



Water Sharing Plan for the Lower Gwydir Groundwater Source 2019

under the

Water Management Act 2000

I, Melinda Pavey, the Minister for Water, Property and Housing, do, by this Order, in pursuance of section 50 of the *Water Management Act 2000*, make the following Minister's Plan, being the *Water Sharing Plan for the Lower Gwydir Groundwater Source 2019*.

Dated this 24 day of June 2019.

Melinda Pavey
Minister for Water

Explanatory notes

This Plan replaces the *Water Sharing Plan for the Lower Gwydir Groundwater Source 2003*. This Order is made under section 50 of the *Water Management Act 2000*. The concurrence of the Minister for the Environment was obtained prior to the making of this Order.

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Water Sharing Plan for the Lower Gwydir Groundwater Source 2019

Part 1 Introduction

1 Name of Plan

This Plan is the *Water Sharing Plan for the Lower Gwydir Groundwater Source 2019* (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 2019.

4 Area to which this Plan applies

The area in respect of which this Plan is made is that area of land within the Gwydir and Border Rivers Water Management Areas known as the Lower Gwydir Groundwater Source (*this groundwater source*) as shown on the *Plan Map (WSP047_Version 2) Water Sharing Plan for the Lower Gwydir Groundwater Source 2019* held by the Department (*the Plan Map*).

Notes.

- 1 The Gwydir and Border Rivers Water Management Areas are shown on the map in Appendix 1.
- 2 The Plan Map is part of this Plan and can be viewed on the NSW legislation website.

5 Waters to which this plan applies

The water in this groundwater source includes all water contained in the unconsolidated alluvial sediment aquifers associated with the Gwydir River, its tributaries, and effluents downstream of Gravesend.

Note. Water supply works drilled through the unconsolidated sediments into the underlying Great Artesian Basin (GAB) are tapping a different resource. On plan, they may lie within the boundaries of the Lower Gwydir Groundwater Sources, however they are within the deeper GAB Groundwater Source and are not included as a part of this Plan.

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 in 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.

Part 2 Vision, objectives, strategies and performance indicators

7 Vision, objectives, strategies and performance indicators

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

8 Vision

The vision for this Plan is an ecologically sustainable groundwater resource that provides an assured supply of good quality groundwater for the social and economic benefit of the people in the Gwydir Catchment.

9 Objectives

The objectives of this Plan are to:

- (a) protect and maintain groundwater dependent ecosystems by minimising the impacts of extraction,
- (b) manage and share the groundwater resources of the Gwydir Valley in a sustainable and equitable manner, while minimising negative local and regional impacts,
- (c) protect the structural integrity of the aquifer by ensuring extraction does not cause any aquifer compaction, aquitard compaction or land subsidence,
- (d) protect and maintain groundwater quality by ensuring extraction does not result in a change in the beneficial use of the aquifer,
- (e) provide opportunities for market based trading of groundwater rights within the extraction limit and interference constraints,
- (f) preserve basic landholder rights to this groundwater source,
- (g) ensure there are no long term declines in water levels by managing allocations and extractions within the extraction limit, and
- (h) protect and maintain cultural and heritage values through the management of this groundwater source.

10 Strategies

The strategies of this Plan are to:

- (a) establish environmental water rules and manage access to groundwater consistent with those rules,

- (b) establish rules for the protection of basic landholder rights,
- (c) establish an extraction limit for this groundwater source, taking into account the requirements of the environment,
- (d) reduce the total share component of access licences to the final extraction limit,
- (e) establish rules for granting of access licences,
- (f) establish rules for determining the groundwater available from time to time under access licences,
- (g) establish water allocation account management rules,
- (h) establish rules for minimising the local impacts of groundwater extraction on the environment, the aquifer itself, and between users,
- (i) establish the access licence dealing rules, and
- (j) establish the conditions that will apply to access licences and water supply work (bore) approvals.

11 Performance indicators

For the purpose of section 35 (1) (b) of the Act, the following indicators are to be used to determine the performance of this Plan against its objectives.

- (a) change in groundwater extraction relative to the extraction limit,
- (b) change in climate adjusted groundwater levels,
- (c) change in water levels adjacent to identified groundwater dependent ecosystems,
- (d) change in groundwater quality,
- (e) change in the economic benefits derived from groundwater extraction and use,
- (f) change in structural integrity of the aquifer,
- (g) extent to which domestic and stock rights requirements have been met,
- (h) extent to which local water utility requirements have been met,
- (i) extent to which native title rights requirements have been met, and
- (j) extent of recognition of spiritual, social and customary values of groundwater to Aboriginal people.

Part 3 Basis for water sharing

12 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.

13 Climatic variability

- (1) This Plan recognises climatic variability and therefore that the level of natural recharge to this groundwater source will vary.
- (2) To give effect to subclause (1), this Plan has provisions that manage:
 - (a) the sharing of water in this groundwater source within the limits of water availability on a long-term average basis, and
 - (b) water extractions to enable the protection of groundwater dependent ecosystems, aquifer integrity and water quality in this groundwater source.

