

Water Sharing Plan for the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creek Water Sources 2003

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New South Wales

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Provisions in force

The provisions displayed in this version of the legislation have all commenced.

Notes—

- **See also**
[Statute Law \(Miscellaneous Provisions\) Bill \(No 2\) 2004](#)
- **Note**
In incorporating the amendments made by the *Water Management (Minister's Plans) Order No 2 of 2004*, published in Gazette No 110 of 1.7.2004, p 5072, changes have been made to the numbering of some of the provisions to maintain appropriate numerical or alphabetical order.

Authorisation

This version of the legislation is compiled and maintained in a database of legislation by the Parliamentary Counsel's Office and published on the NSW legislation website, and is certified as the form of that legislation that is correct under section 45C of the [Interpretation Act 1987](#).

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Water Sharing Plan for the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creek Water Sources 2003



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Water Sharing Plan for the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creek Water Sources 2003



New South Wales

Part 1 Introduction

1 Name of Plan

This Plan is the *Water Sharing Plan for the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creek Water Sources 2003* (hereafter **this Plan**).

2 Nature and status of this Plan

- (1) This Plan is made under section 50 of the *Water Management Act 2000* as amended (hereafter **the Act**).
- (2) This Plan covers the core provisions of section 20 of the Act for water sharing, and additional provisions of section 21 of the Act, and other relevant matters.

3 Date of commencement

This Plan takes effect on 1 July 2004 and ceases 10 years after that date.

4 Areas to which this Plan applies

The areas in respect of which this Plan is made are those areas of land within the Namoi Water Management Area known as the:

- (a) Phillips Creek Water Source,
- (b) Mooki River Water Source,
- (c) Quirindi Creek Water Source, and
- (d) Warrah Creek Water Source,

(hereafter **these water sources**) as shown on the maps in Schedules 2a to 2d, excluding any river that is declared by the Minister, by Order published in the NSW Government Gazette, to be a regulated river.

Note—

The Namoi Water Management Area is shown on a map in Appendix 1.

Note—

Maps referred to in this Plan may be inspected at offices of the Department of Land and Water Conservation listed in Appendix 2.

Note—

Daily extraction limits are defined for each water source.

5 Waters to which this Plan applies

- (1) The waters of these water sources include all water occurring on the land surface shown on the maps in Schedule 2 including, but not limited to:
 - (a) all rivers in these water sources including, but not limited to, those nominated in Schedule 3, and
 - (b) all lakes and wetlands in these water sources.
- (2) The waters of these water sources exclude all water contained within aquifers underlying these water sources.
- (3) The waters of these water sources exclude any river that is declared by the Minister, by Order published in the NSW Government Gazette, to be a regulated river.

6 Interpretation

- (1) Terms that are defined in the Act have the same meaning in this Plan, and the effect of these terms may be explained in Notes.
- (2) Additional terms to those identified in subclause (1) are defined Schedule 1.
- (3) Notes in the text of this Plan do not form part of this Plan.
- (4) Schedules to this Plan form part of this Plan.
- (5) Appendices to this Plan do not form part of this Plan.

7 Effect on licences, authorities and permits under the [Water Act 1912](#)

- (1) This Plan applies from commencement to those matters that are administered under the Act at that time.
- (2) This Plan applies to other matters from the date the relevant provisions of the Act are commenced.

Note—

To the extent possible, the rules embodied in this Plan will apply to matters administered under the [Water Act 1912](#) in the interim.

8 State Water Management Outcomes Plan

- (1) In accordance with section 16 (1) (a) of the Act, this Plan is consistent with the State Water Management Outcomes Plan published in the NSW Government Gazette on 20 December 2002 (hereafter **the SWMOP**).
- (2) Schedule 4 identifies the SWMOP targets applicable to this Plan and how this Plan contributes to those targets.

Part 2 Vision, objectives, strategies and performance indicators

9 Vision, objectives, strategies and performance indicators

This Part is made in accordance with section 35 (1) of the Act.

10 Vision

The vision for this Plan is to achieve a healthy, sustainable, productive catchment where the outcomes for the economic, social and environmental water needs are balanced.

11 Objectives

The objectives of this Plan are to:

- (a) implement the River Flow Objectives listed in Appendix 4, to protect, preserve, maintain or enhance the important river flow dependent environmental features, and cultural and Aboriginal heritage values of the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creek Water Sources, and to provide water for downstream subcatchments,
- (b) manage in-river water resources of the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creek Water Sources to ensure equitable sharing of water between all uses and users, including basic rights, and to minimise any adverse socio-economic impacts in regard to communities and individuals in these water sources,
- (c) protect the water resources of the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creek Water Sources by ensuring that extraction minimises any adverse environmental impacts,
- (d) ensure water extraction from the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creeks Water Sources is managed within Murray Darling Basin Cap for the Namoi Water Management Area,
- (e) provide rules for market based trading of access licence share components and individual daily extraction limits in the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creek Water Sources, and

- (f) contribute to the achievement of water quality to support the environmental values of the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creek Water Sources.

Note—

Objective (f) refers to protecting and improving water quality. Although there are no specific strategies directly relating to this objective in this Plan, the environmental water provisions in this Plan should make a positive contribution to maintaining water quality.

12 Strategies

The strategies of this Plan are to:

- (a) establish cease (and commence) to pump levels and flow classes,
- (b) limit the amount of water that can be extracted on a daily basis from different flow classes,
- (c) limit the long-term average extraction of water,
- (d) clearly define access rules and conditions for extracting water from these water sources,
- (e) establish rules for determining the water available from time to time under access licences,
- (f) establish water allocation accounting rules, and
- (g) specify access licence dealing rules that maximise flexibility for water users without adversely impacting on these water sources.

13 Performance indicators

The following indicators are to be used to determine the performance of this Plan against its objectives:

- (a) change in low flows,
- (b) change in moderate to high flows,
- (c) change in local water utilities access,
- (d) change in ecological condition of these water sources and dependent ecosystems,
- (e) extent to which basic landholder rights requirements have been met,
- (f) change in economic benefits derived from water extraction and use,
- (g) extent to which native title rights requirements have been met,
- (h) extent of recognition of spiritual, social and customary values of water to Aboriginal

people, and

(i) (Repealed)

Note—

Appendix 3 details the objectives to which these performance indicators relate and the methods for assessing these indicators.

Part 3 Basis for water sharing

14 Basis for water sharing

This Part is made in order to give effect to section 5 (3) of the Act, and in accordance with sections 20 (2) (c) and 21 (e) of the Act.

15 Climatic variability

- (1) This Plan recognises climatic variability and therefore river flow variability in these water sources.
- (2) To give effect to subclause (1), this Plan has provisions that manage:
 - (a) the sharing of water in these water sources within the limits of water availability on a long-term average basis, and
 - (b) the sharing of the flows that occur in these water sources on a daily basis.

16 Extraction management unit

- (1) The availability of water for extraction from these water sources on a long-term average basis will be determined at the level of an extraction management unit.
- (2) The extraction management unit of which these water sources are part is known as the Namoi Unregulated Rivers Extraction Management Unit, and is shown on the map in Schedule 5.

17 Flow classes

- (1) The following flow classes are established in the Phillips Creek Water Source as the basis for sharing of daily flows:
 - (a) very low flow class at or less than 2 megalitres per day (hereafter **ML/day**),
Note—

The 2 ML/day corresponds to the estimated 45th percentile of flows for all days of the year, and is referred to as the cease to pump on a falling river and the commence to pump on a rising river.
 - (b) C class flows greater than 2 ML/day and at or less than 63 ML/day, and
 - (c) D class flows greater than 63 ML/day.

(2) The following flow classes are established in the Mooki River Water Source as the basis for sharing of daily flows:

- (a) very low flow class at or less than 100 ML/day on a rising river and at or less than 50 ML/day on a falling river, as measured at the Mooki River at Breeza and protected through to the end of the system,

Note—

The 100 ML/day corresponds to the estimated 18th percentile of flows for all days of the year, and is referred to as the cease to pump on a rising river and the 50 ML/day is referred to as the commence to pump on a falling.

- (b) C class flows greater than 100 ML/day on a rising river and 50ML/day on a falling river, and at or less that 1,000 ML/day,
- (c) D class:
- (i) flows greater than 1,000 ML/day and at or less than 3,000 ML/day at the Mooki River at Breeza for all access licences in the Mooki River Water Source, or
 - (ii) for all access licences only nominating works downstream of the Werris Creek inflow, flows greater than 1,000 ML/day and at or less than 3,000 ML/day at Mooki River at Ruvigne, if flows at Mooki River at Breeza are less than 50 ML/day, and
- (d) E class:
- (i) flows greater than 3,000 ML/day at Mooki River at Breeza for all access licences in the Mooki River Water Source, or
 - (ii) for all access licences only nominating works downstream of the Werris Creek inflow, flows greater than 3,000 ML/day at Mooki River at Ruvigne, if flows at Mooki River at Breeza are less than 50 ML/day.

(3) The following flow classes are established in the Quirindi Creek Water Source as the basis for sharing of daily flows:

- (a) very low flow class at or less than 2 ML/day,

Note—

The 2 ML/day corresponds to the estimated 50th percentile of flows for all days of the year, and is referred to as the cease to pump on a falling river and the commence to pump on a rising river.

- (b) C class flows greater than 2 ML/day and at or less than 100 ML/day, and

- (c) D class flows greater than 100 ML/day.

(4) The following flow classes are established in the Warrah Creek Water Source as the basis for sharing of daily flows:

- (a) very low flow class at or less than 4 ML/day,

Note—

The 4 ML/day corresponds to the estimated 50th percentile and is referred to as the cease to pump on a falling river and the commence to pump on a rising river.

- (b) C class flows greater than 4 ML/day and at or less than 185 ML/day, and

- (c) D class flows greater than 185 ML/day.

Note—

The flow classes have been determined based on flow information that inherently includes seasonal effects as well as evaporation and seepage losses.

18 Flow reference point

For the purpose of this Plan, unless otherwise specified, all flows referred to relate to the estimated flows at the flow reference point for each water source, as shown on the maps in Schedule 2.

19 Determination of flow class

Announcement of daily flow classes will be made from time to time by the Minister based on the flow at a flow gauging station, correlated to the flow reference point established in clause 18.

Part 4 Environmental water provisions

20 Environmental water provisions

This Part is made in accordance with sections 5 (3) and 8 (1), 8 (2) and 20 (1) (a) of the Act.

21 Planned environmental water

(1) Environmental health water is identified and established as follows:

- (a) For the Phillips Creek Water Source:

- (i) In very low flows, the flow occurring in this water source minus 1 ML/day, minus the very low flow access permitted under clause 61A of this plan.

Note—

1 ML/day is the amount of water estimated at the commencement of this Plan for basic landholder rights.

- (ii) In C class flows, the flow occurring minus 6 ML/day.

Note—

6 ML/day is the amount of water estimated at the commencement of the Plan for C class total daily extraction limit plus basic landholder rights for this water source.

(iii) In D class flows, the flow occurring minus 22 ML/day.

Note—

22 ML/day is the amount of water estimated at the commencement of the Plan for D class total daily extraction limit plus basic landholder rights for this water source.

(b) For the Mooki River Water Source:

(i) In very low flows, the flow occurring in this water source minus 1.1 ML/day, minus the very low flow access permitted under clause 61A of this plan.

Note—

1.1 ML/day is the amount of water estimated at the commencement of this Plan for basic landholder rights.

(ii) In C class flows, the flow occurring minus 801.1 ML/day in the first 6 years of this Plan.

(iii) In C class flows, the flow occurring minus 601.1 ML/day in the last 4 years of this Plan.

Note—

801.1 ML/day and 601.1 ML/day in subclauses (b) (ii) and (iii) respectively are the amounts of water estimated for C class total daily extraction limit plus basic landholder rights for this water source at the commencement of the Plan and after year 6 respectively.

