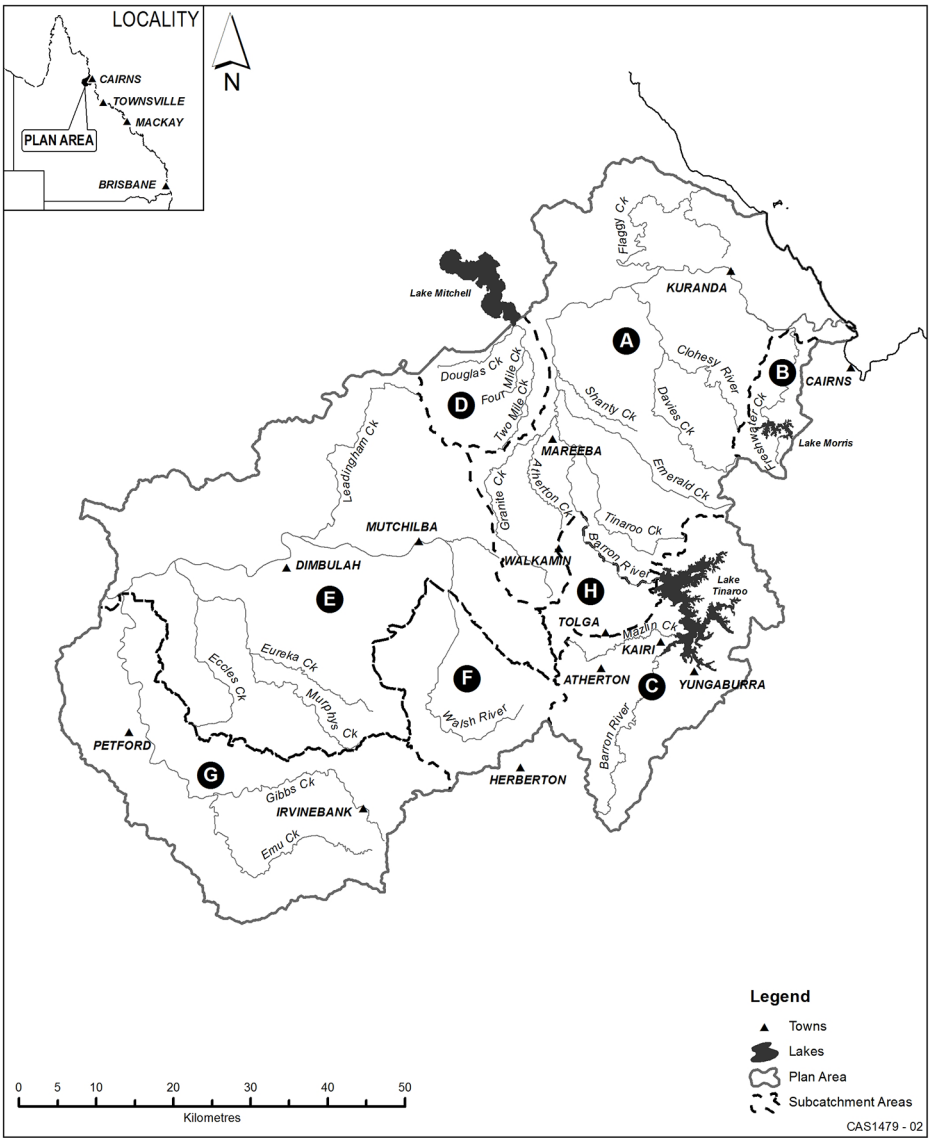
Schedule 1 Plan area

sections 4, 5 and 9



Schedule 2 Subcatchment areas

section 7



Schedule 4 Nodes

section 9

Node	Location
1	Barron River at river mouth (AMTD 0.0km)
2	Barron River at Myola (AMTD 27.1km)
3	Barron River at Bilwon (AMTD 49.3km)
4	Barron River at Mareeba (AMTD 70.2km)
5	Barron River at Tinaroo Falls (AMTD 101.1km)
6	Barron River at Picnic Crossing (AMTD 127.0km)
7	Barron River at Goonara (AMTD 143.7km)
8	Flaggy Creek at recorder (AMTD 13.0km)
9	Freshwater Creek at Freshwater (AMTD 14.6km)
10	Walsh River at Nullinga (AMTD 259.7km)
11	Walsh River at Flatrock (AMTD 197.9km)
12	Mitchell River downstream of Biboohra (AMTD 601.2km)

Schedule 5 Environmental flow objectives

section 18

Part 1 Low flow objectives

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

Table 1

Column 1	Column 2	Column 3	Column 4
Node	**January–April 50% daily flow**	**May–August 50% daily flow**	**September–December 50% daily flow**
8	122	47	7

2 At each node mentioned in table 2, 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 the table is equalled or exceeded be at least the percentage stated in the table.