14 Recharge

- (1) The overall basis for water sharing in this Plan is the average annual recharge to this groundwater source, estimated to be 38,000 megalitres per year (hereafter *ML/yr*) plus the requirements for basic landholder rights at the commencement of this plan.
- (2) The Minister may under section 45 (1) (b) of the Act amend subclause (1) to vary the average annual recharge value following further recharge studies undertaken by the Minister.

Note. The extent to which this change may impact on access licence holders is limited by clause 29.

Part 4 Environmental water provisions

15 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.

16 Planned environmental water

Note. It is anticipated that the planned environmental water provisions in this Part and management of local impact provisions in Part 10 of this Plan will also protect the cultural and spiritual values of groundwater (see clause 9 (h)).

- (1) This Plan establishes the following planned environmental water rules:
 - (a) subject to Part 10 Division 2 of this Plan, the physical water contained in the storage component of this groundwater source will be reserved for the environment,
 - (b) subject to Part 10 Division 2 of this Plan, 15% of an amount that is equal to the long-term average annual recharge to this groundwater source minus basic landholder rights requirements at the commencement of this plan, being 5,700 ML/yr, is reserved for the environment.
- (2) The Minister may under section 45 (1) (b) of the Act amend subclause (1) (b) vary the proportion of recharge reserved as planned environmental water based on further studies of groundwater ecosystem dependency undertaken by the Minister.

Note. The studies may recommend management options other than reservation of a portion of recharge to protect groundwater dependant ecosystems.

Note. The extent to which this change may impact on access licence holders is limited by clause 29.

17 Adaptive environmental water

- (1) Water may be committed in this water source for environment purposes by an adaptive environmental water condition pursuant to section 8B of the Act.
- (2) The holder of an access licence may request that the Minister impose an adaptive environmental water condition in respect of the whole or a part of the share component of the access licence.
- (3) The condition imposed under subclause (2) will continue until the holder requests its removal.

- (4) An access licence may be held by the Minister, Local Land Services or another public body to the extent that the whole or part of that access licence has been surrendered as a result of on farm water savings made by works or other improvements, subject to:
 - (a) the share component of the access licence held being equal to the value of the on-farm water savings made,
 - (b) the access licence held being the highest priority category in this water source, other than a specific purpose category, and
 - (c) an adaptive environmental water condition being imposed on the access licence and that condition not being removed.
- (5) The adaptive environmental water condition specified in subclause (1) and the plan for implementation of that condition, as required by section 8E (7) of the Act:
 - (a) are to be established by the Minister, and
 - (b) shall be such as to ensure that there will be a contribution to the objectives of this Plan.
- (6) The allocation of water for access licences with an adaptive environmental water condition will be in accordance with the available water determination for the relevant category of access licence under this plan.
- (7) If the adaptive environmental water condition on an access licence requires the water to be left in the water source for environmental purposes, then the water allocation account is to be debited when the water is available in accordance with the adaptive environmental water condition on the access licence.
- (8) If the adaptive environmental water condition requires the environmental water to be taken from the water source then the water allocation account is to be debited when it is taken.
- (9) For the purposes of auditing compliance with the long-term extraction limit under this plan, the delivery of water pursuant to an access licence that has been committed as adaptive environmental water shall be accounted for as extraction where it occurs pursuant to a licence under subclause (2) or subclause (4).
- (10) To the extent that the water allocation of an access licence which is subject to an adaptive environmental water condition is not required to meet the requirement of the condition it may be the subject of an assignment dealing in accordance with the Dealings Rules in this plan.

- (11) Notwithstanding subclause (10) an access licence with an adaptive environmental water condition may be the subject of any other dealing permitted by the Dealing Rules in this plan, provided the benefit to the environment provided for in the adaptive environmental condition is not diminished.
- (12) At the commencement of this clause, there were no access licences with an adaptive environmental water condition in this groundwater source.

Part 5 Basic landholder rights

18 Basic landholder rights

- (1) This Part is made in accordance with sections 5 (3) and 20 (1) (b) of the Act.
- (2) If a landholder is unable to exercise their basic landholder rights due to interference of their supply by extraction authorised by access licences:
 - (a) the Minister may amend a water supply works approval to allow the landholder's affected bore to be replaced or deepened to ensure continuing access to water for basic landholder rights', or
 - (b) the Minister may amend another water supply works approval so that basic rights water may be supplied by an alternative water supply work means during critical times.
- (3) In accordance with the legislative requirements, the Minister may impose a charge on access licence holders in this groundwater source under section 114 of the Act, as a contribution to the costs of activities or works associated with subclause (2).
- (4) Basic landholders rights exercised under section 52 of the Act must be exercised in accordance with any guidelines established by the Minister with respect to the reasonable use of water for domestic consumption and stock watering by landholders authorised to use water for either or both of those purposes.

