

Burdekin Basin

resource operation plan

consultation report

December 2009

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Message from the Deputy Director-General

This report has been prepared to inform stakeholders and interested parties of how the issues that arose in finalising the Burdekin Basin Resource Operations Plan 2009 have been assessed and dealt with. The issues arose from the formal submissions that were received following the release of the draft Resource Operations Plan in October 2008. The finalised plan will implement the *Water Resource (Burdekin Basin) Plan 2007* and play a key role in the sustainable allocation and management of the region's water resources.

The level of participation and the issues raised in the submissions clearly confirms the importance of water resources to the Burdekin community. In implementing the water resource plan, the plan's provisions will ensure that anticipated growth in the plan area over the next ten years can be accommodated, while meeting the needs of the natural environment and other important non-consumptive values.

This report explains how the final resource operations plan was shaped and influenced by the submissions process, and where decisions were constrained by requirements of the *Water Resource (Burdekin Basin) Plan 2007* or other factors.

I would like to take this opportunity to acknowledge the contribution made to the process by the various groups and individuals who prepared submissions in response to the release of the draft plan. I trust this report will provide them with a useful record of how their input has been considered in this process.

Debbie Best
Deputy Director-General
Department of Environment and Resource Management

Contents

Message from the Deputy Director-General	iii
1 Introduction	1
1.1 Purpose of this report	1
1.2 Background	1
1.3 The issues that arose	1
1.4 How the issues were assessed	1
1.5 Where you can get a copy of the plan	2
1.6 History of development of the resource operations plan	2
1.7 The resource operations plan referral panel	2
2 Issues raised in submissions	4
2.1 Water Allocations	4
2.1.1 Increase the nominal volume for supplemented water allocations in zone Burdekin A	4
2.1.2 Increase the nominal volume and annual volumetric limit on unsupplemented water allocations	4
2.1.3 Flow conditions for unsupplemented water	5
2.1.4 Adding ‘nominal location’ as an attribute of supplemented water allocations	7
2.1.5 New water allocations to be issued	8
2.2 Environmental Issues	8
2.2.1 Options to reduce sheet erosion	8
2.2.2 Restoration of environmental degradation within the Burdekin Basin	9
2.2.3 Translocation of exotic fauna and flora species throughout the catchment	10
2.2.4 Water quality improvement targets	10
2.2.5 Land and water management plans	11
2.2.6 Environmental management goals	11
2.2.7 Specific criteria and management provisions in anticipation of inter-basin transfers	12
2.2.8 Ecological processes and operating levels of storages	13
2.2.9 Water quality and changes in rates of release	13
2.2.10 Purchase of water allocations by scheme licence holders to supplement environmental flows	14
2.2.11 Water quality from Burdekin Falls Dam	15
2.2.12 Linkages between water resource plan and resource operations plan – specific ecosystem attributes	15
2.2.13 Ecological assets outside of the plan area	16
2.2.14 Ongoing ecological investigations, critical water sharing requirements and implementation of monitoring requirements	16
2.3 Water Supply Schemes	17
2.3.1 Operation of Clare Weir and Bowen River Weir fishways	17
2.3.2 Supplying medium and high A1 priority group water allocations	18
2.3.3 Expand the distribution operations licence holder responsibilities	18
2.3.4 Nominal operating levels of storages in Burdekin Haughton Water Supply Scheme	20
2.3.5 Operation of Gattonvale Offstream Storage in Bowen Broken Water Supply Scheme	21
2.3.6 Environmental low flow requirements in Burdekin Haughton Water Supply Scheme	22
2.3.7 Environmental low flow requirements in the Bowen Broken Water Supply Scheme	23