(iv) In D class flows, the flow occurring minus 1,501.1 ML/day.

Note—

1,501.1 ML/day is the amount of water estimated at the commencement of the Plan D class total daily extraction limit plus basic landholder rights for this water source.

(v) In E class flows, the flow occurring minus 2,101.1 ML/day.

Note—

2,101.1 ML/day is the amount of water estimated at the commencement of the Plan for E class total daily extraction limit plus basic landholder rights for this water source.

(c) For the Quirindi Creek Water Source:

(i) In very low flows, the flow occurring in this water source minus 0.7 ML/day, minus the very low flow access permitted under clause 61A of this plan.

Note—

0.7 ML/day is the amount of water estimated at the commencement of this Plan for basic landholder rights.

(ii) In C class flows, the flow occurring minus 9.7 ML/day.

Note—

9.7 ML/day is the amount of water estimated at the commencement of the Plan for C class total daily extraction limit plus basic landholder rights for this water source.

(iii) In D class flows, the flow occurring minus 70.7 ML/day.

Note—

70.7 ML/day is the amount of water estimated at the commencement of the Plan for D class total daily extraction limit plus basic landholder rights for this water source.

(d) For the Warrah Creek Water Source:

(i) In very low flows, the flow occurring in this water source minus 1.9 ML/day, minus the very low flow access permitted under clause 61A of this plan.

Note—

1.9 ML/day is the amount of water estimated at the commencement of this Plan for basic landholder rights.

(ii) In C class flows, the flow occurring minus 6.9 ML/day.

Note—

6.9 ML/day is the amount of water estimated at the commencement of the Plan for C class total daily extraction limit plus basic landholder rights for this water source.

(iii) In D class flows, the flow occurring minus 14.4 ML/day.

Note—

14.4 ML/day is the amount of water estimated at the commencement of the Plan for D class total daily extraction limit plus basic landholder rights for this water source.

(2) Environmental health water is maintained as follows:

(a) In very low flows:

- (i) the holders of access licences, excluding access licences listed in Schedule 6, are not permitted any access,
- (ii) access licence holders listed on Schedule 6 may have limited access to very low flows in accordance with clause 61A,
- (iii) persons exercising native title and domestic and stock rights may take a combined total of up to 1 ML/day in Phillips Creek Water Source, 1.1 ML/day in Mooki River Water Source, 0.7 ML/day in Quirindi Creek Water Source and 1.9 ML/day in the Warrah Creek Water Source.

Note—

The Minister may issue an Order under section 328 of the Act to restrict the exercise of domestic and stock rights from this water source to protect the environment for reasons of public health, or to preserve basic landholder rights.

(b) In C class flows:

- (i) the holders of access licences have restricted access to water as specified in clause 45,

- (ii) persons exercising domestic and stock and native title rights may take water, and
 - (iii) if the water taken under domestic and stock and native title rights is assessed to be exceeding 1 ML/day in the Phillips Creek Water Source, 1.1 ML/day in the Mooki River Water Source, 0.7 ML/day in the Quirindi Creek Water Source and 1.9 ML/day in the Warrah Creek Water Source, the access to water for access licences in this flow class will be reduced in accordance with clause 50 to maintain the environmental water in this flow class.
- (c) In D class flows:
- (i) the holders of access licences have restricted access to water as specified in clause 45,
 - (ii) persons exercising domestic and stock and native title rights may take water, and
 - (iii) if the water taken under domestic and stock and native title rights is assessed to be exceeding 1 ML/day in the Phillips Creek Water Source, 1.1 ML/day in the Mooki River Water Source, 0.7 ML/day in the Quirindi Creek Water Source and 1.9 ML/day in the Warrah Creek Water Source, the access to water for access licences in this flow class will be reduced in accordance with clause 50 to maintain the environmental water in this flow class.
- (d) In E class flows in the Mooki River Water Source:
- (i) the holders of access licences have restricted access to water as specified in clause 45,
 - (ii) persons exercising domestic and stock and native title rights may take water, and
 - (iii) if the water taken under domestic and stock and native title rights is assessed to be exceeding 1.1 ML/day, the access to water for access licences in this flow class will be reduced in accordance with clause 50 if this is necessary to maintain the environmental water in this flow class.
- (e) In all flow classes, limits are imposed on the availability of water in accordance with clauses 35 and 37, that protect a proportion of natural river flows for fundamental ecological needs from increases in long-term water extraction.

Note—

These rules protect the water for the environment by limiting both the extraction of water on a long term basis, and the rate of extraction of water in different flow ranges, thereby achieving the objectives of this Plan.

Note—

This Plan recognises that the planned environmental water provisions provide non-extractive benefits, including traditional Aboriginal spiritual, social and cultural benefits, and improved water quality.

Note—

Groundwater extraction may affect surface water flows, and this interaction should be addressed in the water sharing plans for groundwater, and as part of the reviews at year 5 of this Plan and any relevant groundwater sharing plans in the area.

22 Extraction by water supply work

Notwithstanding all other rights and conditions, extraction of water from a river by an approved water supply work is permitted only if there is visible flow in the river in the vicinity of the work.

23 Planned environmental water

At the commencement of this Plan, there is no water committed for specified environmental purposes in accordance with section 8 (1) (b) of the Act.

24 Adaptive environmental water

- (1) At any time an access licence holder may, by a process determined by the Minister, commit all or part of their licence as adaptive environmental water.
- (2) The conditions of the commitment specified in subclause (1):
 - (a) are to be established by the Minister,
 - (b) are to be specified on the licence, and
 - (c) shall be such as to ensure that there is a contribution to the objectives of this Plan.
- (3) At the commencement of this Plan there are no access licences committed to an environmental purpose in accordance with section 8 (1) (c) of the Act.

Part 5 Basic landholder rights

25 Basic landholder rights

This Part is made in accordance with sections 5 (3) and 20 (1) (b) of the Act.

26 Domestic and stock rights

- (1) At the commencement of this Plan the water requirements of holders of domestic and stock rights are estimated to be a total of:
 - (a) 1 ML/day in the Phillips Creek Water Source,
 - (b) 1.1 ML/day in the Mooki River Water Source,
 - (c) 0.7 ML/day in the Quirindi Creek Water Source, and

(d) 1.9 ML/day in the Warrah Creek Water Source.

(2) This Plan recognises that the exercise of domestic and stock rights may increase during the term of this Plan.

Note—

Increase in use of domestic and stock rights may occur as a result of an increase in the number of landholdings fronting rivers and lakes in these water sources and/or as a result of an increase of the exercise of basic landholder rights by existing landholders.

27 Native title rights

(1) At the commencement of this Plan there are no holders of native title rights and therefore the water requirements for native title rights are estimated to be a total of 0 ML/day

(2) This Plan recognises that the exercise of native title rights may increase during the term of this Plan.

Note—

Increase in use of native title rights may occur as a result of the granting of native title rights under the Commonwealth's [Native Title Act 1993](#).

28 Harvestable rights

The requirement for water under harvestable rights is the amount of water owners of land are entitled to capture pursuant to the harvestable rights Order published in the NSW Government Gazette on 23 March 2001 under section 54 of the Act.

Part 6 Bulk access regime

29 Bulk access regime

(1) This Part is made in accordance with section 20 (1) (e) of the Act.

(2) This Plan establishes a bulk access regime for the extraction of water under access licences in these water sources having regard to:

(a) the environmental water provisions established under Part 4 of this Plan,

(b) the requirements for basic landholder rights identified under Part 5 of this Plan,
and

(c) the requirements for water for extraction under access licences identified under Part 7 of this Plan.

(3) The bulk access regime established in subclause (2):

(a) recognises the effect of climatic variability on the availability of water as provided for under Part 3 of this Plan,

- (b) establishes rules according to which access licences are granted as provided for in Part 8 of this Plan,
- (c) recognises and is consistent with limits to the availability of water as provided for in Part 9, Division 1 of this Plan,
- (d) establishes rules according to which available water determinations are to be made as provided for in Part 9 Division 2 of this Plan,
- (e) establishes rules according to which access licences are managed as provided for in Part 10 of this Plan, and
- (f) establishes rules with respect to the priorities according to which access licences are to be adjusted as a consequence of any reduction in the availability of water as provided for in Parts 9 and 10 of this Plan.

Part 7 Requirements for water under access licences

30 Requirements for water under access licences

This Part is made in accordance with section 20 (1) (c) of the Act.

Note—

The amount of water specified in this Part represents the total volumes specified on access licences in these water sources. It is not a commitment to supply that water.

31 Estimate of water requirements

- (1) It is estimated that at the time of commencement of Part 2 of Chapter 3 of the Act in the area in respect of which this Plan is made, the requirements identified for water for extraction under access licences within these water sources will total approximately:
 - (a) 426 megalitres per year (hereafter **ML/yr**) in the Phillips Creek Water Source,
 - (b) 27,449 ML/yr in the Mooki River Water Source,
 - (c) 2,458 ML/yr in the Quirindi Creek Water Source, and
 - (d) 264 ML/yr in the Warrah Creek Water Source.
- (2) It is estimated that at the time of commencement of Part 2 of Chapter 3 of the Act in the area in respect of which this Plan is made, there will be several runoff harvesting access licences in these water sources, that will have their access licence share component expressed as the water that can be extracted from time to time from the approved works.
- (3) This Plan recognises that the total requirements for water for extraction within these water sources may change during the term of this Plan as a result of:

- (a) the granting, surrender, cancellation or non-renewal of access licences, or
- (b) variations to local water utility licences arising from sections 66 (3) or 66 (4) of the Act.

Part 8 Rules for granting access licences

32 Rules for granting access licences

- (1) This Part is made in accordance with sections 20 (2) (b) and 63 of the Act, having regard to the limits to water availability in these water sources and the need to protect the ecological health of the river.
- (2) Access licences may be granted in this water source subject to any embargo on the making of applications for access licences made under Chapter 3 Part 2 Division 7 of the Act.
- (3) The Minister should declare an embargo on the making of applications for access licences in these water sources, other than access licences of the following kinds:
 - (a) local water utility access licences,

Note—

Pursuant to sections 66 (3) and 66 (4) of the Act, the Minister may also vary a local water utility's access licence share component at 5 year intervals, or on application of the local water utility where there is a rapid growth in population.

 - (b) domestic and stock access licences, or
 - (c) a specific purpose access licences for which application are provided for under the regulations in accordance with section 61 (1) (a) of the Act,
 - (d) unregulated river (Aboriginal cultural) access licences up to 10 ML/yr per application.
- (4) In applying for a new access licence, the applicant must establish the purpose and circumstance relating to that access licence, and that the share and extraction components sought will be the minimum required to meet that purpose and circumstance.
- (5) Subclause (4) does not apply to an application for a new access licence arising from:
 - (a) section 61 (1) (c), of the Act, where the right has been acquired by auction, tender or other open market process, or
 - (b) an access licence dealing.
- (6) Any individual daily extraction limit (hereafter **IDEL**) granted in accordance with this clause cannot exceed the IDEL initially assigned to an equivalent share component for

that category of access licence, as varied by clause 50.

(7) (Repealed)

(8) Runoff harvesting access licences may have the share component expressed either as a volume in ML/yr or in terms of the amount of water that can be extracted from time to time from specified works.

Part 9 Limits to the availability of water

Division 1 Long-term average extraction limit

33 Limits to the availability of water

This Division is made in accordance with section 20 (2) (a) of the Act.

34 Extraction management unit

Management of the long-term extraction of water from these water sources will be undertaken in the context of the Namoi Unregulated Rivers Extraction Management Unit (hereafter **this Unit**) referred to in clause 16 (2).

