Queensland

Subordinate Legislation 2000 No. 359

Water Act 2000

WATER RESOURCE (BURNETT BASIN) PLAN 2000

TABLE OF PROVISIONS

PART 1—PRELIMINARY

Short title

1. This water resource plan may be cited as the *Water Resource (Burnett Basin) Plan 2000*.

Purposes of plan

2. The following are the purposes of this plan—

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

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

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

(d) to provide a framework for establishing water allocations;

(e) to provide a framework for reversing, where practicable, degradation that has occurred in natural ecosystems, including, for example, stressed rivers.

Definitions

3. The dictionary in schedule 9 defines particular words used in this plan.

PART 2—PLAN AREA AND WATER TO WHICH PLAN APPLIES

Plan area

4.(1) This plan applies to the area within the plan area boundary shown on the plan area map.

(2) The exact location of the plan area boundary is held in digital electronic form by the department.

(3) The information held in digital electronic form can be reduced or enlarged to show the details of the plan area boundary.[1]

Water to which plan applies

5. This plan applies to water in a watercourse, lake or spring in the plan area.

PART 3—OUTCOMES FOR SUSTAINABLE MANAGEMENT OF WATER

Division 1—General outcomes

General outcomes

6. Water is to be managed and allocated—

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

(b) to allow water to be taken for the following purposes—

(i) urban and industrial needs;

(ii) agriculture and aquaculture;

(iii) stock and domestic use;

(iv) small scale uses; and

(c) to protect the probability of being able to obtain water under a water allocation; and

(d) to maintain access to unregulated water by holders of authorisations to take unregulated water; and

(e) to provide for community aspirations about—

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1 The plan area boundary in digital electronic form may be inspected at the department's office at 16–32 Enterprise Street, Bundaberg.

(i) providing for future water requirements in the plan area; and

(ii) maintaining areas of significant conservation value, including, for example, the Auburn National Park and fish habitat areas; and

(iii) protecting species of significant conservation value, including, for example, lungfish and turtles; and

(f) to reduce reliance on subartesian water in areas affected, or potentially affected, by saltwater intrusion; and

(g) to make water available for the environment.

Division 2—Ecological outcomes

Ecological outcomes for plan area

7. Water is to be managed and allocated—

(a) to maintain pool habitats, and native plants and animals associated with the habitats, in watercourses; and

(b) to maintain long term water quality suitable for riverine and estuarine ecosystems; and

(c) to provide flow regimes that favour native plants and animals associated with watercourses and riparian zones; and

(d) to reduce saltwater intrusion in—

(i) the Gooburrum area groundwater system near Moore Park; and

(ii) the Woongarra area groundwater system near Elliott Heads; and

(e) to provide wet season flow to benefit native plants and animals, including, for example, fish and prawns, in estuaries; and

(f) to improve stream flow conditions to assist the movement of fish along watercourses.

Auburn River catchment

8. Water in the Auburn River catchment is to be managed and allocated—

(a) to maintain existing riverine habitats upstream of AMTD 6.0 km that sustain native plants and animals; and

(b) to maintain near natural river forming processes upstream of AMTD 6.0 km.

Barambah Creek and Stuart River catchments

9. Water in the Barambah Creek and Stuart River catchments is to be managed and allocated to maintain and improve existing riverine habitats, that sustain native plants and animals, in the catchments.

Boyne River catchment

10. Water in the Boyne River catchment is to be managed and allocated—

(a) to maintain existing riverine habitats upstream of AMTD 5.0 km that sustain native plants and animals; and

(b) to maintain and improve existing river forming processes upstream of AMTD 5.0 km.

Burnett River basin and Burnett River

11.(1) Water in the Burnett River basin is to be managed and allocated to, if practicable, minimise the frequency and duration of marine conditions in the estuary of the Burnett River.

(2) Water in the Burnett River is to be managed and allocated to maintain lungfish habitat in the river particularly lungfish habitat downstream of Gayndah at AMTD 200 km.

Elliott, Gregory and Isis river basins

12. Water in the Elliott, Gregory and Isis river basins is to be managed and allocated—

(a) to maintain existing riverine habitats, that sustain native plants and animals, in the basins; and

(b) to maintain existing estuarine habitats, particularly in fish habitat areas, that—

(i) sustain native plants and animals; and

(ii) are dependant on estuarine processes; and

(c) to maintain near natural river forming processes in the basins.

Kolan River basin

13. Water in the Kolan River basin is to be managed and allocated—

(a) to maintain and improve existing riverine habitats, that sustain native plants and animals, in the basin; and

(b) to maintain and improve existing estuarine habitats, particularly in fish habitat areas, that—

(i) sustain native plants and animals; and

(ii) are dependant on estuarine processes; and

(c) to maintain and improve river forming processes in the basin.

PART 4—ENVIRONMENTAL FLOW AND COMPENSATION FLOW OBJECTIVES, WATER ALLOCATION SECURITY OBJECTIVES AND PERFORMANCE INDICATORS

Division 1—Preliminary

Subdivision 1—Calculation of objectives and performance indicators

Calculation of objectives

14. The environmental flow and compensation flow objectives and the water allocation security objectives stated in this plan have been calculated using the IQQM computer program.

Calculation of performance indicators

15.(1) For the environmental flow and compensation flow objectives and the water allocation security objectives, the performance indicators are calculated using the IQQM computer program's simulation for the period from 1 July 1890 to 30 June 1997 (the **"simulation period"**).

(2) If it is not practicable to use the IQQM computer program to calculate the performance indicators, they may be calculated under an assessment method approved by the chief executive.

(3) The chief executive may approve an assessment method for subsection (2) only if satisfied it will calculate the performance indicators at least as accurately as the IQQM computer program.

Subdivision 2—Water project areas, subcatchment areas and nodes

Water project areas

16.(1) Each area described in schedule 2 is a water project area for this plan.

(2) A water project area is a priority area for the conversion to or granting of water allocations to take water in the plan area.

Subcatchment areas

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

(2) Each subcatchment area is identified on the map by a letter of the alphabet.

(3) The exact location of the boundaries of the subcatchment areas is held in digital electronic form by the department.

(4) The information held in digital electronic form can be reduced or enlarged to show the details of a particular subcatchment area.[2]

Nodes

18.(1) A node mentioned in this plan is a place on a watercourse in the plan area.