2.3.8	Inflow allowances in the Burdekin Haughton Water Supply Scheme.....	24
2.3.9	Provision for carryover and forward draw in the Burdekin Haughton Water Supply Scheme.....	25
2.3.10	Stream flow period in the Bowen Broken Water Supply Scheme.....	27
2.3.11	Critical water supply arrangements.....	28
2.4	Monitoring and Implementation.....	28
2.4.1	Timeframes for implementation by scheme licence holders.....	28
2.4.2	Timeframes for implementation for land and water management plan holders.....	29
2.4.3	Monitoring, reporting and remediation.....	30
2.4.4	Ecosystem monitoring for scheme licence holders.....	30
2.4.5	Monitoring of Giru Benefited Groundwater Area.....	31
2.4.6	Effects of monitoring requirements.....	32
2.4.7	Water quality monitoring data collection.....	32
2.4.8	Amendments to monitoring requirements.....	33
2.5	Overland Flow.....	33
2.5.1	Constructing overland flow storage greater than 250 megalitres.....	33
2.5.2	Ecological sustainability of capturing overland flow and limit on the number of overland flow storages.....	34
2.6	Other.....	36
2.6.1	Additional entitlement for riparian landholders for water harvesting when earth dams are unavailable.....	36
2.6.2	Cost of water.....	36
2.6.3	Separation of surface water and groundwater on water allocation.....	37
2.6.4	Insufficient water to trade.....	38
2.6.5	Reliability of fresh water to water users in tidal zones.....	38
2.6.6	Alignment of plan with other planning frameworks.....	39
2.6.7	Security of supply for irrigators in the Lower Burdekin and Haughton subcatchments.....	40
3	Plan finalisation.....	41
3.1	The finalised Burdekin Basin Resource Operations Plan.....	41
3.2	Changes to the final plan.....	41

1 Introduction

1.1 Purpose of this report

This report has been prepared to provide a record of the consultation process that followed the release of the draft Burdekin Basin Resource Operations Plan (the draft plan). This report also details the issues that were raised by submissions and how they were addressed as part of the draft plan's finalisation.

1.2 Background

Resource operations plans are integral to Queensland's water resource planning process. The primary function of a resource operations plan is to implement the water resource plan to which it applies.

Water resource plans are prepared to provide a strategic overarching framework that specifies the general goals and constraints needed for sustainable resource management. This ensures that water in a plan area is sustainably managed and meets consumptive and non-consumptive needs. Resource operations plans are then developed to manage the plan area's water resources from day to day in a way that maximises overall community benefits, while remaining consistent with the goals of the water resource plan.

The respective functions of the two plans as strategic and operational parts of a single, integrated planning framework are reflected in provisions of the *Water Act 2000* (the Act). While the Minister is responsible for preparing water resource plans, the chief executive of the Department of Environment and Resource Management is responsible for preparing the resource operations plans that implement them.

Water resource plans are subordinate legislation to the Act. The Act clearly sets out the aspects of water resource management the Minister must address in preparing a plan, including providing security for existing water users and providing for environmental water needs.

Subject to the requirements of the Act, the chief executive can explore different approaches to implementing a water resource plan to ensure water is efficiently managed and delivers the greatest benefit to all sectors of the community including the natural environment. Irrespective of the approach used, the implementation arrangements must be consistent with the water resource plan.

1.3 The issues that arose

A total of 43 submissions were received on the draft plan. The majority of submissions received related to the proposed volumetric conversion of entitlements in the Lower Burdekin subcatchment (i.e. zone Burdekin A). Other issues raised related to the operating and environmental management rules and the water sharing rules for the Burdekin Haughton and Bowen Broken water supply schemes, and the implementation arrangements for scheme licence holders.

1.4 How the issues were assessed

Each submission was assessed for its applicability and appropriateness to the resource operations plan process and its consistency with the water resource plan. To be considered, issues raised in the submissions could not be inconsistent with the outcomes or objectives of the water resource plan.

Issues raised by submitters which requested a change to a proposed water allocation, an environmental management rule, a water sharing rule or an implementation schedule were considered by an independent referral panel (refer to section 1.7 below).

1.5 Where you can get a copy of the plan

A compact disc copy of the plan may be obtained free of charge from the Department of Environment and Resource Management offices in Townsville and Ayr. Alternatively, the plan can also be downloaded from <www.derm.qld.gov.au>.

1.6 History of development of the resource operations plan

The plan was developed in accordance with part 4, sections 95–103 of the Act. Important milestones in the development of the plan are outlined below.

Public notice of proposal to prepare draft resource operations plan. Submissions invited.	3 August 2006
Consultation with stakeholders on preparation of draft plan.	3 August 2006 – 29 September 2006
Submissions close. Preparation of draft plan begins.	29 September 2006
Draft plan released and submissions invited.	24 October 2008
Public information sessions held throughout plan area.	November 2008
Ongoing consultation with stakeholders on draft plan.	24 October 2008 – 30 January 2009
Submissions close.	30 January 2009
Analysis and consideration of submissions and issues.	1 February 2009 – 27 July 2009
Completion and release of final plan.	14 December 2009

1.7 The resource operations plan referral panel

An independent resource operations plan referral panel was established to review the issues raised in submissions received on the draft plan. The panel members represented a range of interests and were selected for their knowledge of water resource planning in Queensland, their analytical and problem-solving skills and their ability to formulate recommendations and solutions for dealing with issues raised in submissions. To strengthen the panel's objectivity, members were drawn from outside the draft plan area.