35 Long-term average extraction limit

The long-term average extraction limit for this Unit will be the total of:

- (a) the estimated annual extraction of water averaged over the period from July 1993 to June 1999 specified in conditions attached to or included in entitlements issued under Part 2 of the [Water Act 1912](#) in this Unit, immediately prior to the commencement of Part 2 of Chapter 3 of the Act for this Unit, and
- (b) an estimate of annual extraction of water under:
 - (i) domestic and stock rights, and
 - (ii) native title rights,in this Unit at the commencement of this Plan.

36 Variation of the long-term average extraction limit

The long-term average extraction limit of this Unit may be varied by the Minister if dealings under Part 11 result in the issuing or cancellation of access licences in this Unit.

Division 2 Available water determinations

37 Available water determinations

(1) This Division is made in accordance with section 20 (2) (b) of the Act.

(2) In making an available water determination under section 59 of the Act, the Minister should consider the following rules:

(a) water extraction in this Unit will be monitored in each water accounting year to determine if there is any growth in volumes extracted above the extraction limit specified in clause 35, based on comparison of the extraction limit against the average extraction within this Unit over that year and the preceding 2 years,

Note—

A water accounting year is defined in clause 42 (3).

- (b) if water that, pursuant to an access licence, is committed as adaptive environmental water to be left in a river for environmental purposes, then for the purpose of subclause (a), the extraction will be assumed to be 100% of the available water determination,
- (c) if water that, pursuant to an access licence, is committed as adaptive environmental water to be extracted for environmental purposes, then for the purpose of subclause (a), the extraction will be that measured through the approved water supply work,
- (d) for all access licences, an initial available water determination, of such volume of water as is equivalent to two times the access licence share component, should be made on 1 July 2003, and such determination should apply for one water accounting year,
- (e) from 1 July 2004, available water determinations for local water utility and domestic and stock access licences should be such a volume of water as is equivalent to the access licence share component, with priority given to making this water available above the making of water available to all other categories of access licence, and such determinations should be made annually,
- (f) from 1 July 2004, available water determinations for unregulated river access licences, including all subcategories, should be such a volume of water as is equivalent to the access licence share component, except as provided in subclauses (g) and (h), and such determinations should be made annually,
- (g) if the 3 year average of extraction in this Unit exceeds the long-term average extraction limit established in clause 35 by 5% or greater, the available water determination for the following water accounting year for unregulated river access licences in these water sources should be reduced by an amount that is assessed necessary by the Minister to return subsequent total water extraction to long-term average extraction limit,
- (h) if the 3 year average of extraction in this Unit is less than 95% of the long-term average extraction limit established in clause 35, then the available water determination for unregulated river access licences in these water sources shall be

increased to such an extent as to allow extraction to increase to that extraction limit,

- (i) notwithstanding subclause (h), and excepting the initial available water determination made in accordance with subclause (d), the available water determination should not exceed 100% of the total access licence share components,
- (j) a new available water determinations for unregulated river access licences determined under subclause (g) or (h) should be repeated for each of the subsequent two water accounting years unchanged in quantity, and
- (k) available water determinations for runoff harvesting access licences should be made annually and should be either the access licence share component or the water that can be extracted from time to time from the approved works, depending on the manner in which the share component is expressed on the licence.

Part 10 Rules for managing access licences

Division 1 General

38 Rules for managing access licences

This Part is made in accordance with sections 20 (2) (b) and 21 (a) of the Act, having regard to:

- (a) the environmental water provisions established in Part 4 of this Plan,
- (b) requirements for water to satisfy basic landholder rights identified in Part 5 of this Plan, and
- (c) requirements for water for extraction under access licences in Part 7 of this Plan.

Division 2 Water allocation account management

39 Water allocation account management

This Division is made in accordance with sections 20 (2) (b) and 21 (c) of the Act.

40 Water allocation accounts

In accordance with section 85 of the Act, a water allocation account shall be established for each access licence in these water sources.

Note—

Water allocations may be assigned to, or from, these accounts by a water allocation assignment made under section 71T of the Act, where these are allowed under rules specified in Part 11 of this Plan.

Note—

Water allocations may also be recredited to these accounts in accordance with section 76 of the Act, subject to the operation of a return flows scheme established under section 75 of the Act.

41 Accrual of water allocations

Water allocations will be accrued into water allocation accounts in accordance with the Minister's available water determinations as specified in clause 37.

42 Annual accounting for water extraction

- (1) Water taken from these water sources will be accounted for at least annually.
- (2) Water extracted by a water supply work nominated by an access licence is taken to be extracted and will be periodically debited against the access licence water allocation account.
- (3) A water accounting year shall be the 12 month period commencing 1 July.
- (4) The maximum water allocation that can be carried over from one water accounting year to the next is 100% of the access licence share component.
- (5) In any one water accounting year water taken from these water sources under an access licence may not exceed the volume in the water allocation account, subject to clause 43 (1).
- (6) A water allocation account shall remain at or above zero at all times.

43 Three year accounting for water extraction

- (1) Water taken from these water sources in any 3 consecutive water accounting years under an access licence may not exceed a volume consisting of:
 - (a) the water allocations accrued under the licence in those years,
 - (b) plus any water allocations assigned from another licence by a water allocation assignment under section 71 G of the Act in those years,
 - (c) plus any water allocations re-credited in accordance with section 76 of the Act in those years, and
 - (d) minus any water allocations assigned to another licence, by a water allocation assignment under section 71 G of the Act in those years.
- (2) Notwithstanding subclause (1), water taken under an access licence from this water source in the first 3 water accounting years of this Plan may not exceed a volume consisting of:
 - (a) 3 times the share component of the access licence,

- (b) plus any water allocations assigned from another licence by a water allocation assignment under section 71T of the Act in those years,
- (c) plus any water allocations re-credited in accordance with section 76 of the Act in those years, and
- (d) minus any water allocations assigned to another licence, by a water allocation assignment under section 71T of the Act in those years.

Division 3 Sharing flows on a daily basis

44 Sharing flows on a daily basis

This Division is made in accordance with sections 20 (2) (b) and 21 (a) of the Act.

45 Total daily extraction limits

(1) This Plan establishes a total daily extraction limit (hereafter **TDEL**) for each flow class as follows:

(a) For the Phillips Creek Water Source:

- (i) 5 ML/day for C class, and
- (ii) 21 ML/day for D class.

Note—

These flows represent 8% of the top of C class flows, and in D class 21% of the 5th percentile flows for the year (all days).

(b) For the Mooki River Water Source:

- (i) 800 ML/day for C class for the first 6 years of this Plan,
- (ii) 600 ML/day for C class for the last 4 years of this Plan,
- (iii) 1,500 ML/day for D class, and
- (iv) 2,100 ML/day for E class.

Note—

These flows represent 80% of the top of C class flows in the first 6 years and 60% of the top of C class flows in the last 4 years, 50% of the top of D class flows and in E class flows 33% of the 1st percentile flows for the year (all days).

(c) For the Quirindi Creek Water Source:

- (i) 9 ML/day for C class, and
- (ii) 70 ML/day for D class.

Note—

These flows represent 9% of the top of C class flows, and in D class 45% of the 5th percentile flows for the year (all days).

(d) For the Warrah Creek Water Source:

- (i) 5 ML/day for C class, and
- (ii) 12.5 ML/day for D class.

Note—

These flows represent 2.7% of the top of C class flows, and in D class 5% of the 5th percentile flows for the year (all days).

- (2) The TDEL for each flow class specified in subclause (1) applies to all rivers within these water sources apart from those rivers identified as minor streams in a harvestable rights Order made under section 54 of the Act.

Note—

The harvestable rights Order applying to this area at the commencement of this Plan is that gazetted on 23 March 2001 under section 54 of the Act. It identifies minor streams as non-permanent 1st and 2nd order streams as shown on topographic maps.

46 Initial assignment of the TDEL to categories of access licence

- (1) The TDEL for each flow class will initially be assigned to categories of access licences in the Phillips Creek Water Source according to the following:

(a) Local water utility access licences:

- (i) 0 ML/day of C class, and
- (ii) 0 ML/day of D class.

(b) Domestic and stock access licences:

- (i) 0.03 ML/day of C class, and
- (ii) 0.03 ML/day of D class.

(c) Unregulated river access licences:

- (i) 4.97 ML/day of C class, and
- (ii) 20.97 ML/day of D class.

- (2) The TDEL for each flow class will initially be assigned to categories of access licences in the Mooki River Water Source according to the following:

(a) Local water utility access licences:

- (i) 0 ML/day of C class,
 - (ii) 0 ML/day of D class, and
 - (iii) 0 ML/day of E class.
- (b) Domestic and stock licences, 0.1 of C, D, and E flow classes.
- (c) Unregulated river access licences:
- (i) 799 ML/day of C class for the first 6 years of this Plan,
 - (ii) 599 ML/day of C class for the last 4 years of this Plan,
 - (iii) 1,499 ML/day of D class, and
 - (iv) 2,099 ML/day of E class.
- (3) The TDEL for each flow class will initially be assigned to categories of access licences in the Quirindi Creek Water Source according to the following:
- (a) Local water utility access licences:
- (i) 0 ML/day of C class, and
 - (ii) 0 ML/day of D class.

Note—

The Werris Creek town water supply is extracted from Coepolly dam on Quipolly Creek. No daily extraction limits have been assigned to this licence. The rules governing the local water utility access are set out in clause 63.

- (b) Domestic and stock licences, 0.2 ML/day of C and D flow classes.
- (c) Unregulated river access licences:
- (i) 8.8 ML/day of C class, and
 - (ii) 69.8 ML/day of D class.
- (4) The TDEL for each flow class will initially be assigned to categories of access licences in the Warrah Creek Water Source according to the following:
- (a) Local water utility access licences:
- (i) 0 ML/day of C class, and
 - (ii) 0 ML/day of D class.
- (b) Domestic and stock licences, 0.04 ML/day of C and D flow classes.
- (c) Unregulated river access licences:

- (i) 4.96 ML/day of C class, and
- (ii) 12.46 ML/day of D class.

47 Unassigned TDEL

At the commencement of this Plan, there is no unassigned TDEL in any of these water sources.

Note—

Unassigned TDEL may vary as a result of the surrender, cancellation or non-renewal of an access licence's IDELS, or the operation of Part 8 of this Plan.

48 Daily extraction limits for individual access licence holders

- (1) Each access licence requiring an IDEL, as specified in Part 12 of this Plan, is assigned the same proportion of the TDEL specified in clause 46 for each water source as its share component bears to all the share components of licences of that category in that water source.
- (2) Notwithstanding subclause (1), in relation to those access licences that are currently excluded from a flow class or part of a flow class by existing conditions on the access licence or the water supply work nominated by the access licence, the IDEL resulting from subclause (1) will be adjusted to reflect as far as possible such an exclusion.

49 Granting of unassigned TDEL

- (1) Any unassigned TDEL in a water source may be assigned to access licences in the following circumstances:
 - (a) where they are applied for as part of a new access licence application,
 - (b) to a local water utility access licence where the Minister varies the access licence in accordance with sections 66 (3) or 66 (4) of the Act, or
 - (c) to existing access licences for the purpose of pumping into farm dams if:
 - (i) the purpose of the additional IDEL sought is established by the proponent,
 - (ii) the IDEL sought is the minimum required to satisfy that purpose, and
 - (iii) the extraction is consistent with the objectives and principles of this Plan.
- (2) Where additional IDELS are assigned to an access licence in accordance with this clause, the amount of IDEL so assigned shall be determined by the Minister consistent with the ratios of share component to IDEL for the specific category of access licence as initially assigned under clause 48 for that water source, as amended by clause 50.