(2) The number and location of each node are shown on the plan area map and described in schedule 4.

Division 2—Environmental flow objectives and performance indicators

Objectives

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

Performance indicators

20. The performance indicators—

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2 The boundary locations in digital electronic form may be inspected at the department's office at 16–32 Enterprise Street, Bundaberg.

(a) for low flow environmental flow objectives are as follows—

(i) daily flow less than 2 ML;

(ii) 50% daily flow exceedence;

(iii) 90% daily flow exceedence;

(iv) low flow exceedence duration (10 cm above cease-to-flow);

(v) low flow exceedence duration (30 cm above cease-to-flow);

(vi) number of periods of no flow of at least 1 month;

(vii) number of periods of no flow of at least 3 months;

(viii) number of periods of no flow of at least 6 months;

(ix) number of periods of no flow of at least 9 months; and

(b) for medium to high flow environmental flow objectives are as follows—

(i) annual proportional flow deviation;

(ii) flow regime class;

(iii) mean annual flow;

(iv) mean wet season flow;

(v) 1.5 year average recurrence interval daily flow volume;

(vi) 5 year average recurrence interval daily flow volume;

(vii) 20 year average recurrence interval daily flow volume.

Division 3—Compensation flow objectives and performance indicators

Objectives

21. At Ban Ban gauging station on Barambah Creek—

(a) the number of periods of at least 3 months (a **"dry period"**) in the simulation period in which flow for each day in the dry period is less than 2 ML a day must be no more than 5; and

(b) there must be no periods of 6 months or more (also a **"dry**

period") in which flow for each day in the dry period is less than 2 ML a day.

Performance indicators

22. The performance indicators for the compensation flow objectives are—

(a) the number of periods of at least 3 months in which flow for each day in the period is less than 2 ML a day; and

(b) the number of periods of at least 6 months in which flow for each day in the period is less than 2 ML a day.

Division 4—Water allocation security objectives and performance indicators

Objectives

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

(a) for water allocations to take regulated water in a water project area—schedule 6, part 1; and

(b) for water allocations to take unregulated water in a subcatchment area—schedule 6, part 2.

Performance indicators

24.(1) The performance indicator for water allocation security objectives for water allocations to take regulated water in a water project area is the regulated water sharing index.

(2) The performance indicators for water allocation security objectives for water allocations to take unregulated water in a subcatchment area are as follows—

(a) 30% unregulated water sharing index;

(b) 50% unregulated water sharing index;

(c) 70% unregulated water sharing index.

PART 5—STRATEGIES FOR ACHIEVING OUTCOMES AND IMPLEMENTING THE PLAN

Decisions about managing or allocating water

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

(a) the environmental flow objectives stated in schedule 5; and

(b) the compensation flow objectives stated in section 21; and

(c) the water allocation security objectives stated in schedule 6.

Matters chief executive must consider

26.(1) In making a decision about the allocation of water in the plan area, the chief executive must consider the following—

(a) the availability of water for the purpose for which it is intended to be taken;

(b) the availability of an alternative water supply for the purpose including the more efficient use of water already available;

(c) whether the volume of water intended to be taken should be restricted or a meter approved by the chief executive should be used to measure the volume of water taken;

(d) whether the taking should be restricted during particular periods, including, for example, when—

(i) there is no water flow in a watercourse; or

(ii) the water flow is insufficient for downstream water users or to sustain the health of ecosystems; or

(iii) water is released for the benefit of the environment;

(e) the impact of the proposed taking or proposed water infrastructure on the following—

(i) achieving the outcomes under part 3;

(ii) water quality;

(iii) inundation of streambed habitat;

(iv) the movement of fish and other aquatic species;

(v) the natural variability and duration of seasonal streamflow patterns;

(vi) the extent to which rapid artificial variations in instream water levels may adversely affect the environment;

(vii) cultural values, including, for example, cultural values of local Aboriginal communities;

(f) if the taking involves the transfer of water between watercourses in different river basins—whether the taking is likely to adversely affect the water quality and the ecology of the watercourse into which the water is transferred.

(2) Subsection (1)—

(a) does not apply to a decision about granting a licence under the *Water (Transitional) Regulation 2000*, section 5(1)(c), to take unregulated water in the Burnett River; and

(b) does not limit the matters the chief executive may consider in making a decision about the allocation of water in the plan area.

Restriction on taking water from waterholes or lakes

27.(1) The chief executive may grant a licence, permit or water allocation to take water from a waterhole or lake in the plan area only if—

(a) the chief executive imposes a condition on the licence, permit or water allocation 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 the waterhole or lake naturally overflows; or

(b) the chief executive is satisfied the taking of the water will not adversely affect the cultural and environmental values of the waterhole or lake.

(2) Subsection (1) does not apply to the following—

(a) a permit for stock or domestic purposes;

(b) a licence to irrigate crops for feeding stock if the area under

irrigation is not more than 10 ha;

(c) any other authorisation in force immediately before the commencement;

(d) a water allocation converted from an authorisation mentioned in paragraph (c).

(3) Subsections (1) and (2) do not limit the restrictions that may be imposed on the taking of water from a waterhole or lake.

Restriction on taking water from the Elliott, Gregory and Isis river basins

28. The chief executive may grant a licence or water allocation to take water from the Elliott, Gregory or Isis river basins (the **"relevant area"**) only if—

(a) the licence or water allocation is for urban water supply; and

(b) the volume of water allowed to be taken under the licence or water allocation does not result in the total volume of water allowed to be taken from the relevant area under licences and water allocations for urban water supply being more than 1 000 ML a year.

Restriction on taking water from the Auburn River catchment

29. The chief executive may grant a licence or water allocation to take water from the Auburn River catchment only if the volume of water allowed to be taken under the licence or water allocation does not increase the total volume of water allowed to be taken from the catchment under licences and water allocations.

Restriction on taking water from the Boyne River catchment

30. The chief executive may grant a licence or water allocation to take water from the Boyne River catchment only if the volume of water allowed to be taken under the licence or water allocation does not increase the total volume of water allowed to be taken from the catchment under licences and water allocations.