Section 102 of the Act sets clear parameters for the role and responsibilities of the panel. The referral panel made recommendations for issues raised by submissions which were within the panel's roles and responsibilities. Issues were not referred to the panel if:

- they related to the water resource plan (i.e. if the issue raised was related to an issue that had previously been dealt with in the water resource plan);
- they were not relevant to a proposed water allocation, environmental management rule, water sharing rule or an implementation schedule (as defined by section 102(1) of the Act);
- they were inconsistent with the outcomes and objectives of the water resource plan; or
- the chief executive was satisfied that the draft plan should be amended in accordance with a submitter's proposal.

The referral panel's recommendations were considered by the chief executive in finalising the plan.

After the closing date for lodgement of submissions for the draft plan, the panel received:

- a copy of each properly made submission, including those submissions which raised issues that were not required to be considered by the panel;
- a copy of the draft plan;
- a copy of the water resource plan;
- a copy of the water resource plan's consultation report;
- photographs and aerial photos of water infrastructure and natural features in the plan area;
- issue papers prepared by the department that explored the relevant issues; and
- any other relevant information that was requested by the panel.

All properly made submissions were analysed and collated by the department before being referred to the panel.

The panel members reviewed the draft plan and met on three occasions to consider submissions and make recommendations to the chief executive on changes that should be considered by the chief executive in finalising the plan.

The chief executive considered the referral panel's recommendations in finalising the plan.

2 Issues raised in submissions

2.1 Water Allocations

2.1.1 Increase the nominal volume for supplemented water allocations in zone Burdekin A—32 submissions

What the draft plan proposed

The nominal volume on existing authorisations that are being converted to supplemented water allocations is based on an 8 megalitre per hectare conversion factor on the area stated on the existing water licence (or the area otherwise authorised to be irrigated).

The issue

All of the submitters claimed that the volume of water that they required to sustainably irrigate the area of land that they were currently authorised to irrigate exceeded the 8 megalitre per hectare conversion factor.

How the issue was assessed

In recent years, several water licences for taking water from the lower Burdekin River, which had stated an area to be irrigated, have been changed to state a volumetric entitlement. The volumetric limit specified on water licences in the lower Burdekin has been calculated at 8 megalitres per hectare.

In converting existing authorisations to water allocations, the water resource plan retains the 8 megalitres per hectare conversion factor. However, the water resource plan allows for water users to obtain a factor of up to 12 megalitres per hectare if the higher factor can be justified as part of a properly made submission to the draft plan. This conversion factor could only increase if the submitter could prove they were using more than 8 megalitres per hectare under their current irrigation practices.

Each submission was considered by the independent referral panel. The panel's recommendations for each submitter were considered by the chief executive.

What the final plan says

The water allocation schedule in the plan has been amended to reflect new volumetric limits of up to 12 megalitres per hectare for 27 submitters whose evidence supported historical water use over 8 megalitres per hectare.

2.1.2 Increase the nominal volume and annual volumetric limit on unsupplemented water allocations—2 submissions

What the draft plan proposed

Section 62 of the draft plan outlined the rules that must be followed when converting existing water authorisations to unsupplemented water allocations. These rules are based on provisions in the water resource plan.

The issue

One submitter requested that the nominal volume and annual volumetric limit on SunWater Limited's unsupplemented water allocations in the Lower Burdekin and Haughton water management areas be increased.

The second submitter requested that the annual volumetric limit on the submitters' two unsupplemented water allocations be increased.

How the issues were assessed

The issues raised by the submitters were considered having regard to the water resource plan, as well as the purpose of water planning under the framework provided by the Act.

Section 64 of the water resource plan contains factors that must be considered in deciding the nominal volume for an unsupplemented water entitlement. These factors include the local availability of water, the conditions under which water may be taken, any existing volumetric limits, and the simulated mean annual diversion. The nominal volume for an unsupplemented water allocation has been determined as the water allocation's share of the total volume of water available to be taken by holders of water allocations in the water management areas.