50 Adjustment to TDELS and IDELS

- (1) Where IDELS are assigned under clause 49 the unassigned TDEL is reduced accordingly, and the TDEL assigned to the appropriate licence category for the appropriate water source in clause 46 is increased accordingly.
- (2) Pursuant to section 45 (1) (b) of the Act, if total extraction of water under domestic and stock or native title rights in a water source exceeds the level specified in Part 5 of this Plan:
 - (a) first the unassigned TDEL for that water source specified in clause 47 then, if necessary, the TDEL for unregulated river access licences in that water source specified in clause 46 (c) shall be diminished to allow these additional basic landholder rights to be met, and
 - (b) the IDELS of each unregulated river access licence in that water source shall then be reduced to comply with this diminished TDEL.
- (3) Pursuant to section 45 (1) (b) of the Act, if any unassigned TDEL in a water source cannot meet either:
 - (a) the IDEL requirements of applicants for new access licences for local water utilities and domestic and stock access in the water source, or
 - (b) a local water utility's IDEL requirements in the water source resulting from a variation by the Minister under sections 66 (3) or 66 (4) of the Act,then the TDEL for unregulated river access licences in the water source in clause 46 (c) will be diminished to such an extent as to allow those requirements to be met.
- (4) Following an adjustment to the TDEL for unregulated river access licence in subclause (3) the IDELS of each unregulated river access licence in that water source will then be reduced to comply with this diminished TDEL.
- (5) Any adjustment to unregulated river access licence IDELS arising from this clause will be done at intervals of no greater than 5 years.
- (6) If water that, pursuant to an access licence,:
 - (a) is committed to adaptive environmental water, then the TDEL for categories and classes specified on the committed access licence will be reduced by the IDEL on the access licence so committed and clauses 45 and 46 adjusted accordingly, or
 - (b) is uncommitted to adaptive environmental water, then the TDEL for categories and classes specified on the committed access licence will be increased by the IDEL on the access licence so uncommitted and clauses 45 and 46 adjusted accordingly.

51 Administrative arrangements for managing access to daily flows

- (1) Notwithstanding the foregoing provisions of this Division, this Plan allows group management of access licences with respect to the IDELs.
- (2) The Minister may determine that, from the commencement of this Plan and until otherwise determined:
 - (a) all access licences in each of these water sources with IDELs shall be made part of a group maintained by the Minister for that water source, and
 - (b) access licences with IDELs will be assessed as a whole against their combined IDELs in each water source.
- (3) At any time when subclause (2) does not apply:
 - (a) access licence holders may make a request to form a group for their access licences,
 - (b) access licence holders may have their licence removed from a group, in which case they shall be permitted to extract under that licence a maximum of the licensed IDELs, and
 - (c) where an access licence is removed or added to a group, the group combined IDEL shall be adjusted by the amount of IDEL on the subject licence.
- (4) Groups will be managed according to the following rules:
 - (a) daily extraction by a group cannot exceed the combined IDELs of all licences in the group,
 - (b) where it been assessed that a holder of an access licence within a group is repeatedly causing the combined IDEL to be exceeded then the Minister may remove that access licence from the group,
 - (c) where daily extraction by a group exceeds the combined IDELs of all access licences in the group, then the Minister may dissolve the group and require each access licence holder to comply with the licensed IDELs,
 - (d) should a holder of an access licence which is part of a group commit the IDELs of that licence to the environment consistent with section 8 (1) (c) of the Act, then those IDELs shall be removed from the group,
 - (e) an access licence may not be in more than one group, and
 - (f) the Minister may refuse to allow an access licence to be included in a group, and may refuse a request to form a group.

52 Infrastructure failure

In the event of infrastructure failure, the Minister can elect to:

- (a) continue to announce the current flow class,
- (b) announce another flow class based on climatic conditions and any other flow gauging information, or
- (c) restrict access to water to the lowest flow class.

Note—

Infrastructure is defined in the dictionary.

Note—

If satisfied that it is necessary to do so in the public interest, the Minister may direct the holders of an access licence to cease using the water supply work in accordance with section 323 of the Act.

Part 11 Access licence dealing rules

53 Access licence dealing rules

- (1) This Part is made in accordance with section 20 (1) (d) of the Act and with the Minister's access licence dealing principles gazetted on 20 December 2002 under section 71Z of the Act.
- (2) Applications for access licence dealings may be granted subject to the Minister's access licence dealing principles gazetted from time to time under section 71Z of the Act and the rules in this Part.

Note—

There are a number of mechanisms within the Act, called access licence dealings, to change either the ownership of all or part of an access licence, or the location within a water source at which all or part of the share and extraction components of access licences can be exercised. These dealings are governed by the principles in section 5 of the Act, the Minister's access licence dealing principles, and the rules in this Part.

Note—

Where there is an inconsistency between access licence dealing rules established in this plan and Minister's access licence dealing principles gazetted subsequent to the commencement of this plan, section 71Z of the Act provides for the access licence dealing rules in this plan to prevail.

54 Rules relating to constraints within this water source

- (1) This clause applies to any relevant dealings under sections 71D, 71F and 71J of the Act, and with respect to water allocation assignments within these water sources under section 71T of the Act.
- (2) Dealings are prohibited under this clause if:

- (a) any of the access licences or water allocations involved are not within these water sources, unless the dealing is permitted under clause 59.

Note—

Clause 56 relates to any dealings that involve an access licence moving from one water source to another.

- (b) the dealing would result in more than minimal harm occurring to the water source and the environment, or
- (c) the dealing results in the access licence extraction component in one water source to which the Plan applies being assigned to an access licence in another water source to which this Plan applies.

55 Rules for access licence dealings which alter the times, rates or circumstances specified in access licence extraction components

Notwithstanding clause 54, applications under section 71S of the Act to vary the times, rates or circumstances specified in an access licence with respect to the taking of water under the licence are prohibited, unless the dealing is in accordance with clause 49 (1) (c).

56 Rules for change of water source

- (1) This clause relates to dealings under section 71R of the Act.

Note—

Section 71R dealings are the mechanism by which access licences can move from one water source to another. Once the change in water source has been affected, if permitted, the new licence will have to nominate specified works (by a dealing under section 71W of the Act) in the receiving water source before extraction can commence.

- (2) Dealings under section 71R of the Act are prohibited in these water sources, unless provided for in this clause.
- (3) An access licence with a share component specifying one of these water sources may be cancelled and a new licence issued in another water source only if:
 - (a) the new access licence issued is within this Unit, and
 - (b) the access licence dealing rules in the other water source permit such a dealing.
- (4) An access licence with a share component specifying another water source may be cancelled and a new access licence issued in one of these water sources under this dealing only if the access licence dealing rules in the other water source permit such a dealing, and:
 - (a) the access licence cancelled is within this Unit, or
 - (b) the access licence cancelled is within the Upper Namoi or Lower Namoi Regulated River Water Sources.

- (5) The volume of share component on an access licence issued under this clause is to be the volume of the cancelled share component multiplied by a conversion factor established by the Minister, and published in an Order made under section 71Z of the Act, that protects environmental water, basic landholder rights, and the reliability of supply to all other access licences subject to this Plan.
- (6) The extraction component of the cancelled access licence is not to be carried over to the new access licence.

57 Rules for conversion of access licence category

- (1) This clause relates to dealings under section 71O of the Act.
- (2) Conversion of an access licence of one category to an access licence of another category may be permitted only if:
 - (a) the conversion is from an unregulated river access licence to a runoff harvesting access licence,
 - (b) the conversion is from a runoff harvesting access licence to an unregulated river access licence, or
 - (c) the conversion is from a regulated river access licence to unregulated river access licence.

Note—

This will occur directly following a dealing under section 71R of the Act that changes the water source to which the access licence applies.

- (3) The volume of share component on an access licence issued under this clause is to be the volume of the cancelled share component multiplied by a conversion factor established by the Minister, and published in an Order made under section 71Z of the Act, that protects environmental water, basic landholder rights, and the reliability of supply to all other access licences subject to this Plan.

58 Rules for interstate access licence transfer

- (1) This clause relates to dealings under section 71U of the Act.
- (2) Dealings that result in the interstate transfer of an access licence into or out of these water sources are prohibited.

59 Rules for water allocation assignment between water sources

- (1) This clause relates to dealings under section 71T of the Act, in relation to water allocation assignments between water sources.
- (2) Dealings under section 71T of the Act that result in water allocation assignments to or from access licences in these water sources are prohibited unless provided for in this

clause.

- (3) Dealings that assign water allocations between access licences inside the water sources to which this Plan applies and access licences outside the water sources to which this Plan applies, but inside this Unit, are permitted only if the access licence dealing rules in the other water source permit such a dealing.
- (4) Dealings that assign water allocations between access licences in the water sources to which this Plan applies, are permitted.

Note—

Each water allocation assignment must be applied for. Licence holders may enter into private contracts to assign water allocations for a number of years. Such contracts are not guaranteed by the Government, and approval must be sought annually. Approval will be subject to the rules in this Plan, including local impact assessment.

60 Rules for interstate assignment of water allocations

- (1) This clause relates to dealings under section 71V of the Act.
- (2) Dealings that result in interstate assignment of water allocations to or from these water sources are prohibited.

Part 12 Mandatory conditions

61 Mandatory conditions on access licences

- (1) This Part is made in accordance with sections 17 (c) and 20 (2) (c) of the Act.
- (2) All access licences shall have mandatory conditions to give effect to the provisions of this Plan in relation to the following:
 - (a) the specification of the share component of the access licence,
 - (b) the specification of the extraction component of the access licence, including IDELs arising from the operation of Part 10 Division 3 of this Plan where applicable, and the variation thereof,
 - (c) the requirement that extraction under the access licence will be subject to the available water determinations,
 - (d) the requirement that extraction under the access licence will be subject to the water allocation account management rules established in Part 10 Division 2 of this Plan,
 - (e) the requirement that the taking of water in accordance with the access licence will only be permitted if the resulting debit from the access licence water allocation account will not exceed the volume of water allocation remaining in the account,
 - (f) the requirement that water may only be taken under the access licence by the

water supply work nominated by the access licence, and

(g) any other conditions required to implement the provisions of this Plan.

61A Very low flow access conditions

- (1) Notwithstanding any cease to pump conditions established on the licence, during periods of very low flows, holders of access licences listed on Schedule 6 may continue to access water to comply with the requirements of the Food Production (Safety) Act or the Prevention of Cruelty to Animals Act for the following purposes:
 - (a) fruit washing,
 - (b) cleaning of dairy plant and equipment for the purpose of hygiene,
 - (c) poultry watering and misting, and
 - (d) cleaning of enclosures used for intensive animal production for the purposes of hygiene.
- (2) The maximum daily volume that can be extracted under subclause (1) will be the minimum required to satisfy the purposes in that subclause, will be individually assessed and specified on each access licence within 12 months of the commencement of this Plan, will not exceed 20 kilolitres per day, and will not be increased.
- (3) Upon written request by the holder of an access licence, the Minister may add a licence to Schedule 6, but only if the licence meets the purpose requirements established in subclause (1), and the purpose existed prior to 1 July 2004.
- (4) A licence will be removed from the Schedule if:
 - (a) any access licence dealing results in the water being extracted from a different location,
 - (b) an alternative water supply is obtained, that satisfies the requirements of subclause (1), or
 - (c) the licence is surrendered, cancelled, or not renewed.
- (5) Notwithstanding subclauses (1) to (4), extraction of water by an approved water supply work is only permitted if there is visible flow in the river in the vicinity of the work.
- (6) An assessment of the continuing requirements for access under this clause will be undertaken before the end of the Plan, and the schedule amended or deleted at the end of the Plan, if such a review determines that this concessional access is no longer required.

- (7) The assessment made under subclause (6) will be undertaken for the Plan as a whole, and for each individual licence on the Schedule.

62 Unregulated river access licences

All unregulated river access licences shall have mandatory conditions to give effect to the following:

- (a) water may only be taken in accordance with a flow class determined by the Minister, at a rate not exceeding that specified for the flow class on the access licence extraction component, unless otherwise authorised by a registered group, and
- (b) notwithstanding subclause (a), water may be taken without any restrictions in rate from an in-river dam while the dam is passing all inflows.