Maximum daily rates for taking water

31. The maximum daily rate at which water may be taken under an authorisation is—

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

(b) for an authorisation that does not state a maximum daily rate but states a pump size—

(i) for a pump size mentioned in schedule 7, column 1—the rate stated in schedule 7, column 2, for the pump size; and

(ii) for other pump sizes—the rate decided by the chief executive using the information about pump sizes and rates contained in schedule 7; and

(c) for another authorisation—the rate decided by the chief executive having regard to—

(i) the nature of the authorisation; and

(ii) the outcomes under part 3; and

(iii) the environmental flow and compensation flow objectives and the water allocation security objectives under part 4.

Annual volumes of water that may be taken

32.(1) The annual volume of water that may be taken under an authorisation is—

(a) for an authorisation to take regulated water that states an annual volume of water that may be taken—the stated volume; and

(b) for another authorisation in force immediately before the commencement—a volume decided by the chief executive having regard to the following criteria—

(i) the environmental flow and compensation flow objectives and the water allocation security objectives;

(ii) the water taking capacity of any authorised works associated with taking water under the authorisation if the works were in existence, or started, immediately before the

commencement;

(iii) the annual volumes of water estimated by the chief executive to have been taken under the authorisation during the period, of no more than 10 years, before the commencement;

(iv) the efficiency of the use of the water mentioned in subparagraph (iii);

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

(vi) for an authorisation that states the area that may be irrigated—the volume of water required to efficiently irrigate the area, including limiting the volume to an amount calculated by multiplying the area, in hectares, by 6 ML for each hectare; and

(c) for another authorisation—a volume decided by the chief executive having regard to—

(i) the outcomes under part 3; and

(ii) the environmental flow and compensation flow objectives and the water allocation security objectives under part 4.

(2) Subsection (3) applies to an authorisation mentioned in subsection (1)(b) for taking water in a subcatchment area mentioned in schedule 8, column 1.

(3) In deciding the annual volume that may be taken under the authorisation, the chief executive must ensure—

(a) for authorisations that, immediately before the commencement, stated the area that may be irrigated—the simulated mean annual diversion calculated for all of those authorisations in the subcatchment area is not more than the total volume stated in schedule 8, column 2, for the subcatchment area; and

(b) for other authorisations—the simulated mean annual diversion calculated for all of those authorisations in the subcatchment area is not more than the total volume stated in schedule 8, column 3, for the subcatchment area.

Authorisations to state maximum daily rate and annual volume

33.(1) The maximum daily rate at which water may be taken, and the annual volume of water that may be taken, under an authorisation must be stated on the authorisation.

(2) However, the maximum daily rate at which water may be taken under a water allocation managed under a resource operations licence does not need to be stated on the allocation.

Converting authorisations

34.(1) This section applies to a water allocation converted from an authorisation.

(2) If the water allocation is for regulated water, the allocation belongs to—

(a) if an interim resource operations licence identifies the authorisation as high priority or high-A priority—the high priority group; and

(b) for other authorisations—the medium priority group.

(3) The location from which water may be taken that is stated on the water allocation must be the same as the location stated on the authorisation.

(4) The flow conditions under which water may be taken under a water allocation not managed under a resource operations licence are decided by the chief executive having regard to—

(a) the environmental flow and compensation flow objectives and the water allocation security objectives under part 4; and

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

Releasing water through fish ways

35. The environmental management rules under a resource operations plan must provide for releases of water through fish ways if water to which the plan relates can be released from a dam through fish ways.

Changing rules for water project areas

36.(1) This section applies to an existing resource operations plan that includes environmental management rules, water sharing rules, water allocation transfer rules or seasonal water assignment rules for water in a water project area.

(2) Before changing the rules in the plan, the chief executive must consider whether the change would maintain or improve the annual reliability of supply for water allocations in the area.

Unallocated water in plan area

37.(1) Unallocated water in the plan area is available for future water requirements only under a resource operations plan.

(2) Subsection (1) does not apply to water taken under a licence granted under the *Water (Transitional) Regulation 2000*, section 5(1)(c).

Implementation schedule

38.(1) It is proposed to prepare a resource operations plan—

(a) to make unallocated water available for future water requirements in the plan area within 1 year after the commencement; and

(b) to implement the monitoring requirements in part 6 within 1 year after the commencement; and

(c) to convert water licences and interim water allocations for water in a water project area to water allocations; and

(d) to require metering of the volume of water taken under an authorisation; and

(e) to include environmental management rules, water sharing rules, water allocation transfer rules and seasonal water assignment rules for water in a water project area.

(2) For the matters mentioned in subsection (1)(c) to (e) it is proposed to prepare the plan for the following water project areas within the period after the commencement stated for the area—

(a) Boyne River water project area—1 year;

(b) Bundaberg water project area—1 year;

(c) Barker–Barambah water project area—2 years;

(d) Upper Burnett water project area—2 years;

(e) Three Moon Creek water project area—3 years.

(3) For the matters mentioned in subsection (1)(d) and (e) it is proposed to prepare the plan for the plan area, other than water project areas mentioned in subsection (2), within 5 years after the commencement.

(4) As soon as practicable after the resource operations plan is prepared fokr a part of the plan in relation to a matter mentioned in subsection (1)(c), (d) or (e), it is proposed to amend water licences to take water in the part that are inconsistent with this plan.

Preparing resource operations plan for Boyne River water project area

39. In preparing a resource operations plan for the Boyne River water project area, the chief executive must consider the following in relation to improving performance against the water allocation security objectives in the area—

(a) using capacity sharing as the basis for the water sharing rules for the area;

(b) upgrading the efficiency or capacity of water infrastructure in the area;

(c) restricting the volume of water that may be taken under a water allocation by having regard to the criteria mentioned in section 32(1)(b)(ii) to (v) in relation to the authority from which the water allocation is converted;

(d) progressively reducing the number of water allocations in the area.

PART 6—MONITORING AND REPORTING REQUIREMENTS

Monitoring

40.(1) The monitoring requirements for the plan are—

(a) water monitoring, in relation to—

(i) river flow; and

(ii) diversions of water; and

(iii) water quality; and

(b) natural ecosystems monitoring, in relation to—

(i) volume, frequency, duration and season of streamflows; and

(ii) the health and distribution of animal, plant and micro-organism species and communities; and

(iii) the 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.

(2) The monitoring requirements are to be achieved by—

(a) monitoring programs undertaken by water infrastructure operators under a resource operations plan; and

(b) monitoring programs undertaken by community groups with relevant State agencies; and

(c) monitoring programs administered by relevant State agencies.