Section 67 of the water resource plan states that the annual volumetric limit for a water allocation to take unsupplemented water is—for an authorisation that states the volume of water that may be taken in a period of 12 months—the stated volume. As each of the specific entitlements referred to by the submitters' already stated annual volumetric limits, those are the volumes granted on the corresponding unsupplemented water allocations.

Each submission was considered by the independent referral panel. The panel's recommendations for each submitter were also considered by the chief executive.

What the final plan says

The final plan retains the nominal volumes and annual volumetric limits as stated on the proposed unsupplemented water allocations.

2.1.3 Flow conditions for unsupplemented water—1 submission

What the draft plan proposed

Unsupplemented water allocations in the lower Burdekin River are to be subject to a flow condition, requiring a flow in the Burdekin River greater than 5000 megalitres per day at Clare, before water can be taken under these water allocations.

The issues

The submission suggested that the flow condition stated in column 1 in table 3 in the draft plan (flow in Burdekin River exceeds 60 m³/sec at Clare) does not reflect historical arrangements. (The draft plan proposed that the condition in column 2 in table 3 would apply to each of the unsupplemented water allocations for the Class A1 water allocation group for the Lower Burdekin Water Management Area, as detailed at Attachment 6(c) in the draft plan.)

The submitter stated that the flow of 5000 megalitres per day at Clare exceeded downstream demands and suggested that releasing this volume from the Clare Weir would destroy the downstream earth dams. The submitter contends that 2500 megalitres per day would meet the needs of downstream users without destroying earth dams.

How the issues were assessed

Upon finalisation of the plan, existing water harvesting water licences for the Lower Burdekin Water Management Area will be converted to unsupplemented water allocations. The draft plan identified 26 such water allocations (water allocation numbers 761 to 784, 792 & 793). Of these,

SunWater Limited will be the holder of five of these unsupplemented water allocations (water allocation numbers 761 to 765).

In converting these water licences to water allocations, s67(a) of the water resource plan states that the annual volumetric limit for a water allocation, where the authorisation states the volume of water that may be taken in a period of 12 months must be the stated volume. Section 68(b) of the water resource plan allows the chief executive to impose any condition on a proposed water allocation if the condition is necessary to ensure the purpose and outcomes of the water resource plan are achieved. In deciding a flow condition, the chief executive must have regard to the conditions stated on the authorisation.

In terms of the total volume of water that may be taken under the 26 unsupplemented water allocations, SunWater Limited holds 80 percent of the total volume, the North and South Burdekin water boards together hold 15 percent and individuals together hold 5 percent of the total volume of water in this water management area. In this context, it is relevant to note that SunWater Limited and the two boards did not seek a change to the subject flow condition. However, representatives of SunWater Limited's water supply scheme customers, who are supplied with additional water under these entitlements when favourable conditions exist, were seeking the change so that they would have increased opportunity to be supplied with water in addition to their normal entitlements.

Each of the existing water licences in this water management area include conditions which state the maximum volume of water that may be diverted under the licence and authorise the taking of water when the flow of water in Burdekin River exceeds 60 cubic metres per second past the Clare gauging station.

In converting these water licences to unsupplemented water allocations, the maximum volume has been converted to an annual volumetric limit as required by the water resource plan. The 5000 megalitres per day flow trigger measured at the Clare gauging station for licences in the Lower Burdekin Water Management Area has been converted from the 60 cubic metres per second flow trigger as per the calculation below:

$$60 \text{ m}^3/\text{s} \times 1000 = 60\,000 \text{ l/s}$$

$$60\,000 \text{ l/s} \times 3600 = 216\,000\,000 \text{ l/hr}$$

$$216\,000\,000 \text{ l/hr} \times 24 = 5\,184\,000,000 \text{ l/day}$$

To assess the submitter's request to halve the flow trigger at the Clare gauging station, the department undertook hydrologic modelling at 2500 megalitres per day to test if the reduced threshold would impact on the environmental flow objectives, as well as the water allocation security objectives.

The modelling results show that reducing the threshold in the Lower Burdekin Water Management Area from 5000 megalitres per day to 2500 megalitres per day would not impact on environmental flow objectives, but would adversely impact on the water allocation security objectives for supplemented water allocations in the medium priority group in the Burdekin Haughton Water Supply Scheme.