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

Table 3

Column 1	Column 2	Column 3	Column 4
Node	**January–April 90% daily flow**	**May–August 90% daily flow**	**September–December 90% daily flow**
8	4	15	1

4 At each node mentioned in table 4, 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 the table is equalled or exceeded be at least the percentage stated in the table.

Table 4

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

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

Table 5

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

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

7 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

8 At each node mentioned in table 6, 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 of the table; 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 of the table; and

(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 of the table; 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 of the table; 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 of the table.

Table 6

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Node	**Mean annual flow %**	**1.5 year DFV %**	**5 yearDFV %**	**10 year DFV %**	**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	28
6	88	99	—	—	—
7	93	99	—	—	—
8	99.9	99.9	—	—	—
9	65	63	71	72	72
10	99	99	—	—	—
11	99	99	—	—	—
12	99	99	—	—	—

Part 3 Seasonal flow objectives

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

10 At each node mentioned in table 7, column 1, the annual proportional flow deviation be not more than the annual proportional flow deviation stated for the node in column 2 of the table.

Table 7

Column 1 Node	Column 2 Annual proportional flow deviation
1	1.5
2	1.5
3	1.9
4	2.3
5	3.2
9	1.7
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.

Part 2 Unsupplemented water

3 For a water allocation group mentioned in table 1, 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 1

Column 1	Column 2	Column 3	Column 4	Column 5
Water allocation group	**50%**	**70%**	**80%**	**95%**
CA	—	—	—	80
CB	100	90	85	—
CC	100	90	85	—
HB	100	90	85	—

4 For a water allocation group mentioned in table 2, column 1, the annual volume probability be at least the percentage stated for the group in column 2.

Table 2

Column 1	Column 2
Water allocation group	**Annual volume probability**
CA	70
CB	60
CC	90
HB	60

Schedule 7 Total volumes for water allocation groups

section 38

Column 1 Water allocation group	Column 2 ML
CA	3688
CB	18337
CC	175
HB	2210

Schedule 8 Rates and pump sizes

sections 40A, 41 and 45C

Column 1 Pump size (mm)	Column 2 Rate (litres/second)	Column 3 Daily volumetric limit (ML)
32	8	0.6
40	16	1
50	25	1.5
65	46	3.5
80	65	3.9
100	95	6.9
125	120	7.8
150	150	12.1
200	220	15.6
250	300	21.6
300	350	25.9
350	400	30.2
375 to 400	500	37.2
500	660	47.5
600 to 610	1200	86.4
650 to 660	1700	120

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;

(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 269.1km, including the ponded area, and Flatrock Gauging Station AMTD 197.9km;

(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 70.5km;

(s) the part of Leadingham Creek between the supplementation point and the creek's confluence with the Walsh River.

2 Barron River priority area

The Barron River priority area consists of the Barron River and its tributaries upstream of Lake Tinaroo.

3 Tolga priority area

The Tolga priority area consists of—

(a) Cherry Creek and its tributaries; and

(b) Spring Creek and its tributaries; and

(c) Rocky Creek and its 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.

amended water licence, for part 6, division 2, see section 54.

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' published by the department.

Editor's note—

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

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 volume probability, for a water allocation group, means the percentage of years in the simulation period in which the volume of water that may be taken by the group is at least the total of the nominal volumes for the allocations in the group.

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.

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

daily volumetric limit, for a water entitlement, means the maximum volume of water that may be taken under the entitlement 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.

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.

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.

groundwater see section 10(b).

groundwater management area means a groundwater management area under section 5.

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.

Editor's note—

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

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

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 entitlement see the *Water Regulation 2016*, section 28.

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.

original application, for a water licence, for part 6, division 2, see section 53(1)(a).

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 1ML a day.

plan area means the area shown as the plan area on the map in schedule 1.

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.

previous nominal entitlement, for a water licence, for part 6, division 2, see section 54.

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.

Note—

See the Act, section 1266.

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.

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

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(a).

unamended water licence, for part 6, division 2, see section 54.

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.

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.

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.