Note. The Minister may, by order made under section 323 of the Act, impose temporary restrictions on basic landholder rights when it is necessary to do so in the public interest, such as to cope with a water shortage or threat to public health or safety.

Note. The Minister may enforce any reasonable use guidelines by serving orders on individual landholders under section 325 of the Act. The Minister may also order individual landholders accessing basic landholder rights to take specified measures to protect the environment, to preserve basic landholder rights or to overcome a threat to public health under section 328 of the Act.

19 Domestic and stock rights

Note. It is not recommended that the water from this groundwater source be consumed without prior treatment. Land use activities may have polluted the groundwater in some areas.

- (1) At the commencement of this Plan the water requirements of holders of domestic and stock rights are estimated to be a total of 700 ML/yr.

Note. The volumes of water identified in subclause (1) are the total volumes of water estimated for domestic and stock rights in this groundwater 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 overlying this groundwater source, or as a result of the increase in the exercise of domestic and stock rights by existing landholders.

20 Native title rights

The requirement for water to satisfy native title rights is the water that may be taken in the exercise of native title rights in accordance with the *Native Title Act 1993* of the Commonwealth, including any determination of native title.

Notes.

- 1 This Plan may be amended if there is a native title determination in accordance with the *Native Title Act 1993* of the Commonwealth by which water is required.
- 2 Native title rights may be exercised in accordance with the *Native Title Act 1993* of the Commonwealth, including section 211 of that Act.

Part 6 Bulk access regime

21 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 this groundwater source 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 Parts 9 and 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 Part 9 of this Plan.

Part 7 Requirements for water for extraction under access licences

22 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 or total shares specified in the share components on access licence in this groundwater source. The actual volume of water available at any time will depend on climate, access licence priority and the rules in this Plan.

23 Share components of domestic and stock access licences

It is estimated that at the time of commencement of this Plan, the share components of domestic and stock access licences authorised to extract water from this groundwater source will total 200 ML/yr.

24 Share components of local water utility access licences

It is estimated that at the time of commencement of this Plan, the share components of local water utility access licences authorised to extract water from this groundwater source will total 3,572 ML/yr.

25 Share components of aquifer access licences

It is estimated that at the time of commencement of this Plan, the share components of aquifer access licences authorised to extract water from this groundwater source will total 28,920 ML/yr.

26 Changes to share components

This Plan recognises that the total requirements for water for extraction within this groundwater source may change during the term of this Plan as a result of:

- (a) the granting, surrender or cancellation of access licences, or
- (b) the variation of local water utility access licences under section 66 of the Act.

Part 8 Rules for granting access licences

27 Rules for granting access licences

- (1) This Part is made in accordance with sections 20 (2) (b), 61 and 63 of the Act, having regard to the limits to water availability in this groundwater source and the need to protect groundwater dependent ecosystems, aquifer integrity and groundwater quality.
- (2) Applications for access licences may be made and access licences granted in this groundwater source if they are:

- (a) a specific purpose access licence for which an application may be made under the *Water Management (General) Regulation 2018* (hereafter ***the Regulation***) in accordance with section 61 (1) (a) of the Act, or

Notes.

- 1 Clause 10 of the Regulation provides for the following specific purpose access licences to be applied for:
 - (a) a local water utility access licence (subcategory “domestic and commercial”), for the purpose of domestic consumption and commercial activities,
 - (b) a domestic and stock access licence (subcategory “domestic”), for the purpose of domestic consumption,
 - (c) an aquifer access licence (subcategory “town water supply”), for the purpose of supply to communities for domestic consumption and commercial activities,
 - (d) any category of specific purpose access licence (subcategory “Aboriginal cultural”), for Aboriginal cultural purposes.
 - 2 Pursuant to sections 66 (3) and 66 (4) of the Act, the Minister may also vary the share component of a local water utility access licence at 5 year intervals, or on application of the local water utility where there is rapid growth in population.
- (b) an access licence with a zero share component in accordance with sections 61 (1) (b) and 63 (5) of the Act, or
 - (c) an access licence that may be granted in accordance with a dealing that is permitted under Part 11 of this Plan, or
 - (d) a domestic and stock access licence, if the water taken under the licence is to be delivered via the Lower Gingham Pipeline.
- (3) In applying for a new access licence, the applicant must establish the purpose and circumstances relating to that access licence, and that the share and extraction component sought will be the minimum required to meet that purpose and circumstance.

- (4) Access licences granted under this Part cannot be used to extract water through a water supply work (bore) located in areas where the extraction authorised by the access licence plus the full extraction authorised by existing access licences nominating water supply works (bores) located in the area and the exercise of basic landholder rights, are likely to cause an adverse local impact, as outlined in Part 10 Division 2 of this Plan.
- (5) An application may not be made for a domestic and stock access licence if the granting of the licence would cause the total share components of domestic and stock access licences granted under subclause (2) (d) to exceed 200 ML/yr.