62A Unregulated river (Aboriginal cultural) access licences

All unregulated river (Aboriginal cultural) access licences shall have mandatory conditions to give effect to the following:

- (a) water shall only be taken by Aboriginal persons or communities for personal, domestic and communal purposes including the purposes of drinking, food preparation, washing, manufacturing traditional artefacts, watering domestic gardens, cultural teaching, hunting, fishing, and gathering, and for recreational, cultural and ceremonial purposes,
- (b) water may only be taken in accordance with a flow class determined by the Minister, at a rate not exceeding that specified for the flow class on the access licence extraction component, unless otherwise authorised by a registered group,
- (c) notwithstanding subclause (b), water may be taken without any restrictions in rate from an in-river dam while the dam is passing all inflows, and
- (d) the conditions in subclauses (b) and (c) are not to be imposed if the IDEL of the licence specifies that water may only be taken from a runoff harvesting dam.

63 Local water utility access licences

- (1) All local water utility access licences shall have mandatory conditions to give effect to the following:
 - (a) water may only be taken for the purposes of supplying water for the exercise of a water supply function of the local water utility or for other such purpose provided for under the Act,
 - (b) water may only be taken in accordance with a flow class determined by the Minister, if specified on the access licence, at a rate not exceeding that specified for the flow class on the access licence extraction component, and

(c) notwithstanding subclause (b), water may be taken without any restrictions in rate from an in-river dam while that dam is passing inflows specified as a condition on the access licence.

(2) Additional operational conditions for Coepolly Dam (hereafter **the Dam**) on Quipolly Creek, operated for the Werris Creek local water utility access licence in the Quirindi Creek Water Source, held by Parry Shire Council, will be applied as follows:

(a) there will be a release from the Dam into Quipolly Creek downstream of the Dam, of a continuous flow of water of not less than 10 litres per second, whenever the inflow to the Dam storage is greater than 10 litres per second, and

(b) in the event that the inflow into the Dam storage is less than 10 litres per second, the release from the Dam will be equivalent to that entering the Dam at the time, unless a lesser release is approved by the Minister.

64 Domestic and stock access licences

All domestic and stock access licences shall have mandatory conditions to give effect to the following:

(a) water may only be taken for the purposes of domestic consumption or stock watering as defined in section 52 of the Act,

(b) water may only be taken in accordance with a flow class determined by the Minister, at a rate not exceeding that specified for the flow class on the access licence extraction component, unless otherwise authorised by a registered group,

(c) notwithstanding subclause (b), water may be taken without any restrictions in rate from an in-river dam while the dam is passing all inflows, and

(d) the conditions in subclauses (b) and (c) are not to be imposed if the extraction component of the access licence specifies that water may only be taken from a runoff harvesting dam.

65 Runoff harvesting access licences

All runoff harvesting access licences shall have a mandatory condition imposed on them specifying that water may be taken without restriction in rate, but only from the specified work.

66 Mandatory conditions on water supply works approvals

All approvals for water supply works in these water sources shall have mandatory conditions to give effect to the provisions of this Plan in relation to the following:

(a) flow measurement devices:

(i) shall be installed and maintained on all works used for extraction of water under

an access licence, and

- (ii) shall be of a type and shall be maintained in a manner which is acceptable to the Minister,
- (b) water extraction and property water management infrastructure details shall be provided to the Minister on request,
- (c) it is the responsibility of the work approval holder to ascertain from the Minister the flow class at any time before commencing to take water under an access licence with an IDEL,
- (d) notwithstanding all other rights and conditions, extraction of water from a river by an approved water supply work is not permitted if there is no visible flow in the river in the vicinity of the work, and
- (e) extraction under an access licence through an approved work is only authorised with respect to the work nominated by the access licence.

Part 13 Granting and amending water supply works approvals

67 Granting and amending water supply works approvals

This Part is made in accordance with section 21 (b) of the Act.

68 Runoff harvesting dams

- (1) New or expanded runoff harvesting dams shall, in addition to other considerations, be subject to the dam capacity not exceeding that which is consistent with the access licence share component specifying the runoff harvesting dam as the nominated work.
- (2) When the water allocations that may be taken from a runoff harvesting dam are reduced either by the Minister, or on application of the approval holder, or by an assignment in accordance with Part 11 of this Plan, the Minister may impose an additional condition requiring the dam to be modified so as to reduce its capacity, or requiring the water taken and evaporated from the dam to be reduced, consistent with the reduction in water allocations available.

Note—

Extraction of water from a runoff harvesting dam requires a runoff harvesting access licence, unless the runoff harvesting dam is within the maximum harvestable right dam capacity for the property on which it is located, in which case no licences or approvals are required. Runoff harvesting is a category of access licence to be established by regulation under section 57 (k) of the Act.

69 In-river dams

No new in-river dams shall be approved within these water sources.

Note—

Taking of water from an in-river dam requires an access licence unless it is taken in accordance with section 52 of the Act (domestic and stock rights). In either case, however, the dam requires a water management works approval unless exempted by regulation under the Act.

Part 14 Monitoring and reporting

70 Monitoring and reporting of performance indicators

The monitoring and reporting of the performance indicators specified in clause 13 shall be undertaken by the Minister.

Note—

Review and Audit of this Plan

In accordance with section 43A of the Act, the Natural Resources Commission must undertake a review of this Plan prior to any decision to extend its term or to make a new plan. The review must consider the extent to which the Plan's water sharing provisions have contributed to achieving or not achieving the relevant natural resource management standards and targets in the catchment management area (as referred to in section 5 of the *Catchment Management Authorities Act 2003*).

When undertaking this review the Natural Resources Commission is required to call for public submissions. The Commission will take into consideration any submission received as well as any other relevant State-wide or regional government policies or agreements that apply to the catchment management area.

In accordance with section 44 of the Act, this Plan will be audited at intervals of no more than five years, for the purpose of ascertaining whether its provisions are being given effect to. This audit is to be carried out by an audit panel appointed by the Minister in consultation with the water management committee, where one exists.

Note—

Implementation Program

In accordance with section 51 of the Act, the Minister may establish an Implementation Program that sets out the means by which the provisions of this Plan are to be achieved.

It is proposed that the Minister establish an Implementation Program for this Plan. Pursuant to section 51(5) of the Act, the Implementation Program is to be reviewed annually by the Minister to determine whether it is effective in implementing this Plan.

The results of the review of the Implementation Program are included in the annual report for the Department.

Part 15 Amendment of this Plan

71 Amendment of this Plan

This Part is made in accordance with section 45 (1) (b) of the Act.

72 Amendment of very low flow provisions

(1) The Minister may, under section 45 (1) (b) of the Act and by notice published in the NSW Government Gazette, vary the very low flow levels established in clause 17 and consequently the bottom of A class established in clause 17, following field verification.

- (2) Any variation made under subclause (1) should not result in a variation of the very low flow levels specified in clause 17 (2) (a), other than the inclusion of an end of system flow specified as a cease to pump measured at the Mooki River at Ruvigne of not more than 50 ML/day for all access licences only nominating works downstream of Breeza.
- (3) The Minister should cause the hydrologic analysis and field verification in subclause (1) to be undertaken as soon as practical, but before the review of this Plan under section 43 (2) of the Act.
- (4) The hydrologic analysis and field verification should assess the degree to which the very low flow class in the Mooki River is protected through to the end of the system.
- (5) In undertaking the hydrologic analysis and field verification the Minister should:
 - (a) consult with the NSW Environment Protection Authority, NSW Fisheries, NSW Agriculture and the NSW National Parks and Wildlife Service, and other interest groups as represented by the Catchment Management Board, and
 - (b) cause a report to be prepared documenting:
 - (i) the methodology adopted,
 - (ii) the hypotheses tested,
 - (iii) the analysis and field results and conclusions in terms of the degree to which the objective in subclause (4) is met,
 - (iv) the flow level changes recommended to meet the objective in subclause (4), and
 - (v) the socio-economic impacts of recommended changes to the flow level.

73 Review of field verification

- (1) The Minister should seek advice from a review body on the report specified in clause 72 (5) (b) before varying this Plan in accordance with clause 72 (1), if the field verification recommends a variation in the very low flow levels established in clause 17.
- (2) This review body may be:
 - (a) a water management committee with water sharing responsibilities for these water sources,
 - (b) the relevant Catchment Management Authority, or
 - (c) an expert advisory panel or advisory committee established for this purpose by the Minister on the recommendation of a water management committee or Catchment Management Authority referenced at subclause (2) (a).

- (3) The review body should provide advice to the Minister on the report, and advise on any changes to the recommendations contained in the report in relation to any variation of the very low flow levels for the Mooki River Source.
- (4) The review body should respond to the Minister as soon as practical after receiving the report, or within 3 months of that date at the latest.

74 Other amendment of this Plan

This Plan can be amended in accordance with clause 50 in respect to adjustments to TDELs and IDELs.

Dictionary

The following definitions apply to this Plan in addition to the definitions set out in the Act:

account water is the balance in an access licence water allocation account at a particular time.

Note—

An access licence water allocation account records water allocations accrued under the licence as well as water allocations taken, assigned or re-credited. The operation of the account is also governed by rules for the carrying over of credits from one accounting period to the next and rules for the maximum credit that may be allowed to accumulate in the account as established in a water sharing plan. Water allocations are the shares of available water accrued under an access licence from time to time as a result of available water determinations.

Cap is the long-term average annual volume of water that would have been diverted under the development and management conditions defined in Schedule F of the Murray Darling Basin Agreement.

conversion factor refers to the adjustment factor that is to be applied to share components when they are cancelled or reissued in a different water source and visa versa, or when the licence category is changed. It is designed to provide for the fact that the value of a unit of share component in terms of the average water allocations that result from it may vary from one water source to another, or from one category of licence to another.

endangered ecological communities means ecological communities listed in Schedule 1 of the [Threatened Species Conservation Act 1995](#) or Schedule 4 of the [Fisheries Management Act 1994](#).

extraction limit is a limit on the amount of water that may be extracted from an extraction management unit.

extraction management unit is a group of water sources for the purpose of managing annual average extraction.

farm dam is a privately owned dam typically of earthen construction designed to collect and/or store water for use on one or a few properties. It does not include publicly owned dams or weirs. See also **in-river dam** and **runoff harvesting dam**.

flow classes are categorised by the size and duration of flow levels in unregulated rivers, for example:

- (a) very low flows may be a class on their own,

- (b) low flows may be categorised as 'A' class,
- (c) moderate flows may be categorised as 'B' class,
- (d) high flows may be categorised as 'C' class,
- (e) very high flows may be categorised as 'D' class, and
- (f) extremely high flows may be categorised as 'E' class.

flow gauging station is a device that is used to measure the height of a river, from which the flow in the river can be calculated.

individual daily extraction limit (IDEL) is the volume of water that may be extracted by an individual access licence from an unregulated river on a daily basis from a particular flow class.

infrastructure includes, but is not limited to, a:

- (a) flow gauging device or any other appliance that is used to measure the height of a river relative to a known datum point, from which the flow in the river can be calculated, or
- (b) flow announcement system which is the mechanism by which the Minister communicates daily flow classes to the holders of an access licence within these water sources.

in-river dam is a dam on a 3rd, 4th or higher order river. 3rd, 4th or higher order rivers are as defined in the Order made under section 5 of the [Water Act 1912](#) in relation to the definition of a "river" gazetted 23 March 2001. See also **farm dam** and **runoff harvesting dam**.

stock watering means the watering of stock being raised on the land, but does not include the use of water in connection with intensive animal husbandry.