Monitoring programs undertaken by water infrastructure operators

41.(1) Each water infrastructure operator must develop and undertake monitoring programs, satisfactory to the chief executive, that include monitoring the following in the water project area in which the operator manages water—

(a) water, in relation to the matters stated in section 40(1)(a);

(b) natural ecosystems, in relation to the matters stated in section 40(1)(b).

(2) For subsection (1)(a), the programs must include monitoring the following—

(a) water quantity including—

(i) the flow of water at gauging stations; and

(ii) deliveries and diversions of water; and

(iii) inflows of water to dams; and

(iv) the quantity of water released from a dam for each of the following—

(A) consumption;

(B) the environment;

(C) the operation of fish ways;

(D) any other purpose decided by the chief executive; and

(v) the level of water in a dam;

(b) water quality including—

(i) temperature; and

(ii) biological, chemical and physical measurements;

(c) the operation of outlet works relating to a dam including, for example, multi-level offtakes.

(3) The monitoring programs must assist in enabling the chief executive to assess the effectiveness of the strategies under part 5.

Water infrastructure operators to give reports

42.(1) Each water infrastructure operator 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 41;

(b) details of decisions made by the operator in managing water and water infrastructure, including, for example, decisions about the following—

(i) making water available to water users under the operator's usual procedures for managing water in a water project area;

(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 operator with a resource operations plan for the area;

(d) details about remedial action taken by the operator—

(i) in relation to a requirement under a resource operations plan; or

(ii) in response to an event or thing affecting water quality;

(e) details of any emergency action taken by the operator that may affect the achievement of the outcomes under part 3.

(2) A report about a matter mentioned in subsection (1)(a) and (b)(i) and (ii) must be given—

(a) for each financial year in which the operator 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) and (iv), (c) and (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 7—MINISTER'S REPORT AND AMENDING PLAN

Minister's report on plan—Act, s 53

43. The Minister's report[3] on this plan must be prepared—

(a) for each financial year the plan is in force; and

(b) within 6 months after the end of the financial year to which the report relates.

Minor amendment of plan—Act, s 57

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

(a) an amendment to extend an environmental flow or compensation flow objective or water allocation security objective to other parts of the plan area if the amendment 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 an environmental flow or compensation 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;

(c) an amendment or addition of a water allocation security objective if the amendment or addition does not adversely affect existing water allocations, environmental flow or compensation flow objectives or the outcomes under part 3;

(d) an amendment or addition of a water project area;

(e) an amendment or addition of a monitoring or reporting requirement under part 6.

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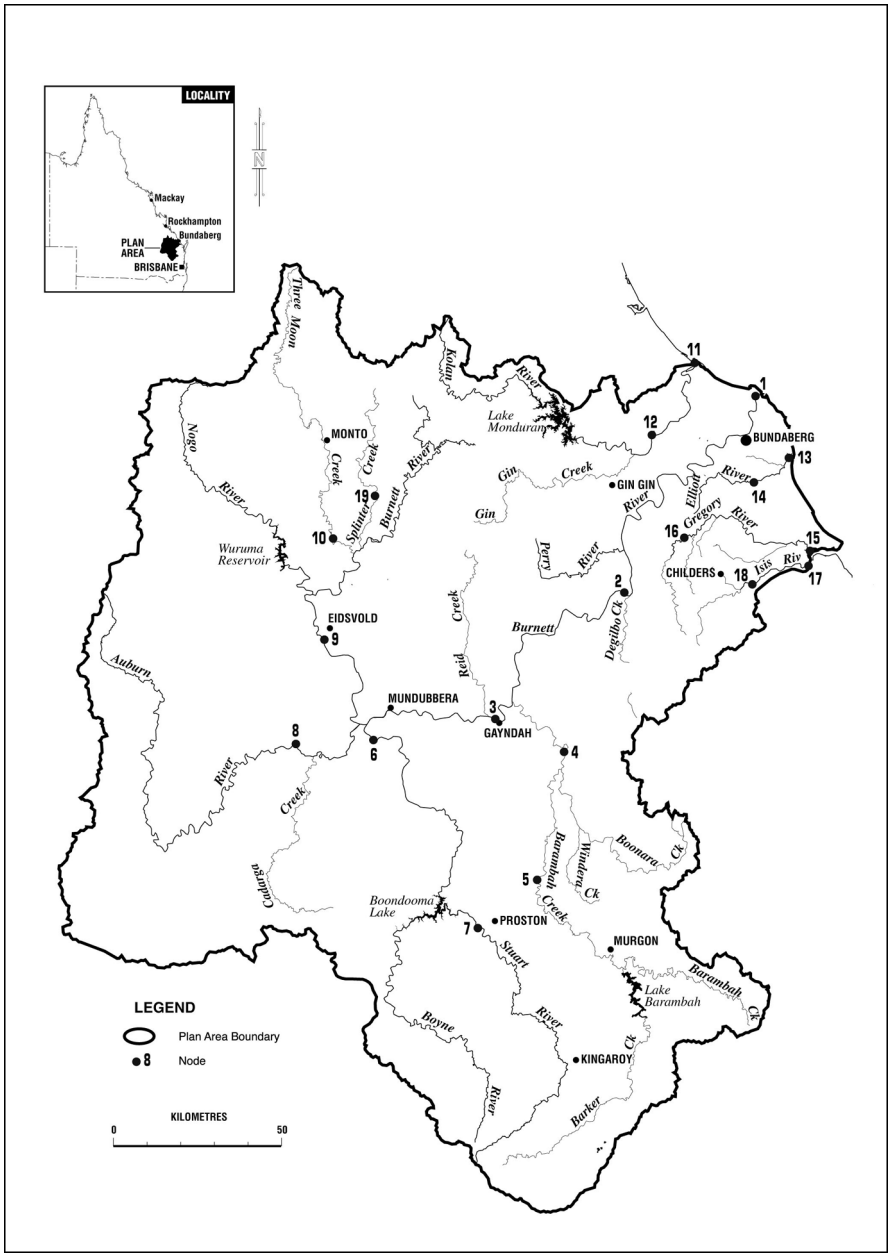
3 See section 54 (Matters the reports must include) of the Act

SCHEDULE 1

PLAN AREA MAP

section 4



SCHEDULE 2

WATER PROJECT AREAS

section 16(1)

Barker–Barambah water project area

1. The Barker–Barambah water project area consists of—

(a) the part of Barambah Creek between Stonelands gauging station and Francis Weir (AMTD 89.8 km to AMTD 190.0 km); and

(b) the part of Barker Creek between the confluence of Barker and Barambah Creeks and Bjelke–Petersen Dam, including the impounded area of the dam (AMTD 0.0 km to AMTD 38.2 km).