Part 9 Limit to the availability of water

Division 1 Long-term average extraction limit

28 Extraction limit

- (1) This Division is made in accordance with section 20 (2) (a) of the Act.
- (2) The extraction limit for this groundwater source is initially 32,300 ML/yr, plus the total requirements for basic landholder rights at the commencement of this plan.

29 Variation of extraction limits

- (1) The Minister may under section 45 (1) (b) of the Act amend clause 28 to vary the extraction limit in accordance with:
 - (a) any change to the average annual recharge arising from subclause 14 (2), and
 - (b) any change to the planned environmental water arising from subclause 16 (2).
- (2) If there is any change to the extraction limit arising from subclause (1) then:
 - (a) the extraction limit will not be greater than 38,760 ML/yr, plus the total requirements for basic landholder rights at the commencement of this plan and,
 - (b) the extraction limit will not be less than 25,840 ML/yr, plus the total requirements for basic landholder rights at the commencement of this plan.

30 Compliance with the extraction limit

- (1) Water extraction in this groundwater source will be monitored each water year to determine if there is any growth in volume extracted above the extraction limit specified in clause 28, based on a comparison of the extraction limit against the extraction within this groundwater source over that year and the preceding 2 years.
- (2) For the purposes of auditing compliance with the extraction limit, if water that:
 - (a) pursuant to an access licence is committed as adaptive environmental water to be left in the aquifer for environmental purposes, then extraction will be assumed to be equal to 100% of the available water determination made under clause 31, or
 - (b) pursuant to an access licence is committed as adaptive environmental water to be extracted for environmental purposes, then extraction will be that measured through the approved water supply work (bore).

- (3) If the 3 year average of extraction in this groundwater source exceeds the extraction limit established in clause 28 by 5% or greater, then the available water determination made for aquifer access licences under clause 31 (5) for the following water year, should be reduced by an amount that is assessed necessary by the Minister to return subsequent total water extraction to the extraction limit.

Division 2 Available water determinations

31 Available water determinations

- (1) This Division is made in accordance with section 20 (2) (b) of the Act.
- (2) All available water determinations in this groundwater source shall be expressed as either:
- (a) a percentage of the share component for all access licences where share components are specified as megalitres per year, or
 - (b) megalitres per unit of share component for all access licences where share components are specified as a number of shares.
- (3) An available water determination for each category of access licence in this groundwater source should be made at the commencement of each water year.
- (4) The available water determinations made at the commencement of the water year for domestic and stock and local water utility access licences should be 100% of share components.
- (5) The available water determination made at the commencement of the water year for aquifer access licences should be such that the total of available water determinations under this clause equals the extraction limit set in clause 28 (2) as varied by clause 29 minus the total requirements for basic landholder rights, minus the total available water determinations for domestic and stock and local water utility access licences, or such lower amount as results from the operation of clause 30 (3).

Part 10 Rules for managing access licences

Division 1 General

32 Rules for managing access licences

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

- (a) the environmental water rules 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

33 Water allocation account management

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

34 Water allocation accounts

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

Note. Water allocation 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.

35 Accrual of water allocations

Water allocations will be accrued into water allocation accounts each water accounting year in accordance with the Minister's available water determinations as specified in clause 31.

36 Annual accounting for water extraction

- (1) Water taken from this groundwater source will be accounted for at least annually.
- (2) Water taken by a water supply work (bore) nominated by an access licence will be periodically debited against the access licence water allocation account.
- (3) A water allocation account shall remain at or above zero at all times.

- (4) Unused water allocations in the water allocation accounts of domestic and stock access licences or of local water utility access licences, cannot be carried over from one water year to the next.
- (5) In any water year, subject to local impact management restrictions arising from Part 10, Division 2 of this Plan, water taken from this groundwater source under a local water utility access licence or a domestic and stock access licence may not exceed a volume equal to:
 - (a) 100% of the share component of the access licence,
 - (b) plus any water allocations assigned from another access licence under section 71T of the Act in that year,
 - (c) plus any water allocations re-credited in accordance with section 76 of the Act in that year, and
 - (d) minus any water allocations assigned to another licence under section 71T of the Act in that year.
- (6) Unused water allocations in the water allocation accounts of aquifer access licences may be carried over from one water year to the next, subject to subclause (7).
- (7) The maximum amount of unused water allocations that can be carried over under subclause (6) is equal to 2 ML per unit of share component.
- (8) In any water year, subject to local impact management restrictions arising from Part 10, Division 2 of this Plan, water taken from this groundwater source under an aquifer access licence may not exceed a volume that is equal to:
 - (a) 2 ML per unit of aquifer access licence share component,
 - (b) plus any water allocations assigned from another access licence under section 71T of the Act in that year, and
 - (c) minus any water allocations assigned to another access licence under section 71T of the Act in that year.
- (9) Subclauses (4) to (8) do not apply to any access licence specified in Schedule 2 of this Plan.
- (10) Any access licence specified in Schedule 2 will be subject to the water allocation account management rules specified in that Schedule, in addition to clauses 33, 34, 35, and 36 (1) to (3).