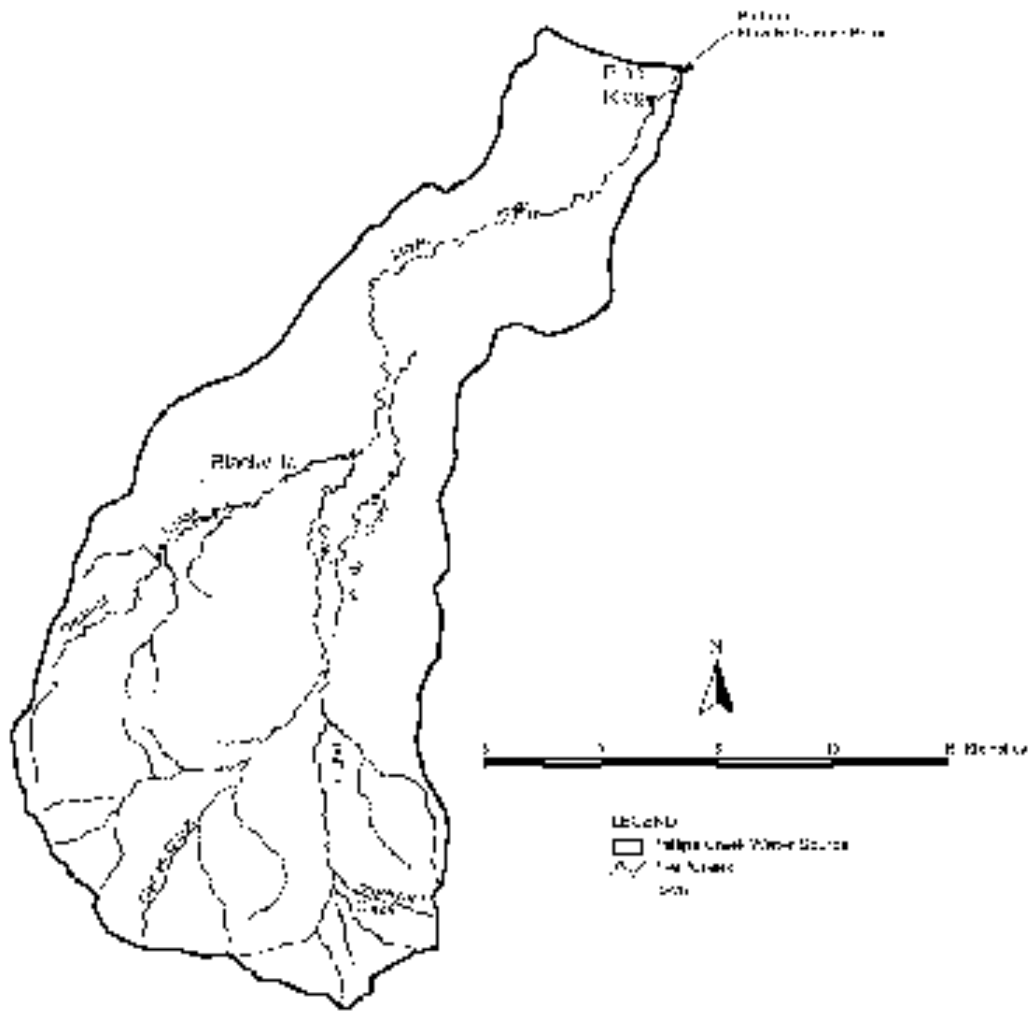
runoff harvesting dam is a farm dam on a hillside or 1st or 2nd order stream which collects and stores rainfall runoff. 1st and 2nd order streams are as defined in the Order made under section 5 of the [Water Act 1912](#) in relation to the definition of a river gazetted 23 March 2001. See also **farm dam** and **in-river dam**.

Note—

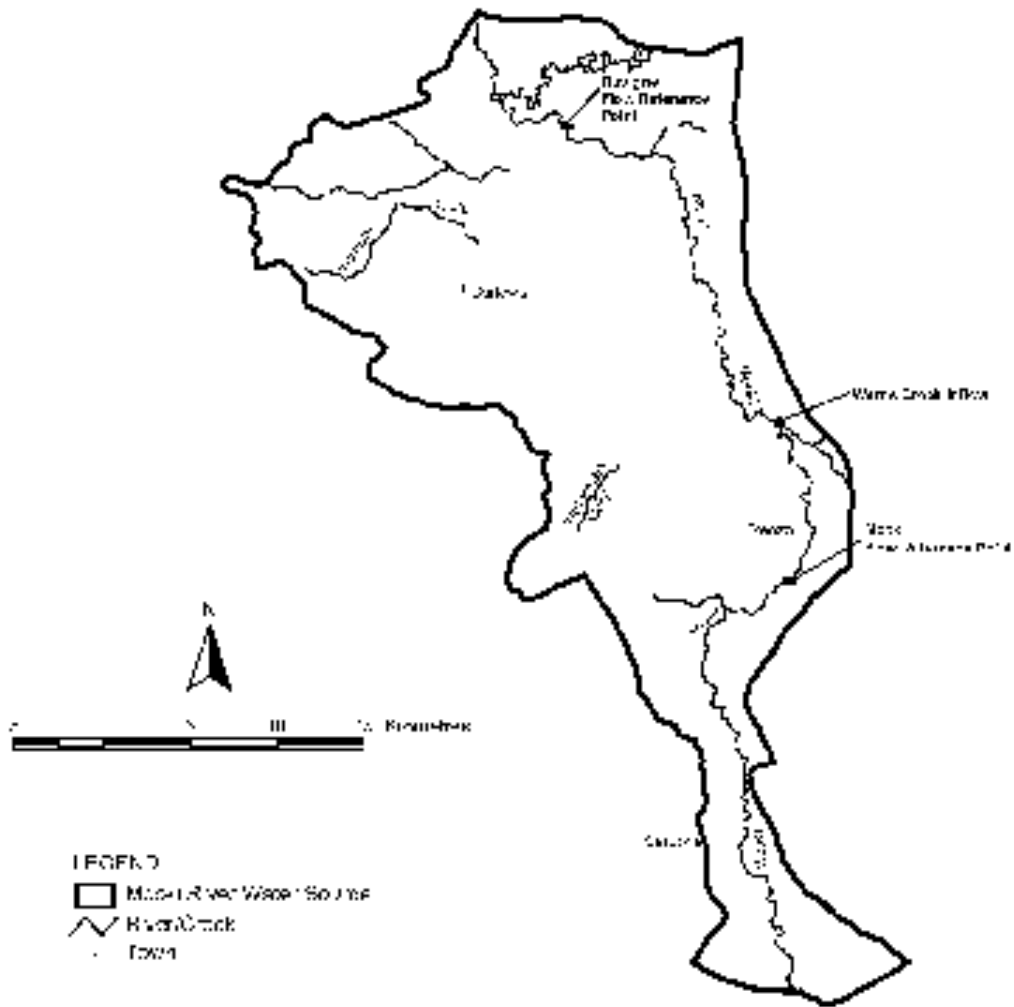
This Order refers to watercourses shown as blue lines on topographic maps. The lines which are uppermost in a catchment are 1st order streams, when two 1st order streams are joined they make a 2nd order stream, etc. For more information see the Farm Dams Assessment Guide available from the Department of Land and Water Conservation.

total daily extraction limit (TDEL) is the volume of water that may be extracted under access licences from an unregulated river on a daily basis from a particular flow class.

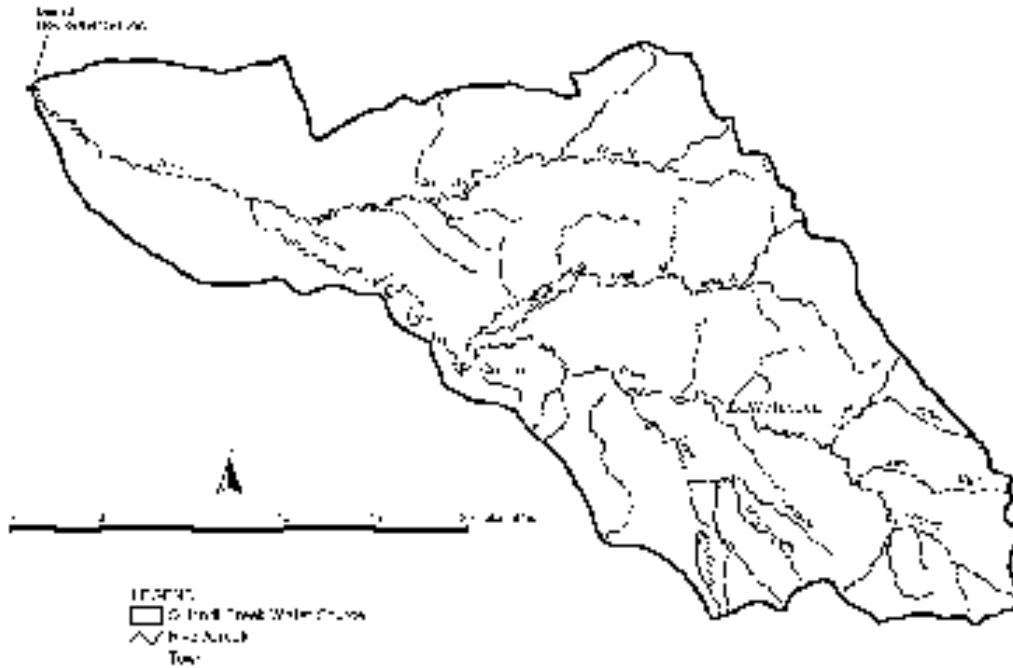
Schedule 2 (a) Phillips Creek Water Source



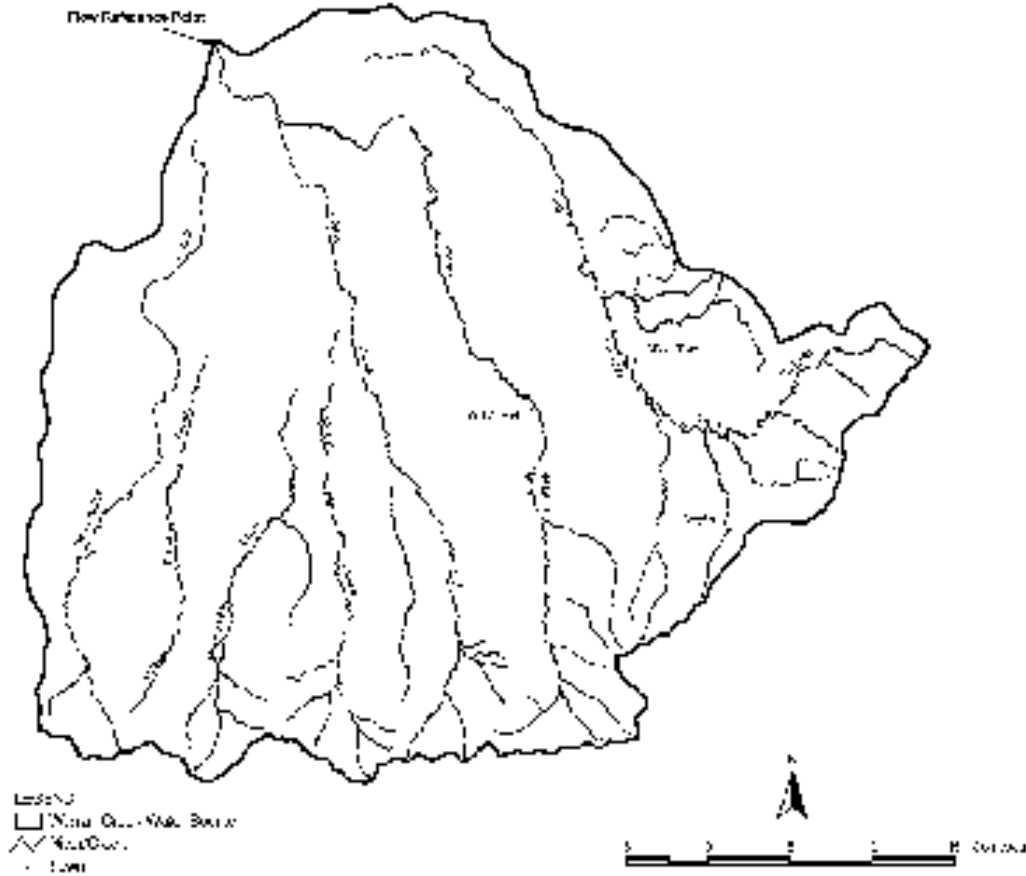
Schedule 2 (b) Mooki River Water Source



Schedule 2 (c) Quirindi Creek Water Source



Schedule 2 (d) Warrah Creek Water Source



Schedule 3 Rivers in the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creek Water Sources