The modelling also showed that, with the pumping threshold of 5000 megalitres per day, on average, up to 34 860 megalitres per annum of water would be taken under the 26 water

harvesting water allocations. If the threshold was reduced to 2500 megalitres per day, on average, up to 36 027 megalitres per annum of water would be taken. This represents an average increase of up to 1167 megalitres per annum. Eighty percent of this increase would benefit SunWater Limited's water supply scheme customers. Considering that existing entitlements for the Burdekin Haughton Water Supply Scheme total 1 127 329 megalitres per annum, the increase (which would amount to about one tenth of one percent of the allocated volume for the scheme) is of little apparent advantage.

What the final plan says

As the submitter's request is inconsistent with the water resource plan, the flow trigger at the Clare gauging station remains unchanged.

2.1.4 Adding 'nominal location' as an attribute of supplemented water allocations—1 submission

What the draft plan proposed

The draft plan did not include any rules relating to the nominal location of a supplemented water allocation as this attribute is not an element that must be stated on a water allocation.

The issue

One submission requested that '*nominal location*' be included as additional attribute on a water allocation to facilitate the introduction of continuous sharing in the water supply schemes. The inclusion of this attribute would require changes to the:

- rules for converting existing authorisations to supplemented water allocations; and
- water allocation change rules.

How the issue was assessed

The location of a water allocation reflects the current position or zone at which water may be taken from a watercourse. If a water allocation is permanently or temporary traded into a different zone, the location of that water allocation will change.

The inclusion of '*nominal location*' as an attribute on supplemented water allocations will facilitate the possible future introduction of continuous sharing since it permanently identifies the source of the allocation. However, in the meantime, the location and nominal location will always be the same. Accordingly, the attribute would only be meaningful if continuous sharing arrangements were to be introduced through a future plan amendment.

What the final plan says

The plan has been amended to include an additional rule for converting existing authorisations to supplemented water allocations. The new rule states that the nominal location for a water allocation will be the same as the location from which water may be taken. The water allocation change rules have also been amended to state that a change to the nominal location for the taking of water under a water allocation is permitted provided the change would result in the same nominal location on the water allocation.

2.1.5 New water allocations to be issued—no submissions

What the draft plan proposed

The draft plan included a schedule detailing the proposed water allocations that would be issued when the plan was finalised.

The issue

After the draft plan had been released, eight water users were identified who were not included in the schedule of proposed water allocations.

How the issue was assessed

The water users were not included in the draft plan as, at the date of the draft plan, they did not hold current water entitlements. Accordingly, they were not identified as licensees whose existing authorisations would be converted to water allocations.

Of these users, four had previously held water licences which had expired due to the disposal of part of the land to which the licence had attached. In accordance, with section 221 of the *Water Act 2000*, these users can apply to have their licence reinstated and the expired licence is taken to have been in force from the day the application was made. The department received applications from all four water users to reinstate their water licence. As such, it is appropriate that these licences be converted to water allocations

The remaining four users were identified as being the owner of works for taking water in the Burdekin River, downstream of Warren's Gully and including the Burdekin River and Anabran. These users were identified as being customers of the North Burdekin Water Board and had been taking water from the watercourse (Burdekin River and Anabran) over a continued period of time that extended beyond 1988. Section 53 of the water resource plan allows water users in this situation to continue taking water using the works until the chief executive grants a water allocation to the owner for the continued taking.

Upon discovery, these water users were notified that the chief executive intended to issue a supplemented water allocation to each user under the resource operations planning process. The notification also detailed the process for making a submission on the draft plan. All submissions received were considered prior to the plan being finalised.

What the final plan says

The plan has been amended to give these eight water users a water allocation when the plan is finalised.

2.2 Environmental Issues

2.2.1 Options to reduce sheet erosion—1 submission

What the draft plan proposed

The draft plan implements the regulations for overland flow water contained in the water resource plan.

The issue

One submission detailed options to reduce the amount of sheet erosion and retain sediment and nutrients. Such options were suggested as an alternative to small on-farm overland flow storages, which are commonly used to intercept agricultural runoff.

How the issue was assessed

Under the water resource plan, landholders are allowed to continue to use existing overland flow storages or are permitted build new overland flow storages up to a capacity of 250 megalitres without the requirement for a water licence. It is at the landholder's discretion how they manage and use water captured in their storages.

Good land management practices are essential in sensitive reef catchments such as the Burdekin Basin. The use of small overland flow storages, used in conjunction with other appropriate land management strategies, is recognised as being an appropriate mechanism for controlling sediment and nutrient runoff from agricultural areas.