Division 3 Management of local impacts

37 Management of local impacts

This Division is made in accordance with section 21 (a) of the Act.

38 Extraction interference between neighbouring bores

- (1) The minimum allowable distance between a property boundary and extraction from new and replacement water supply works (bores) authorised to extract equal to or greater than 20 ML/yr is 200 metres.
 - (2) New and replacement water supply works (bores) authorised to extract less than 20 ML/yr which are within 100 metres of any basic rights water supply work, will require an investigation of potential impacts on neighbouring water supply works (bores).
 - (3) The Minister may, upon request of the applicant for the water supply work approval, vary the distance restrictions specified in subclause (1) if the Minister is satisfied that:
 - (a) a hydrogeological study undertaken by the applicant, and assessed as adequate by the Minister, demonstrates that the location of the new or replacement water supply work will have no more than minimal potential for adverse impact on existing authorised extraction, and
 - (b) all potentially affected access licence and water supply work approval holders and adjacent landholders have been notified by the proponent, and
- Note.** Potentially affected access licence holders are typically neighbouring access licence holders and/or those in the near vicinity.
- (c) there is a process for remediation in the event that any adverse impact occurs in the future, specified as conditions on the water supply work approval.
 - (4) Subclause (1) does not apply to extraction under existing access licences until such time as the nominated water supply work (bore) is replaced.
 - (5) The distance restrictions specified in subclauses (1) and (2) do not apply to the grant or amendment of a water supply work approval if the Minister is satisfied that the water supply work is solely for basic landholder rights.

Note. The intention of this clause is to minimise the impact of extraction under new access licences on extraction under existing access licences. It is intended to develop models to support hydrogeological assessment of the adverse impacts of new groundwater extractions on existing licensed extraction.

39 Water level management

- (1) The Minister may declare that, in order to maintain water levels within this groundwater source, local access rules are to apply in a defined area known as a local impact area.
- (2) If water levels in any part of a groundwater source have declined to such an extent that, in the opinion of the Minister, an adverse impact is occurring, or is likely to occur, extraction from all water supply works (bores) within a local impact area declared under subclause (1) that are nominated by an access licence will be restricted to such an extent and for such time as is required to reinstate water levels to such a degree as to mitigate or avoid that impact.

Note. This clause recognises that in some locations, at certain periods of high groundwater demand, critical water level declines may occur, and that additional extraction limitations may be required. The Department will identify monitoring bores, specify the target levels, and determine the method for specifying an affected area.

40 Water quality management

- (1) The beneficial uses of this groundwater source are raw water for drinking, and irrigation, based on beneficial use classes identified in the Australian and New Zealand Environment and Conservation Council *Water Quality Guidelines 2001*, and the National Health and Medical Research Council *Raw Water for Drinking Purposes Guidelines 1996*.

Note. It is not recommended that the water from this groundwater source be consumed without prior treatment. Land use activities may have polluted the groundwater in some areas.

- (2) Water quality decline will be deemed unacceptable if extraction is likely to cause water quality to decline to a lower beneficial use class.
 - (3) The Minister may declare that, in order to protect water quality within this groundwater source, local access rules are to apply in a defined area known as a local impact area.
 - (4) If unacceptable water quality declines are resulting from extraction, extraction from all water supply works (bores) within a local impact area declared under subclause (3) that are nominated by an access licence will be restricted to such an extent and for such time as required to halt that decline, or restore the beneficial use of this groundwater source.
 - (5) Extraction under local water utility access licences shall be subject to restrictions under this Part, but not to such an extent as access is denied.
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41 Protection of groundwater dependent ecosystems

(1) Extraction of groundwater from a new or replacement water supply work (bore) is excluded within 100 metres of high priority groundwater dependent ecosystems, or any creek or river, for those exercising basic landholder rights, and 200 metres for extraction authorised by all other access licences unless the water supply work (bore):

- (a) only draws water from an aquifer at depths greater than 50 metres, and
- (b) has an impermeable seal, constructed within the annulus of the water supply work (bore), as specified by the Minister, to isolate aquifers above 50 metres depth, and to prevent water ingress from the shallow aquifers.

Note. Subclause (1) will not apply to extraction from an existing water supply work (bore) until such time as the work is replaced.

- (2) High priority groundwater dependent ecosystems are those listed in Schedule 3.
- (3) Pursuant to section 42 (2) of the Act, the Minister may identify further high priority groundwater dependent ecosystems and include them in Schedule 3 at any time, based on further studies of groundwater ecosystems dependency undertaken by the Minister.
- (4) The Minister should consult with the Minister for the Environment before adding further high priority groundwater dependent ecosystems to Schedule 3.

Note. At the commencement of this Plan, there is not sufficient information to identify high priority groundwater dependent ecosystems within the Lower Gwydir Groundwater Source.

42 Protection of aquifer integrity

(1) The Minister may declare that, in order to protect the integrity of the aquifers within this groundwater source, local access restrictions are to apply in a defined area known as a local impact area.