Boyne River water project area

2. The Boyne River water project area consists of the part of the Boyne River between the confluence of the Boyne and Burnett rivers and Boondooma Dam, including the impounded area of the dam (AMTD 0.0 km to AMTD 115.1 km).

Bundaberg water project area

3. The Bundaberg water project area consists of—

(a) the part of the Kolan River between Kolan Barrage and Fred Haigh Dam, including the impounded area of the dam and Bucca Weir (AMTD 14.5 km to AMTD 115 km); and

(b) the part of the Burnett River between Ben Anderson Barrage and Walla Weir upstream full supply level (AMTD 25.9 km to AMTD 117.6 km); and

(c) Sheepstation Creek between AMTD 0.0 km and AMTD 8.6 km; and

(d) St Agnes Creek between AMTD 0.0 km and AMTD 1.3 km.

SCHEDULE 2 (continued)

Three Moon Creek water project area

4. The Three Moon Creek water project area consists of—

(a) the part of Three Moon Creek between the confluence of Three Moon Creek and the Burnett River and Cania Dam, including the impounded area of the dam (AMTD 13.2 km to AMTD 130.8 km); and

(b) the part of Monal Creek between AMTD 0.0 km and AMTD 2.8 km.

Upper Burnett water project area

5. The Upper Burnett water project area consists of—

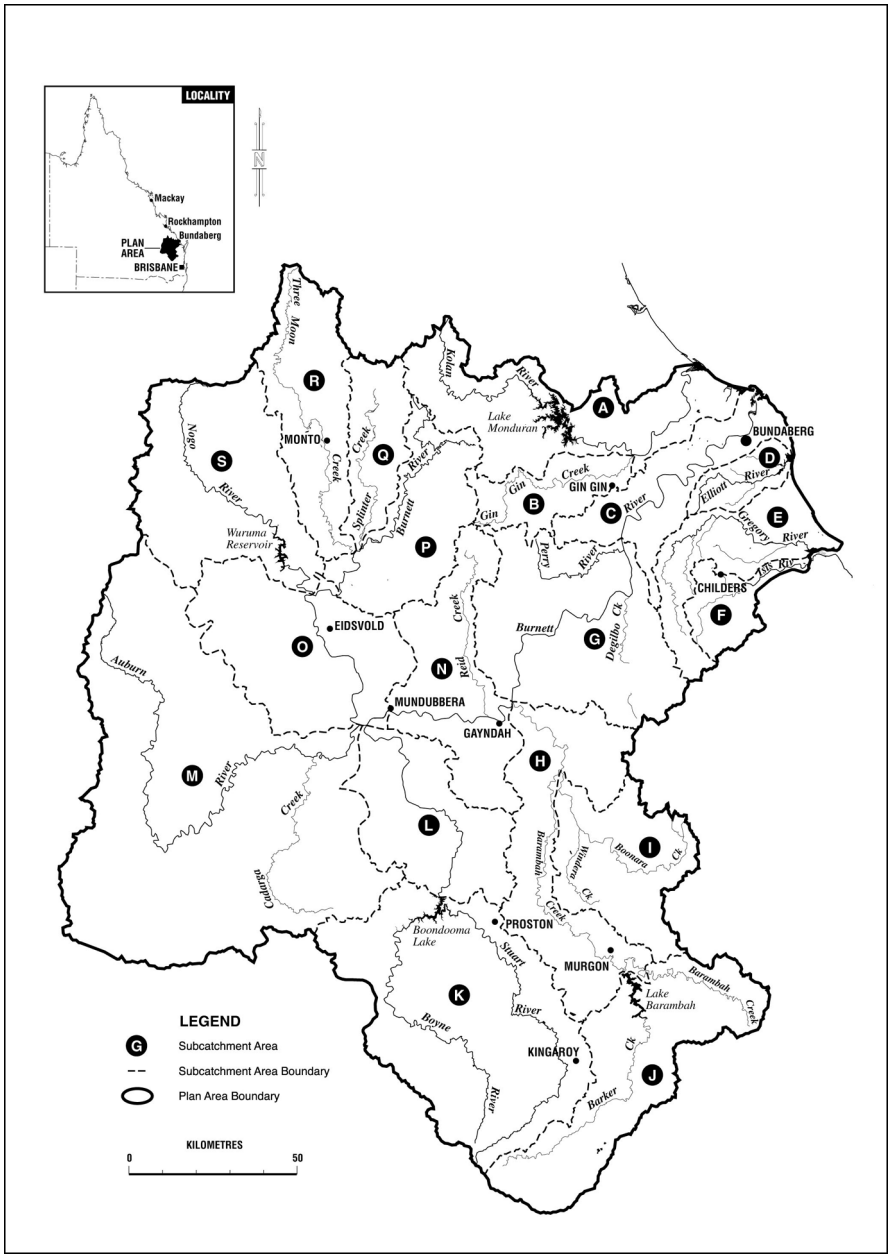
(a) the part of the Burnett River between the confluence of the river and St Agnes Creek and John Goleby Weir, including the impounded areas of Claude Wharton Weir and Jones Weir (AMTD 97.9 km to AMTD 324.8 km); and

(b) the part of the Nogo River between the confluence of the Nogo and Burnett rivers and Wuruma Dam, including the impounded area of the dam (AMTD 0.0 km to AMTD 50.9 km).