Phillips Creek Water Source includes:

Black Creek	Omelah Creek
Cattle Creek	Phillips Creek
Clarkes Creek	Spring Creek
Larrys Creek	Windy Creek

Mooki River from the confluence of Omelah Creek and Phillips Creek to its confluence with Warrah Creek

Mooki River Water Source includes:

Carroll Creek	Peach Tree Gully
Coghill Ponds	Turners Gully

Mooki River from its confluence with Warrah Creek to its confluence with the Namoi River

Quirindi Creek Water Source includes:

Allens Creek	Kangaroo Creek
Back Creek	Quipolly Creek
Basin Creek	Quirindi Creek
Basin Gully	Sebastopol Creek
Company Creek	Spring Creek
Jacob and Joseph Creek	Wiles Gully
Jacob and Joseph Gully	

Warrah Creek Water Source includes:

Big Jacks Creek	MacDonalds Creek
Borambil Creek	Millers Creek
Chilcotts Creek	Pump Station Creek
Colly Creek	Warrah Creek
Doughboy Hollow Creek	Yarramanbah Creek
Dry Creek	

Schedule 4 Contribution to relevant targets in the December 2002 State Water Management Outcomes Plan

Levels of assessed contribution:

FULL—contributes to target in full

HIGH—while not fully contributing to target, there is a good level of contribution

PARTIAL—goes some way to contributing to the target

LOW—only small degree of contribution to target

Relevant Target	Level of contribution	Comments
Target 1b Extractions in Murray-Darling Basin's unregulated rivers limited to the MDBMC Cap level	FULL	<ul style="list-style-type: none"> This Plan sets out the basis for the extraction limit for these water sources.
Target 1f Rules for adjustments to future available water determinations in the event that the extraction limits are exceeded, clearly prescribed in consultation with the relevant management committee, and acted upon	FULL	<ul style="list-style-type: none"> Rules set out in Part 9 of this Plan. Protects very low flows below 95th percentile in these water sources and field inspections indicated these should be adequate for environmental needs. Has put in place TDEs to protect over 90% of flows excepted in Mooki River Water Source. The flows are improved relative to current in Mooki River Water Source (excepting during D class).
Target 2 All management plans incorporating mechanisms to protect and restore aquatic habitats, and the diversity and abundance of native animals and plants, with particular reference to threatened species, populations and communities and key threatening processes	HIGH	<ul style="list-style-type: none"> In the other water sources this Plan allows for further reductions in flow and will protect greater proportion of flows compared to full development under pre-plan rules. At least 3 listed threatened fish species are likely to occur in the Mooki River Water Source (silver perch, purple spotted gudgeon, olive perchlet). There are no recovery plans in place, therefore no specific provisions in this Plan. The high level of flow protection (over 90%) in Phillips, Quirindi and Warrah Water Sources should maintain/improve conditions for these species, while the flow improvements in the Mooki River Water Source may help improve conditions for these species.

Target 4a Wherever the frequency of “end of system” daily flows would be less than 60% of the predevelopment level without environmental water rules or extraction limits, the flows increased to 60% of predevelopment levels or increased by at least 10% of the predevelopment frequency

HIGH

- Meets the target in all cases except Mooki River Water Source where class D fails to achieve any improvement on pre-plan, and reducing the TDEL to 1,350 ML/day would meet the target.
- Phillips—C class—92% of flow protected, D class—97% of flow protected.
- Mooki—C class—20% (year 1-6) 40% (year 7-10) of the flow is protected, this is over 10% improvement on pre-plan, D class—50% of flow protected however this does not improve on pre-plan, E class—67% of flow is protected.
- Quirindi—C class—91% of the flow (minus the local water utility impact) is protected, D class—94% of the flow (minus the local water utility impact) is protected.
- Warrah—C class—97% of the flow is protected, D class—96% of the flow is protected.

Target 4b Frequency of “end of system” daily very low flows (as defined by local field investigation) protected or restored to predevelopment levels to maintain or restore their critical ecological functions, drought refuges and habitat connectivity. In the absence of such local assessments, protection extended up to at least the predevelopment 95th percentile

FULL

- Cease to pump (CTP) levels are set at a minimum of the 95th percentile of all days with (non-zero) flow in all four water sources.
- The environmental appropriateness of this level was verified by field inspection.

Target 5 Access rights for water access licensees clearly and legally specified in terms of share and extraction components

FULL

- This Plan recognises the access licence share components and establishes TDELs for distribution to individual licensees, and also enables water trading of access licence share components, IDELs and account water.

Target 6b A pathway for reducing the share components to 200 percent of the long term average annual extraction limit to be established not later than the end of the term of the SWMOP

FULL

- Total licensed share components for the Namoi Unregulated Rivers Extraction Management Unit should not exceed 200% of extraction limit for this Unit.

Target 7 Mechanisms in place to enable Aboriginal communities to gain an increased share of the benefits of the water economy

PARTIAL

- The Government has established other mechanisms to address this target.
- This Plan does provide broad market opportunity.
- This Plan does not establish unassigned water.

<p>Target 8 Daily extraction components specified and tradeable, subject to metering, reporting and compliance, for at least 50% of unregulated river access licences and for 80% of stressed unregulated rivers</p>	<p>FULL</p>	<ul style="list-style-type: none"> • This Plan establishes TDELS across these water sources.
<p>Target 12 Measures in place in all water sources subject to a gazetted water sharing plan to protect domestic and stock rights from the impact of other water access and use</p>	<p>FULL</p>	<ul style="list-style-type: none"> • Domestic and stock basic rights are estimated at 5.1 ML/day. • The upstream zone CTPs (3 times 2 ML/day) should ensure that the basic rights requirements are met during very low flow periods. • 2 Aboriginal community representatives were involved in development of this Plan.
<p>Target 13 The knowledge sharing, training and resources necessary to ensure that Aboriginal people have the capacity to be effectively involved in water management identified and addressed</p>	<p>HIGH</p>	<ul style="list-style-type: none"> • The committee that prepared this Plan attended Aboriginal cultural awareness training. • Meetings were held with local Aboriginal communities, Elders and the NSW Aboriginal Land Council to encourage involvement.
<p>Target 14 Water sources, ecosystems and sites of cultural or traditional importance to Aboriginal people identified, plans of management prepared, and measures put in place to protect and improve them</p>	<p>HIGH</p>	<ul style="list-style-type: none"> • Ecological features of importance to the Aboriginal people have been identified and the impact of this Plan assessed against these. • This Plan does provide a reasonable level of environmental protection/improvement which should assist in protecting Aboriginal values.
<p>Target 16a All share components of access licences tradeable</p>	<p>FULL</p>	<ul style="list-style-type: none"> • Part 11 of this Plan provides for trading of access licence share component, IDELS and account water.
<p>Target 16c Conversion factors and protocols established to facilitate trading and dealings between water sources, whilst also protecting existing access and environmental water</p>	<p>HIGH</p>	<ul style="list-style-type: none"> • Part 11 of this Plan establishes an exchange rate of for trading between unregulated water sources in the Namoi Unregulated Rivers Extraction Management Unit and other water sources subject to Ministers determination.
<p>Target 16d Reduced conversion factors only applied when necessary to offset increased losses associated with water supply delivery</p>	<p>FULL</p>	<ul style="list-style-type: none"> • This Plan does not impose reduction factors.

Target 16e Any unassigned access rights identified and clear mechanisms established for their future assignment

HIGH

- No unassigned rights in this Plan.

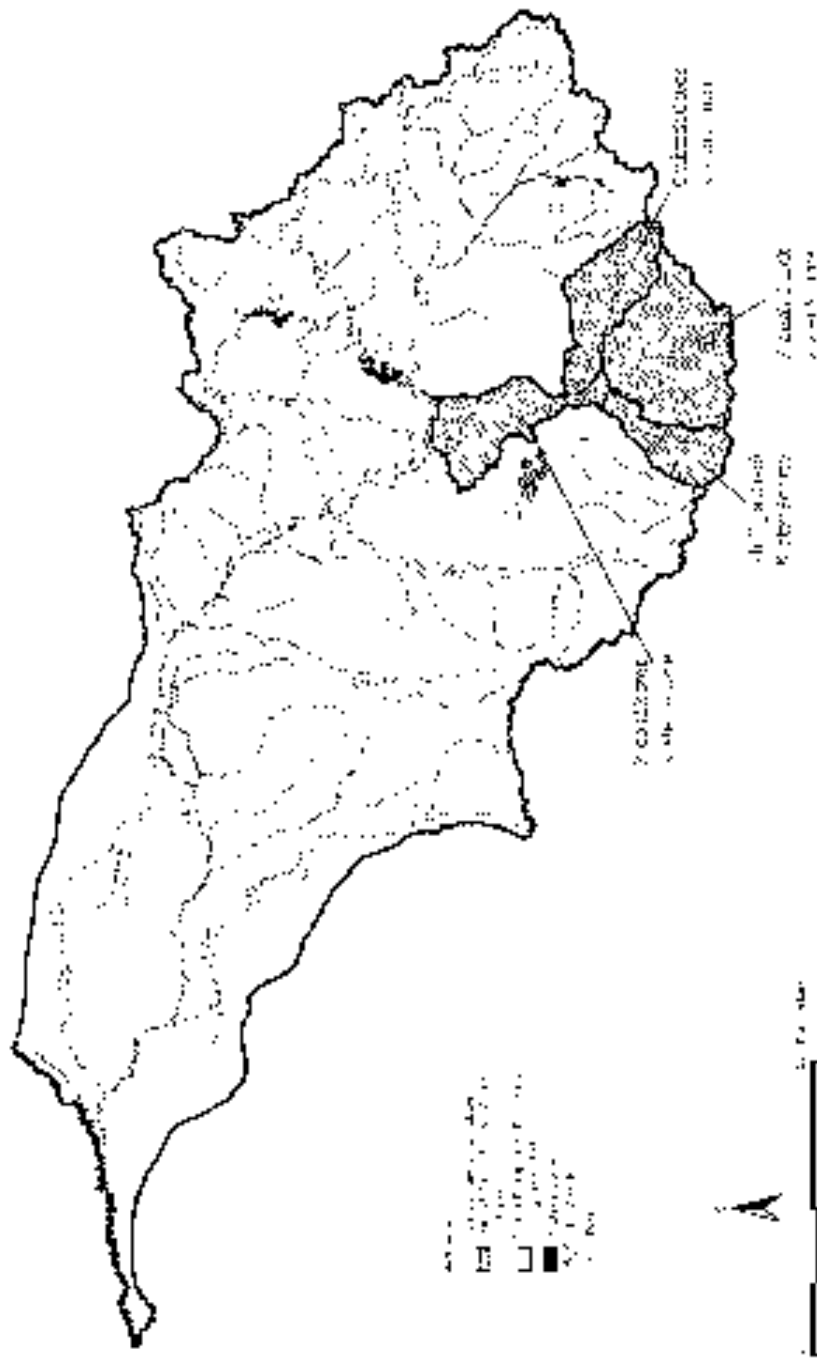
Target 35 All management plans incorporating water quality objectives that have considered Government approved Interim Environmental Objectives, the current Australian and New Zealand Environment and Conservation Council Guidelines and the recommendations of relevant Healthy Rivers Commission Inquiries

HIGH

- This Plan includes an objective to implement the flow related water quality objectives.