(2) The Minister may, on presentation of evidence of land subsidence or aquifer compaction, restrict extraction from all water supply works (bores) nominated by an access licence within a local impact area declared under subclause (1), to such an extent and for such time as to stabilise that subsidence or compaction.

Note. This clause recognises that damage of aquifers through excessive water storage loss is irreversible, and destroys the resource for future water users, including the environment.

43 Extraction Restrictions

The Minister may, in the event of local impacts restrictions arising from this Division, impose, by Order, a reduction in annual, quarterly, weekly or daily extraction rates from water supply works (bores) in the local impact area.

Note. The Minister will attempt to give licence holders prior notice of any local impact restrictions so as to minimise the impacts of such restrictions on access within a season.

44 Group registration

This Plan allows for the formation of a group of access licences with respect to the sharing of local impact restrictions arising from this Division, subject to the following rules:

- (a) the group register will be maintained by the Minister,
- (b) holders of access licences must make a request to the Minister to form a group,
- (c) total extraction by all access licences within a group will be assessed as a whole against their combined restricted extraction and must not exceed that amount,
- (d) no access licence holder within the group may extract more than is permitted by Division 2 of this Part in any one water accounting year as a result of participation in a group,
- (e) an access licence holder may apply to be removed by the Minister from the group and the extraction by the group will be reduced by the extraction restriction of that access licence,
- (f) an access licence holder may apply to be added by the Minister to the group and the combined restricted extraction of the group will be increased by the extraction restriction of that access licence, and
- (g) the Minister reserves the right to remove a licence holder from a group where that individual causes the group extraction restriction to be exceeded, or to dissolve a group where its members exceed their combined extraction restriction.

45 Infrastructure failure

- (1) The operational rules relating to local impact management may rely on water levels at specified monitoring bores.
- (2) In the event of a monitoring bore failure the Minister may:
 - (a) continue with the current access rules until the monitoring bore is reinstated,
 - (b) adjust the current access rules based on climatic conditions and any other monitoring bore information, until the monitoring bore is reinstated, or
 - (c) rely on another monitoring bore in the area to provide information.

Part 11 Access licence dealing rules

46 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 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, 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 Minister's access licence dealing principles to prevail.

47 Rules relating to constraints within a groundwater source

- (1) This clause applies to any relevant dealings under sections 71Q, 71S, and 71W of the Act, and section 71T of the Act with respect to allocation assignments within this groundwater source.
- (2) Dealings are prohibited under this clause if:
 - (a) any of the access licences or water allocations involved are not within this groundwater source,
 - (b) the dealing would result in the total extraction under access licences through nominated works in the area, plus basic landholder rights extraction, causing any adverse local impact in accordance with Part 10 Division 3 of this Plan,
 - (c) the dealing would result in any increase in the total access licence share components nominating works within the Gwydir Watercourse Plan of Management area, as shown in the Plan Map,
 - (d) the dealing would result in any increase in the total water allocations credited to access licences nominating works within the Gwydir Watercourse Plan of Management area, as shown in the Plan Map,
 - (e) the dealing involves any assignment of access rights from any access licence specified in Schedule 2,

- (f) the dealing involves any water allocation assignments from any access licence specified in Schedule 2, or
- (g) the dealing involves any nomination of works by any access licence specified in Schedule 2, other than those nominated by the licence at the commencement of this Plan.

48 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 effected, 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 that change the water source to which an access licence applies are prohibited in this groundwater source.

49 Rules for conversion of access licence category

- (1) This clause relates to dealings under section 71O of the Act.
- (2) Dealings that result in conversion of an access licence of one category to an access licence of another category are prohibited in this groundwater source.

50 Rules for interstate access licence transfer

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

51 Rules for water allocation assignments between water sources

- (1) This clause relates to dealings under section 71T of the Act.
- (2) Dealings that assign water allocations between access licences in other water sources and access licences in this groundwater source are prohibited.

52 Rules for interstate assignment of water allocations

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

Part 12 Mandatory conditions

53 Mandatory conditions on access licences

This Part is made in accordance with sections 17 (c) and 20 (2) (e) of the Act.

54 Access licence conditions

- (1) All access licences shall have mandatory conditions 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,
 - (c) the requirement that all taking of water under the access licence will be subject to the available water determinations,
 - (d) the requirement that all taking of water under the access licence will be subject to any local impact management restrictions established in this Plan,
 - (e) the requirement that all taking of water under the access licence will be subject to the water allocation account management rules established in this Plan,
 - (f) the requirement that water may only be taken under the access licence by the water supply work (bore) nominated by the access licence,
 - (g) the taking of water in accordance with the access licence may only occur if the resulting debit from the access licence water allocation account will not exceed the volume of water allocation remaining in the account, and
 - (h) any other conditions required to implement the provisions of this Plan.
- (2) All local water utility access licences shall have mandatory conditions that only allow the taking of water for the exercise of a water supply function of the local water utility or for other such purpose provided for under the Act.
- (3) Any access licence specified in Schedule 2 will have addition mandatory conditions applied, as specified in that Schedule.