SCHEDULE 3

SUBCATCHMENT AREAS

section 17(1)



SCHEDULE 4

NODES

section 18(2)

Node	Location
1	Burnett River at river mouth (AMTD 0.0 km)
2	Burnett River at Figtree gauging station (AMTD 119 km)
3	Burnett River at Gayndah flume (AMTD 201.3 km)
4	Barambah Creek at Ban Ban (AMTD 35.1 km)
5	Barambah Creek at Stonelands (AMTD 90.3 km)
6	Boyne River at Derra (AMTD 6.4 km)
7	Stuart River at Proston Rifle Range (AMTD 24.1 km)
8	Auburn River at Glenwood (AMTD 37.9 km)
9	Burnett River at Eidsvold (AMTD 291.1 km)
10	Three Moon Creek at Abercorn (AMTD 13.1 km)
11	Kolan River at river mouth (AMTD 0.0 km)
12	Kolan River at Bucca Weir Tailwater (AMTD 37.9 km)
13	Elliott River at river mouth (AMTD 0.0 km)
14	Elliott River at Elliott gauging station (AMTD 17.0 km)
15	Gregory River at river mouth (AMTD 0.0 km)
16	Gregory River at Burrum Highway (AMTD 47.9 km)
17	Isis River at river mouth (AMTD 0.0 km)
18	Isis River at Bruce Highway (AMTD 22.7 km)
19	Splinter Creek at Dakiel (AMTD 74.8 km)

SCHEDULE 5

ENVIRONMENTAL FLOW OBJECTIVES

section 19

PART 1—LOW FLOW OBJECTIVES

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

TABLE 1

Column 1 **Node**	**Column 2** **Min–Max %**
1	2–18
2	2–20
3	2–26
4	2–20
5	2–20
6	2–34
7	2–32
8	46–82
9	10–46
10	44–80
11	2–26
12	2–26
13	2–20
14	2–26

SCHEDULE 5 (continued)

15	24–60
16	32–68
17	2–38
18	6–42
19	40–76

2. At each node mentioned in table 2, column 1, the 50% daily flow exceedence stated for each month for the node should be equalled or exceeded between 32% and 68% of the total number of days in the month in the simulation period.

TABLE 2

Column 1	**Column 2**											
Node	**50% daily flow exceedence (ML/day)**											
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
1	1313	1519	1154	583	315	280	255	154	137	212	370	789
2	976	1108	828	403	208	208	195	109	101	140	244	621
3	520	539	408	157	72	75	60	25	22	50	109	305
4	185	214	211	130	77	84	74	49	51	64	69	143
5	126	144	126	84	59	63	59	45	45	54	59	102
6	124	133	92	33	13	14	12	6	6	15	28	65
7	23	24	16	9	6	6	6	4	4	6	7	18
8	4	12	4	0	0	0	0	0	0	0	0	0
9	78	117	102	44	26	23	17	4	3	5	16	46
10	1	3	2	1	0	0	0	0	0	0	0	1
11	518	780	585	326	201	167	135	87	58	73	117	218
12	359	550	423	242	158	135	125	82	57	68	100	167
13	44	60	62	53	41	38	34	25	21	20	19	23
14	21	33	36	31	22	20	18	14	12	11	10	12

SCHEDULE 5 (continued)

15	24	49	49	23	12	7	4	1	0	0	0	2
16	9	20	20	7	4	2	1	0	0	0	0	1
17	22	35	30	16	9	7	7	4	3	3	5	12
18	18	28	24	13	7	6	6	3	2	2	4	10
19	0	3	4	3	1	2	2	0	0	0	0	0

3. At each node mentioned in table 3, column 1, the 90% daily flow exceedence stated for each month for the node should be equalled or exceeded between 72% and 100% of the total number of days in the month in the simulation period.

TABLE 3

Column 1	**Column 2**											
Node	**90% daily flow exceedence (ML/day)**											
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
1	173	191	163	73	49	38	28	23	13	15	28	132
2	92	110	76	28	19	17	16	12	9	11	15	71
3	18	35	16	4	1	3	2	1	0	0	1	16
4	23	19	17	11	10	9	10	7	6	8	9	11
5	12	12	15	12	10	9	9	7	7	8	9	10
6	4	8	4	2	1	1	1	0	0	0	1	2
7	2	2	3	1	1	1	1	0	0	0	1	1
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	14	57	58	18	6	5	2	0	0	0	0	2
12	11	40	41	12	5	5	3	1	0	0	1	3
13	3	4	9	10	13	12	11	9	7	4	3	2
14	0	0	3	4	4	5	4	4	3	2	1	0

SCHEDULE 5 (continued)

15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	2	4	4	2	0	0	0	0	0	0	0	0
18	1	3	3	1	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0

4. At each node mentioned in table 4, column 1—

(a) low flow exceedence duration (10 cm above cease-to-flow) should be between the minimum and maximum percentages stated for the node in column 2; and

(b) low flow exceedence duration (30 cm above cease-to-flow) should be between the minimum and maximum percentages stated for the node in column 3.

TABLE 4

Column 1 **Node**	**Column 2** **Min–Max %**	**Column 3** **Min–Max %**
2	76–98	52–88
3	64–98	35–71
4	76–98	36–72
5	76–98	32–68
6	54–90	24–60
7	66–98	7–43
8	15–51	3–39
9	48–84	22–58
10	18–54	2–31
14	70–98	2–37
16	28–64	2–31
18	50–86	2–30
19	16–52	2–25

SCHEDULE 5 (continued)

5. At each node mentioned in table 5, column 1—

(a) the number of periods of no flow of at least 1 month in the simulation period should be between the minimum and maximum number stated for the node in column 2; and

(b) the number of periods of no flow of at least 3 months in the simulation period should be between the minimum and maximum number stated for the node in column 3; and

(c) the number of periods of no flow of at least 6 months in the simulation period should be between the minimum and maximum number stated for the node in column 4; and

(d) the number of periods of no flow of at least 9 months in the simulation period should be between the minimum and maximum number stated for the node in column 5.

TABLE 5

Column 1 Node	**Column 2 Min–Max**	**Column 3 Min–Max**	**Column 4 Min–Max**	**Column 5 Min–Max**
1	0–2	0–0	0–0	0–0
2	0–5	0–2	0–0	0–0
3	11–33	0–3	0–0	0–0
4	2–6	0–2	0–0	0–0
5	0–0	0–0	0–0	0–0
6	25–72	2–6	0–0	0–0
7	18–53	2–6	0–0	0–0
8	109–315	26–75	8–24	4–12
9	50–145	3–9	0–2	0–0
10	104–300	7–20	0–2	0–0
11	9–25	0–0	0–0	0–0
12	8–23	0–3	0–3	0–0
19	100–289	38–109	15–45	6–18

SCHEDULE 5 (continued)

PART 2—MEDIUM TO HIGH FLOW OBJECTIVES

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

(a) the annual proportional flow deviation (**"APFD"**) must be less than the APFD stated for the node in column 2; and

(b) the mean annual flow, expressed as a percentage of the mean annual flow for the pre-development flow sequence, must be at least the percentage stated for the node in column 3; and

(c) the 1.5 year average recurrence interval daily flow volume (**"1.5 year ARI"**), expressed as a percentage of the 1.5 year ARI for the pre-development flow sequence, must be at least the percentage stated for the node in column 4; and

(d) the 5 year average recurrence interval daily flow volume (**"5 year ARI"**), expressed as a percentage of the 5 year ARI for the pre-development flow sequence, must be at least the percentage stated for the node in column 5; and

(e) the 20 year average recurrence interval daily flow volume (**"20 year ARI"**), expressed as a percentage of the 20 year ARI for the pre-development flow sequence, must be at least the percentage stated for the node in column 6.