What the final plan says

The plan's provisions are unchanged.

2.2.2 Restoration of environmental degradation within the Burdekin Basin —1 submission

What the draft plan proposed

The draft plan implements the strategies specified in the water resource plan for supporting a comprehensive range of ecological outcomes and environmental objectives.

The issue

One submission stated that specific management criteria to restore catchment degradation should be developed and incorporated into the final plan.

How the issue was assessed

The technical assessments that supported the development of the water resource plan identified that the watercourses, lakes and springs in the plan area were in relatively good condition. This was despite some changes in river flow regimes in supplemented reaches of river due to the construction and operation of water infrastructure. The general and specific ecological outcomes, the environmental flow objectives and the water allocation security objectives contained in the water resource plan were determined to provide a balance between water supply security objectives and protecting, where appropriate, the system's natural values.

The outcomes and objectives contained in the water resource plan are supported by the operating and environment management rules, and the water sharing rules, contained in the plan. Compliance with the provisions of the plan will ensure that the actions and operations of scheme licence holders and water users do not adversely impact on the ecological outcomes stated in the water resource plan. A key example of the way in which the plan contributes to the restoration of environmental values is the requirement for the water service providers to ensure that base flows (dry season low flows) are transmitted past the various pieces of water infrastructure. This includes ensuring that such naturally occurring base flows are able to be transmitted past end-of-system storages in the Burdekin River and Haughton River. Previously, the operation of these storages did not provide for the bypass of river base flow.

The broader issue of rehabilitation of degraded parts of the catchment area are beyond the scope of the water planning framework.

What the final plan says

The plan's provisions are unchanged.

2.2.3 Translocation of exotic fauna and flora species throughout the catchment—1 submission

What the draft plan proposed

The draft plan's day-to-day management arrangements were developed to be consistent with the ecological outcomes and environmental flow objectives of the water resource plan. The issue of translocation of exotic fauna and flora species is outside the scope of the plan and so it is not specifically covered.

The issue

One submission suggested there was a risk of translocation of exotic fauna and flora species throughout watercourses and suggested that management criteria be developed and incorporated into the final plan to manage this.

How the issue was assessed

The draft plan set out a range of implementation measures consistent with achieving the ecological outcomes and environmental flow objectives of the water resource plan.

The water resource planning process does not deal with the presence or spread of exotic species. Pest management requirements are set out elsewhere—for example, under provisions of the *Land Protection (Pest and Stock Route Management) Act 2002* or the *Fisheries Act 1994*.

What the final plan says

The plan's provisions are unchanged.

2.2.4 Water quality improvement targets—1 submission

What the draft plan proposed

In implementing the water resource plan, the finalised resource operations plan must facilitate the sustainable management of water. Where practicable, this may include the reversal of degradation that has occurred in natural ecosystems. The finalised plan's monitoring arrangements will be formulated to measure the effectiveness of the plan in achieving this aim.

The issue

One submitter recommended that water quality improvement criteria for scheme licence holders and water users with land and water management plans in place be developed and incorporated into the plan.

How the issue was assessed

Water resource plans are concerned with allocating and managing water to sustainably provide for consumptive and non-consumptive needs. In this context, it is important to ensure that the manner in which water is allocated and managed is consistent with maintaining appropriate water quality outcomes. It is, however, not within the scope of a water resource plan or resource

operations plan to set water quality targets or to regulate the range of activities that may impact on water quality.

What the final plan says

The plan's provisions are unchanged.

2.2.5 Land and water management plans—2 submissions

What the draft plan proposed

The draft plan requires applicants for unallocated water, who intend to use the water for irrigation purposes, to provide information about the land's suitability for irrigation. Successful applicants would then be required to prepare a land and water management plan before using the water for irrigation.

The issues

One submission suggested that existing irrigators in the Burdekin Haughton Water Supply Scheme should not be required to demonstrate the suitability of their land for irrigation if the water is made available as a result of a raising of Burdekin Falls Dam.

Another submission stated that all water users in the plan area should be required to prepare plans, including holders of existing entitlements.

How the issues were assessed

Under the *Water Act 2000*, a land and water management plan must be approved by the department before water can be used for irrigation in a number of circumstances—most notably, where irrigation is to occur at new locations or where irrigation practices increase. This requirement is intended to ensure that water uses are sustainable and will not promote secondary consequences such as salinity, chemical or nutrient runoff, or problems associated with poor drainage.