Schedule 5 Namoi Unregulated Rivers Extraction Management Unit

This Unit excludes any river that is declared by the Minister, by Order published in the NSW Government Gazette, to be a regulated river.

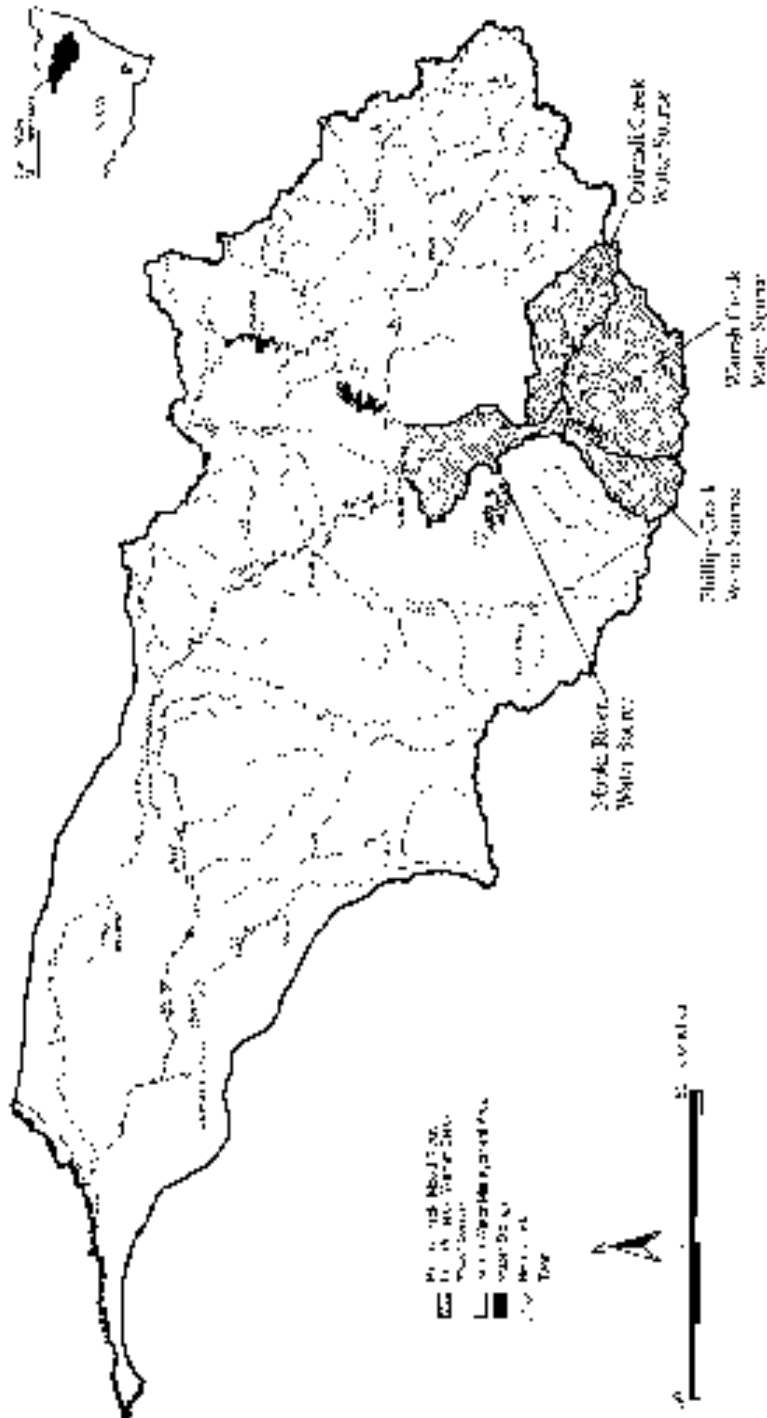


Schedule 6 Access Licences with very low flows

Note—

No licences identified at the time of making of this amending order.

Appendix 1 Namoi Water Management Area



Appendix 2 Location of maps for public inspection

The maps in relation to this Plan may be inspected at:

Regional Office

Department of Land and Water Conservation
 Noel Park House
 Level 3
 155-157 Marius Street
 TAMWORTH NSW 2340

Appendix 3 Performance indicators

Performance indicators for the Phillips Creek, Mooki River, Quirindi Creek and Warrah Creek Water Sources

Performance indicator	Related objective	As measured by	Commentary
(a) Change in low flows.	11 (a) 11 (c) 11 (d)	<ul style="list-style-type: none"> Assessment of change in flow duration characteristics, from time of Plan commencement, at identified reference points. 	<ul style="list-style-type: none"> River Flow Objectives (RFOs) 1, 2 and 6 RFOs are the objectives agreed to by the NSW Government aimed at safeguarding river flows for environmental health. <p>Note—</p> <p>Not every objective is relevant to every river in NSW.</p> <ul style="list-style-type: none"> Plan will contribute to a decrease in the frequency and duration of low flows. Where data is limited, it is only possible to assess change from the period of plan commencement to the time the indicator is assessed. There will be a high climatic influence on changes to the flow characteristics, depending on if the time period of assessment has been wet or dry.

(b) Change in moderate to high flows.	11 (a) 11 (c) 11 (d)	<ul style="list-style-type: none"> • Assessment of change in flow duration characteristics, from time of Plan commencement, at identified reference points. 	<ul style="list-style-type: none"> • RFO 3. • Plan will maintain or increase the frequency and duration of moderate to high flows. • This assessment will focus on the plan's end of system reference point(s), and will be based on a qualitative assessment of compliance with the water sharing rules, due to the current modelling limitations in most unregulated rivers. • Where data is limited, it is only possible to assess change from the period of plan commencement to the time the indicator is assessed. • There will be a high climatic influence on changes to the flow characteristics, depending on if the time period of assessment has been wet or dry.
	(c) Change in local water utilities access.	11 (b)	<ul style="list-style-type: none"> • Change in safe yield (safe yield is the annual demand that can be supplied from the water supply headworks and is based on the period of records used and an acceptable level of restriction).

<p>(d) Change in ecological condition of this water sources and dependent ecosystems.</p>	<p>11 (a) 11 (c) 11 (d) 11 (f)</p>	<ul style="list-style-type: none"> • Periodic assessment of identified attributes of this water source and dependent ecosystems. 	<ul style="list-style-type: none"> • The ecological influence of the Plan is limited to providing for changes in flow regime aimed at improving the ecological condition of the water source and dependent ecosystems. • The focus of this performance indicator will be the effect of flow strategies. • Information on flow requirements of ecological systems is limited so physical or hydraulic surrogates will be used to assess the influence of the Plan. For example, the status of wetted area, depth in pools and flow velocity over riffles. • In addition to the environmental water provisions defined in this Plan, there are many other factors that contribute to achievement of ecological objectives. Riparian vegetation, water quality, farming techniques, soil erosion, water flow patterns and other catchment characteristics all significantly influence ecological condition. It is difficult to assess which factor is the most influential at a particular time and place. • Research and development into the impacts of flow on ecological condition will be incorporated into assessment of the plan where the information is available and relevant.
<p>(e) Extent to which basic landholder rights requirements have been met.</p>	<p>11 (b)</p>	<p>Assessment of cease to pump levels in relation to basic rights requirements.</p>	<ul style="list-style-type: none"> • Basic landholder rights usage figures in water sharing plans are estimated (not actual use).

<p>(f) Change in economic benefits derived from water extraction and use.</p>	<p>11 (b) 11 (e)</p>	<ul style="list-style-type: none"> • Number of days access provided over the time of the plan. • Number of new off stream storages. • Change in unit price of water transferred. • Change in gross margins. 	<ul style="list-style-type: none"> • There are many factors affecting economic status of a region, for example commodity prices. • Measurement of the number of new off stream storages will indicate the adjustment to the rules and the ongoing access to water. • Assessment undertaken as part of plan performance monitoring will make assumptions to attempt to identify the impact of the plan provisions. • The data can reflect changes in crops, commodity prices, climate, water availability, economic climate and input costs.
<p>(g) Extent to which native title rights requirements have been met.</p>	<p>11 (b)</p>	<ul style="list-style-type: none"> • Assessment of amount and type of information collected to identify the range of values of water to Aboriginal people. 	<ul style="list-style-type: none"> • The collection of information on the values associated with water is considered the first step in addressing the objects of the Act. It would be expected that at the end of five years there should be relevant information collected for each water source, as a minimum requirement.
<p>(h) Extent of recognition of spiritual, social and customary values of water to Aboriginal people.</p>	<p>11 (a) 11 (b) 11 (c) 11 (d) 11 (f)</p>	<ul style="list-style-type: none"> • Assessment of amount and type of information collected to identify the range of values of water to Aboriginal people. 	<ul style="list-style-type: none"> • The collection of information on the values associated with water is considered the first step in addressing the objects of the Act. It would be expected that at the end of 5 years there should be relevant information collected for each water source, as a minimum requirement.
<p>(i) Contribution to the achievement of water quality to support the environmental values of these water sources.</p>	<p>11 (f)</p>	<ul style="list-style-type: none"> • Change in the baseline figures of identified water quality variables. 	<ul style="list-style-type: none"> • Note that many factors may affect water quality which are not related directly to flow management.

Appendix 4 River flow objectives and water quality objectives

River Flow objective	Process of influencing water quality
1 Protect natural water levels in pools of creeks and rivers and wetlands during periods of no flow	<ul style="list-style-type: none"> • Decreases the rate at which water quality detrimentally changes in pools that represent refuge habitat. • Prevents further concentration of pollutants. • Improves pool connectivity and minimises stagnation and stratification of pools, preventing further concentration of pollutants during low flows.
2 Protect natural low flows	<ul style="list-style-type: none"> • Suppresses conditions favourable to blue-green algal blooms. • Minimises the impact of groundwater recharge where groundwater is saline.
3 Protect or restore a proportion of moderate flows (freshes) and high flows	<ul style="list-style-type: none"> • Freshes transport sediment, nutrients and organic carbon downstream, increase dissolved oxygen, and break up stratification of pools. • Freshes wet banks and benches of rivers to maintain habitat, stimulating ecological processes that regulate water quality.
4 Maintain or restore natural inundation and distribution of floodwaters supporting natural wetland and floodplain ecosystems	<ul style="list-style-type: none"> • Regular floods add floodplain inputs to stimulate natural processes that regulate water quality. • High flows support healthy riparian zones that act as buffers and stabilise banks. • Natural variable flows disadvantage exotic species such as carp, which cause water quality problems.
6 Maintain or mimic natural flow variability in all rivers	<ul style="list-style-type: none"> • Variable flows minimise stratification of pools and conditions favourable to blue green algae. • Natural variable flows help maintain a dynamic ecosystem and diverse biological community, in turn stimulating ecological processes that regulate water quality.
7 Maintain rates of rise and fall of river heights within natural bounds	<ul style="list-style-type: none"> • Natural rates of rise and fall minimise bank slumping which increase turbidity.

- | | | |
|----|---|---|
| 9 | Minimise the impact of in-river structures | <ul style="list-style-type: none">• Flow management and structure operation can prevent or address weir pool stratification and accumulation of pollutants.• Minimising weir pool stratification can reduce or eliminate conditions favourable to blue green algae.• Structure operation should attempt to minimise low level releases which may be cold or high in sediment, nutrients and/or toxicants. |
| 11 | Ensure river flow management provides for contingencies | <ul style="list-style-type: none">• In some circumstances, can provide flushing flows. |

Appendix 5 (Repealed)