55 Mandatory conditions on water supply work (bore) approvals

All approvals for a water supply work (bore) to which this Plan applies shall have mandatory conditions in relation to the following:

- (a) the water supply work (bore) is only to be constructed by a driller licensed under section 349 of the Act,

- (b) the water supply work (bore) must comply with drilling standards as specified by the Minister,
- (c) construction of a water supply work (bore) must prevent contamination between aquifers through proper bore construction,
- (d) a water supply work (bore) approval holder must ensure decommissioning procedures comply with applicable standards as specified by the Minister,
- (e) a new or replacement water supply work (bore) to access water for basic rights will be required, as a condition of approval, to be constructed to sufficient depth to maintain access to the water source for the life of the work,
- (f) the water supply work (bore) approval holder is, within 2 months of completion of the work, or after the issue of the approval if the water supply work (bore) is existing, to provide the Minister with:
 - (i) details of the work on the prescribed form,
 - (ii) a plan showing accurately the location of the work in relation to portion and property boundaries, and
 - (iii) details of any water analysis and/or pumping tests required by the Minister,
- (g) if during the construction of the water supply work (bore), saline or contaminated water is encountered above the producing aquifer, such water is to be sealed off by:
 - (i) inserting the appropriate length(s) of casing to a depth sufficient to exclude the saline or contaminated water from the work, and
 - (ii) placing an impermeable seal between the casing(s) and the walls of the bore hole from the bottom of the casing to ground level, as specified by the Minister,
- (h) if a water supply work (bore) is abandoned, the water supply work (bore) approval holder is to:
 - (i) notify the Minister that the work has been abandoned, and
 - (ii) seal off the aquifer by backfilling the work to ground level after withdrawing the casing (lining), as specified by the Minister,

- (i) an extraction measurement device shall be installed and maintained on each water supply work (bore) used for extraction of water under an access licence, and such devices shall be of a type and shall be maintained in a manner, which is acceptable to the Minister,
- (j) a water supply work (bore) must comply with the relevant local impact management rules in Part 10 of this Plan,
- (k) notwithstanding the available water determination, it is the responsibility of the water supply work (bore) approval holder to ascertain from the Minister whether or not there are in place any local impact restrictions before commencing to take water from this groundwater source,
- (l) extraction under an access licence through the approved water supply work (bore) is only authorised with respect to the access licences specified on the water supply work (bore) approval,
- (m) a water supply work (bore) approval holder must supply to the Minister on request, and to the required standards, a report pertaining to the quality of the water obtained from the water supply work (bore), and
- (n) any other conditions required to implement the provisions of this Plan.

Note. It is recommended that the Minister also apply conditions to water use approvals requiring the supply of information on an annual basis on types and areas of irrigated crops.

Part 13 Monitoring and reporting

56 Monitoring

The monitoring of the performance indicators specified in clause 11 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 State priorities for local land services relevant to natural resource management (as referred to in the *Local Land Services Act 2013*).

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 Local Land Services region.

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 a water management committee where one exists.

Part 14 Amendment of this Plan

57 Amendment of this Plan

- (1) This Part is made in accordance with section 45 (1) (b) of the Act.
- (2) This Plan can be amended in accordance with the following clauses of this Plan:
 - (a) clause 14 in respect to the average annual recharge,
 - (b) clause 16 in respect to planned environmental water,
 - (c) clause 29 in respect to the extraction limit,
 - (d) clause 41 in respect to high priority groundwater dependent ecosystems.

58 Amendment relating to planned environmental water

- (1) The Minister may amend this Plan to provide for the recovery of planned environmental water as follows:
 - (a) the recovery is only to apply where the Minister has cancelled an access licence held by the Minister in accordance with section 8A of the Act,
 - (b) the amount of additional water to be provided as planned environmental water is to be equivalent to the annual average extraction of water under the cancelled licence over the long-term,
 - (c) the average annual long-term availability of water for the remaining access licences that relate to the water source concerned is to be reduced by the average annual long-term extraction of water under the cancelled licence.
- (2) The Minister may amend this Plan to specify the purposes for which planned environmental water committed under section 8A of the Act is to be used.

Schedule 1 Dictionary

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

abandoned (work) refers to a water supply work (bore) that is no longer being used.

aquifer compaction refers to the reduction in the porosity (pore spaces) of an aquifer, and may result from over pumping the aquifer

available water in relation to a water management area or water source, is the water that is available in that area or water source in accordance with an available water determination that is in force in respect of that area or water source.

available water determination is a written Order by the Minister as to the availability of water for the various categories of access licence in relation to a specified water management area or water source.

Note. An available water determination gives rise to a water allocation that is credited to a water allocation account for each licensed holder.

buffer zone is an area surrounding a groundwater dependent ecosystem or other feature (such as an area of low quality) within which extraction, or the impact of extraction, is restricted.

drawdown refers to a lowering of the level to which water will rise in cased bores. Natural drawdown may occur due to seasonal climatic changes. Groundwater pumping may also result in seasonal and long-term drawdown.

extraction limit is the amount of the long-term average annual recharge and storage that can be extracted, on average, each water accounting year.