Demonstrating land suitability during the unallocated water release process allows the department to undertake a preliminary assessment of an applicant's enterprise. Where the land is not suitable for irrigation, applications to use unallocated water for irrigation may not be successful. Demonstrating land suitability spares applicants the time and expense of preparing a detailed land and water management plan if they are unlikely to be granted unallocated water.

It is beyond the scope of a resource operations plan to extend the requirement for preparing a land and water management plan to existing water users.

What the final plan says

The plan's provisions are unchanged.

2.2.6 Environmental management goals—3 submissions

What the draft plan proposed

The draft plan's day-to-day water management provisions were developed for consistency with requirements of the water resource plan, including its ecological outcomes and environmental flow objectives. The draft plan was also required to set out the monitoring arrangements that

would be used to establish how effective the provisions were in implementing the water resource plan.

The issues

Two submissions suggested that monitoring of aquatic biota, particularly freshwater fish species and aquatic weeds be conducted to ensure populations are able to move from estuarine to freshwater habitats.

One submission suggested that specific criteria be identified to allow for the passage of native fish species.

How the issues were assessed

Development of the water resource plan's outcomes and strategies was informed by the ecological assessments undertaken in preparing the water resource plan. The provisions were designed to promote and meet environmental health requirements as they relate to the overall flow regimes in the plan area. This recognises how the health of the river system and its key aquatic assets, such as waterholes, wetlands and estuaries and the species within them, are linked.

In addition to the provisions discussed elsewhere in this report, the draft plan set out a range of implementation measures consistent with achieving the ecological outcomes of the water resource plan. Included in the draft plan were monitoring and reporting requirements and proposals for metering water entitlements for consistency with the water resource plan and state-wide standards for measuring water use.

With the exception of addressing the spread of exotic fish and pest organisms and fish passage, the issues that were the subject of the submission have been addressed through the planning process. The water resource planning process does not deal with the presence or spread of exotic species. Pest management requirements are set out elsewhere—including, under provisions of the *Land Protection (Pest and Stock Route Management) Act 2002* or the *Fisheries Act 1994*.

The requirements for fish passage are also outside of the jurisdiction of the *Water Act 2000*. The regulation of instream barriers to fish passage falls under the *Fisheries Act 1994*.

What the final plan says

The plan's provisions are unchanged.

2.2.7 Specific criteria and management provisions in anticipation of inter-basin transfers—1 submission

What the draft plan proposed

The draft plan provides a framework for the allocation and management of water in the plan area.

The issue

One submission requested that the plan needed to contain management provisions to avoid ecological degradation that may occur as a result of inter-basin transfer of water into and out of the plan area.

How the issue was assessed

Water planning in the Burdekin Basin applies to water in a watercourse, lake or spring and overland flow water. Apart for the requirement for land and water management plans for new irrigation uses, it does not seek to impose limitations on where the available water entitlements may be used.

Issues associated with the potential for environmental degradation associated with an inter-basin transfer of water would be subject, as appropriate, to the requirements of existing state legislation, including the *Environmental Protection Act 1994*, the *Land Protection (Pest and Stock Route Management) Act 2002* or the *Fisheries Act 1994*.

What the final plan says

The plan's provisions are unchanged.

2.2.8 Ecological processes and operating levels of storages—1 submission

What the draft plan proposed

The draft plan outlined the minimum and nominal operating levels of storages within the water supply schemes that must be met by the resource operations licence holder. The draft plan also outlined the minimum stream flow requirements for both schemes to maintain ecological function, particularly during the low flow periods.

The issue

One submission stated that the wording in these sections needs to be changed to include the maintenance of flow regimes so downstream ecological processes are triggered to preserve ecosystem function and services.

How the issue was assessed

The plan aims to replicate natural system flows as much as possible (maintaining environmental flow objectives) while ensuring the security of existing water entitlements (maintaining water allocation security objectives).

The plan includes requirements for the resource operations licence holder to transmit certain inflows past the holder's storages to meet downstream environmental water requirements. These requirements were determined to mimic the intrinsic variability of natural flow regimes rather than maintaining flows at a pre-set level.

What the final plan says

The plan's provisions are unchanged.