(2) Also, at each node mentioned in table 6, column 1—

(a) the extent to which the APFD is more than 2 should be minimised; and

(b) the extent to which the mean annual flow expressed as a percentage of the mean annual flow for the pre-development flow sequence is less than 81% should be minimised; and

(c) the extent to which the 1.5 year ARI expressed as a percentage of the 1.5 year ARI for the pre-development flow sequence is less than 74% should be minimised; and

(d) the extent to which the 5 year ARI expressed as a percentage of the 5 year ARI for the pre-development flow sequence is less than 71% should be minimised; and

SCHEDULE 5 (continued)

(e) the extent to which the 20 year ARI expressed as a percentage of the 20 year ARI for the pre-development flow sequence is less than 82% should be minimised.

TABLE 6

Column 1 Node	**Column 2 APFD**	**Column 3 Mean annual flow %**	**Column 4 1.5 year ARI %**	**Column 5 5 year ARI %**	**Column 6 20 year ARI %**
1	2.0	75	69	71	82
2	2.0	81	74	71	82
3	2.0	81	74	71	82
4	2.0	79	74	71	82
5	2.7	62	51	62	71
6	2.9	69	37	52	63
7	2.0	81	69	71	82
8	0.1	99	99	100	100
9	2.3	81	66	71	82
10	2.3	75	66	56	80
11	2.0	76	72	70	58
12	2.1	78	67	69	66
13	1.1	85	74	100	100
14	1.0	87	85	100	100
15	0.4	96	95	100	100
16	0.1	99	99	100	100
17	0.2	98	99	100	100
18	0.1	99	99	100	100
19	2.0	81	74	71	82

2. The flow regime class at each node must be maintained as ‘late summer’ flow regime class.

SCHEDULE 5 (continued)

3. At each of the following nodes the mean wet season flow, expressed as a percentage of the mean wet season flow for the pre-development flow sequence, must be at least the percentage stated for the node—

(a) node 1—80%;

(b) node 11—77%;

(c) node 13—90%;

(d) node 15—97%;

(e) node 17—99%.

SCHEDULE 6

WATER ALLOCATION SECURITY OBJECTIVES

PART 1—REGULATED WATER

section 23

1. For water allocations in a high priority group in a water project area—

(a) the regulated water sharing index must be at least 95%; and

(b) the extent to which the regulated water sharing index is less than 100% should be minimised.

2.(1) For water allocations in a medium priority group in the following water project areas, the regulated water sharing index for the allocations must be at least the percentage stated for the area—

(a) Barker–Barambah water project area—85%;

(b) Boyne River water project area—73%;

(c) Bundaberg water project area—90%;

(d) Upper Burnett water project area—90%.

(2) Also, for water allocations in a medium priority group in the following water project areas, the extent to which the regulated water sharing index for the allocations is less than the percentage stated for the area should be minimised—

(a) Barker–Barambah water project area—90%;

(b) Boyne River water project area—90%;

(c) Bundaberg water project area—95%;

(d) Three Moon Creek water project area—90%;

(e) Upper Burnett water project area—95%.

SCHEDULE 6 (continued)

PART 2—UNREGULATED WATER

1. For all water allocations for taking unregulated water in a subcatchment area mentioned in table 1, column 1, the 30% unregulated water sharing index must be more than—

(a) for the group of allocations converted from authorisations that stated the areas that may be irrigated—the percentage stated in table 1, column 2, for the subcatchment area; and

(b) for the group of other allocations—the percentage stated in table 1, column 3, for the subcatchment area.

TABLE 1

Column 1 Subcatchment area	Column 2 %	Column 3 %
A	111	113
B	107	108
C	113	106
D	113	127
E	116	114
F	113	110
G	104	105
H	105	131
I	111	118
J	106	114
K	107	114
L	110	111

SCHEDULE 6 (continued)

M	107	107
N	108	111
O	106	112
P	106	136
Q	117	118
R	109	113
S	106	112

2. For all water allocations for taking unregulated water in a subcatchment area mentioned in table 2, column 1, the 50% unregulated water sharing index must be more than—

(a) for the group of allocations converted from authorisations that stated the areas that may be irrigated—the percentage stated in table 2, column 2, for the subcatchment area; and

(b) for the group of other allocations—the percentage stated in table 2, column 3, for the subcatchment area.

TABLE 2

Column 1 **Subcatchment area**	**Column 2** **%**	**Column 3** **%**
A	94	96
B	95	92
C	96	95
D	96	92
E	97	91
F	96	91
G	97	97

SCHEDULE 6 (continued)

H	95	107
I	96	106
J	97	103
K	98	96
L	98	101
M	99	97
N	98	102
O	97	101
P	98	110
Q	101	94
R	100	97
S	97	101

3. For all water allocations for taking unregulated water in a subcatchment area mentioned in table 3, column 1, the 70% unregulated water sharing index must be more than—

(a) for the group of allocations converted from authorisations that stated the areas that may be irrigated—the percentage stated in table 3, column 2, for the subcatchment area; and

(b) for the group of other allocations—the percentage stated in table 3, column 3, for the subcatchment area.