Great Artesian Basin is a 'confined' groundwater basin comprised of a complex multi-layered system of water bearing strata (porous sandstone aquifers) separated by largely impervious rock units, underlying largely arid and semi-arid landscapes to the west of the Great Dividing Range, and extending from Queensland through New South Wales and the Northern Territory, to South Australia.

groundwater is water that occurs beneath the ground surface in the saturated zone.

groundwater dependent ecosystems are ecosystems which have their species composition and natural ecological processes wholly or partially determined by groundwater.

long term average storage component is the volume of water in the aquifer less the combined average annual recharge and requirements for basic rights at the commencement of this Plan.

monitoring bore refers to a bore constructed for the purpose of measuring water levels and/or taking samples for water quality analysis.

recharge is the addition of water, usually by infiltration, to an aquifer.

sandstone is sedimentary rock formed by the consolidation of sand grains, the sand component is often predominantly quartz and cemented by a fine grained matrix.

share component is the share component of an access licence.

unconsolidated alluvium/sediment is sediment deposited by the action of flowing water in particular along river beds and floodplains, but not including lakes and seas.

water year is a 12 month period from 1 July to 30 June.

Schedule 2 Special access licence rules and conditions

1 General

- (1) This Schedule applies to *Water Act 1912* bore licence numbers 90BL017406, 90BL031080, 90BL031082, 90BL031083, 90BL031085, 90BL031089, 90BL031092, 90BL031093, 90BL031096, 90BL031097, 90BL031098, 90BL031099, 90BL031104, 90BL031106, 90BL031107, 90BL031109, 90BL031110, 90BL031112, 90BL132841, 90BL132843, 90BL132846, 90BL247831, 90BL247832, 90BL247833, 90BL247834, 90BL247835, 90BL247836, 90BL247837, 90BL247838, 90BL247839, 90BL247840, 90BL247841, 90BL247842, 90BL247843, 90BL247844, 90BL247845, 90BL247846, 90BL247847, 90BL247848, 90BL247849, 90BL247850, 90BL247941, 90BL247942, 90BL247943, 90BL247944, 90BL247945, 90BL247946, 90BL247949, 90BL247950, 90BL247951, 90BL247952 and 90BL247953 granted under the *Water Act 1912*, being associated with property account number 90PT981567, and any aquifer access licence arising from these at the commencement of Part 2 of Chapter 3 of the Act.
- (2) If any access licence specified in subclause (1) is subject to a dealing under sections 71Q, 71R, 71S, 71W, or 71T of the Act, and that dealing results in the assignment of access rights or water allocations to or from the licence specified in subclause (1), or the nomination of a water supply work at a location other than that specified on the licence, then the licence will be removed from Schedule 2, and any special mandatory conditions attached to the access licence arising from this Schedule removed from the licence.

2 Additional annual accounting for water extraction rules

- (1) In any one water accounting year, subject to local impact management restrictions arising from Part 10, Division 3 of this Plan, water taken from this groundwater source under an aquifer access licence listed in this Schedule may not exceed a volume equal to 41.2 ML per unit of share component.
- (2) (Repealed)
- (3) A maximum amount equal to 41.2 ML per unit of share component may be carried forward in a water allocation account of an access licence listed in this Schedule, from one water accounting year to the next.

3 Additional mandatory conditions

The aquifer access licences listed in this Schedule shall have mandatory conditions in relation to the following:

- (a) water may only be taken if the available water determination for regulated river (high security) access licences in the Gwydir Regulated River water source is less than 1 ML per unit of share component,
- (b) water may only be taken if there is no allocation remaining in the water allocation account of licence number WAL8966 granted under the *Water Management Act 2000*, and any regulated river (high security) access licence arising from this at the commencement of Part 2 of Chapter 3 of the Act, unless the *Water Sharing Plan for the Gwydir Regulated River Water Source 2002* is suspended under section 60 (2) of the Water Management Act.
- (c) water may not be taken in any water year that the licence specified in subclause (3) (b) has been or is subject to a dealing under sections 71Q, 71R, 71S, 71W, or 71T of the Act, and that dealing results in the assignment of access rights or water allocations from the licence specified in subclause (3) (b), or the nomination of a water supply work at a location other than that specified on the licence, and
- (d) notwithstanding clause 2 of this Schedule, the total water that may be taken in a water accounting year under this access licence, and the regulated river (high security) access licence specified in subclause (3) (b), shall not exceed 13,325 megalitres, plus any water allocations assigned to these access licences in that year.

Schedule 3 High priority groundwater dependant ecosystems

To be inserted by the Minister in accordance with clause 41 (3).

Note. The offices of the Department should be contacted for details applicable to this Schedule.

Appendix 1 Gwydir and Border Rivers Water Management Areas