TABLE 3

Column 1 **Subcatchment area**	**Column 2** **%**	**Column 3** **%**
A	77	82
B	81	74

SCHEDULE 6 (continued)

C	82	87
D	74	62
E	76	80
F	80	81
G	87	86
H	89	62
I	82	80
J	86	83
K	88	83
L	78	91
M	84	85
N	89	88
O	84	89
P	86	46
Q	82	84
R	87	85
S	84	89

SCHEDULE 7

RATES AND PUMP SIZES

section 31(2)(b)

Pump size (mm)	Rate (ML/day)
32	0.69
40	1.05
50	2.2
65	4.0
80	5.6
100	8.2
125	10.0
150	12.9
200	19.0
250	25.9
300	30.0
350	35.0
405	55.0
375 to 400	43.2
500	65.8
600 to 610	86.4
660	132
800	184

SCHEDULE 8

VOLUMES FOR SIMULATED MEAN ANNUAL DIVERSIONS

section 32(2) and (3)

Column 1 Subcatchment	Column 2 ML	Column 3 ML
A	3560	990
B	1130	200
C	11200	2480
D	7240	2290
E	3730	1530
F	1230	90
G	2980	1180
H	3500	9410
I	3490	730
J	6560	1580
K	5290	3640
L	400	2150
M	1530	140
N	905	2680
O	440	2130
P	192	1790
Q	1090	900
R	600	1200
S	10	10

SCHEDULE 9

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' published by the department.

"authorisation" means a licence, permit or other authority to take water given under the Act or the repealed Act, other than a permit for stock or domestic purposes.

"commencement" means the commencement of this plan.

"compensation flow objective" means an objective that may be expressed as a performance indicator for the provision of water releases from a dam for stock or domestic purposes downstream of the dam.

"50% daily flow exceedence", for a month, means the flow, in megalitres, that is equalled or exceeded on 50% of days in the month in the simulation period.

"90% daily flow exceedence", for a month, means the flow, in megalitres, that is equalled or exceeded on 90% of days in the month in the simulation period.

"fish habitat area" means an area that is declared to be a fish habitat area under the *Fisheries Act 1994.*

"flow regime class" means the measure of flow regime seasonality worked out using the method stated in Haines, A.T., Finlayson, B.L. and

SCHEDULE 9 (continued)

McMahon, T.A., 'A global classification of river regimes. Applied Geography, 1988'.

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

"licence" means—

(a) a water licence; or

(b) a licence under the *Water Resources Act 1989.*

"low flow exceedence duration (10 cm above cease-to-flow)" for a watercourse, means the percentage of the total number of days in the simulation period that the watercourse's daily flow is at least 10 cm above the cease-to-flow level in the watercourse.

"low flow exceedence duration (30 cm above cease-to-flow)" for a watercourse, means the percentage of the total number of days in the simulation period that the watercourse's daily flow is at least 30 cm above the cease-to-flow level in the watercourse.

"ML" means megalitre.

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

"mean wet season flow" means the total volume of flow during the months of January to March in the simulation period divided by the number of years in the simulation period.

"megalitre" means 1 million litres.

"node" see section 18.

"permit" means—

(a) a water permit; or

SCHEDULE 9 (continued)

(b) a permit under section 56 or 57 of the *Water Resources Act 1989*.[4]

"plan area map" means the map in schedule 1.

"pre-development flow sequence" means the stream flows calculated using the IQQM computer program for the simulation period as if—

(a) there were no dams or other water infrastructure in the plan area; and

(b) no water was taken under licences or permits in the plan area.

"regulated water" means water in a watercourse, lake or spring supplied under an interim resource operations licence, resource operations licence or other authority to operate water infrastructure for the management of water in a water project area.

"regulated water sharing index", for water allocations in a particular priority group in a water project area, means the median of the percentages of the number of months in the simulation period, calculated for each water allocation in the priority group in the area, in which the allocations are simulated to be fully supplied.

"simulated mean annual diversion", for authorisations to take water in a subcatchment area, means the total volume of water taken in the subcatchment area under the authorisations in the simulation period divided by the number of years in the simulation period.

"simulation period" see section 21(1).

"subcatchment area" see section 17(1).

"unregulated water" means water in a watercourse, lake or spring that is not regulated water.

"30% unregulated water sharing index", for a group of water allocations for taking unregulated water in a subcatchment area, means—

(a) for the group of allocations in the subcatchment area converted

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4 *Water Resources Act 1989*, sections 56 (Power to issue permit to government department, other person or body to take water) and 57 (Power to issue permit to construct or use works in the exercise of a right to use water under s 36)

SCHEDULE 9 (continued)

from authorisations that stated the areas that may be irrigated—the percentage of the simulated mean annual diversion, for all those allocations, calculated to occur in at least 30% of years in the simulation period; and

(b) for the group of other allocations in the subcatchment area—the percentage of the simulated mean annual diversion, for all those allocations, calculated to occur in at least 30% of years in the simulation period.

"50% unregulated water sharing index", for a group of water allocations for taking unregulated water in a subcatchment area, means—

(a) for the group of allocations in the subcatchment area converted from authorisations that stated the areas that may be irrigated—the percentage of the simulated mean annual diversion, for all those allocations, calculated to occur in at least 50% of years in the simulation period; and

(b) for the group of other allocations in the subcatchment area—the percentage of the simulated mean annual diversion, for all those allocations, calculated to occur in at least 50% of years in the simulation period.

"70% unregulated water sharing index", for a group of water allocations for taking unregulated water in a subcatchment area, means—

(a) for the group of allocations in the subcatchment area converted from authorisations that stated the areas that may be irrigated—the percentage of the simulated mean annual diversion, for all those allocations, calculated to occur in at least 70% of years in the simulation period; and

(b) for the group of other allocations in the subcatchment area—the percentage of the simulated mean annual diversion, for all those allocations, calculated to occur in at least 70% of years in the simulation period.

"water infrastructure operator" means the holder of—

(a) an interim resource operations licence; or

(b) a resource operations licence; or

SCHEDULE 9 (continued)

(c) another authority to operate water infrastructure for the management of water in a water project area.

"water project area" see section 16(1).

"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.

"1.5 year average recurrence interval daily flow volume" means the daily flow volume that has a 67% probability of being reached at least once a year.

"5 year average recurrence interval daily flow volume" means the daily flow volume that has a 20% probability of being reached at least once a year.

"20 year average recurrence interval daily flow volume" means the daily flow volume that has a 5% probability of being reached at least once a year.

ENDNOTES

1. Approved by the Governor in Council on 14 December 2000.
2. Notified in the gazette on 15 December 2000.
3. Laid before the Legislative Assembly on . . .
4. The administering agency is the Department of Natural Resources.