2.2.9 Water quality and changes in rates of release—2 submissions

What the draft plan proposed

The draft plan contains rules that the scheme licence holder must follow when releasing water from Burdekin Falls Dam, the Clare Weir, Eungella Dam and the Bowen River Weir. In particular, the scheme licence holder must make incremental changes to the rates of release to reduce the occurrence of adverse environmental impacts such as bank slumping.

The issue

The submissions proposed that additional words be included in sections 85, 86 and 124 of the draft plan to state that changes to the release of water should be incremental to maintain downstream water quality and ecosystem functions and services.

How the issue was assessed

The changes to the rate at which water is released from a storage can have significant environmental implications. For example, fish stranding can occur when water releases are suddenly terminated rather than being gradually reduced over a period of time. In this respect, it is beneficial for the resource operations licence holder to change the rate at which water is being released incrementally to avoid adverse impacts.

The general ecological outcomes identified in the water resource plan include maintaining the natural variability of flows that support the habitats of native plants and animals.

The resource operations licence holder only has control over the quality of water in its storages and the water it releases through an outlet - not what is released over the wall (i.e. when the dam spills). As such, it is unreasonable to make the resource operations licence holder responsible for something that is beyond its control (e.g. catchment-based impacts on water quality).

The draft plan provisions adequately address the issues raised in submissions.

What the final plan says

The plan's provisions are unchanged.

2.2.10 Purchase of water allocations by scheme licence holders to supplement environmental flows—1 submission

What the draft plan proposed

The draft plan does not prescribe who can or cannot trade water allocations or the reasons for trading water.

The issue

One submission requested that an additional subsection be included in the plan's provisions describing how a scheme licence holder may meet minimum stream flows by allowing the scheme licence holder to purchase tradeable water allocations to supplement environmental flows.

How the issue was assessed

Sections 88 and 126 of the draft plan state the minimum stream flow requirements that the scheme licence holder must meet in operating the Burdekin Haughton and Bowen Broken water supply schemes. The minimum stream flow requirements will ensure that fish passage, and river and estuary health are maintained.

It is unnecessary for a scheme licence holder to purchase tradeable water to supplement environmental flows as water to maintain environmental conditions has already been identified and set aside in the planning process. These provisions of the plan ensure that the general ecological outcomes specified in the water resource plan are met. However, there is nothing to stop any party from purchasing a water allocation and using the water for 'environmental needs' provided that the plan's requirements are complied with.

What the final plan says

The plan's provisions are unchanged.

2.2.11 Water quality from Burdekin Falls Dam—1 submission

What the draft plan proposed

The resource operations licence holder, when making a release from the Burdekin Falls Dam, is required to draw water from the off-take level that optimises the quality of water released.

The issue

One submission stated that for the releases made from the Burdekin Falls Dam, the resource operations licence holder must ensure the quality of water released is suitable to trigger ecological processes that maintain or enhance downstream ecological functions and services.

How the issue was assessed

Releases from the Burdekin Falls Dam are made to meet minimum stream flow requirements as well as the requirements of downstream customers of the resource operations licence holder. The resource operations licence holder monitors and operates the dam to minimise the risk of releasing poor quality water.

The changes proposed are inappropriate as they essentially propose that the resource operations licence holder release no water when the quality of the water is not optimal for ecosystem processes. Under this scenario, it could be that no water is released, which would severely impact on downstream user requirements and the flows required for ecological processes and functions.

What the final plan says

The plan's provisions are unchanged.

2.2.12 Linkages between water resource plan and resource operations plan – specific ecosystem attributes—2 submissions

What the draft plan proposed

The draft plan addresses the water resource plan outcomes by specifying processes, rules and limits that are consistent with the environmental flow objectives and water allocation security objectives specified in the water resource plan. The plan's monitoring and reporting arrangements will help determine whether the water resource plan outcomes are being achieved.

The issue

Two submissions indicated concern about a lack of linkages between the general and specific ecological outcomes stated in sections 12 and 13 of the water resource plan and the requirements stipulated in the draft plan.

How the issue was assessed

In the planning process for the water resource plan, a full investigation into the ecological values of the plan area was undertaken. In addition, an independent technical advisory panel was engaged to investigate and record the ecological values of the plan area. This information

formed a vital part of the background studies to the water resource plan and was pivotal in developing the general and specific ecological outcomes in the water resource plan.

The performance indicators and objectives, described in sections 15 to 18 in the water resource plan, are the foundation for the operating and environmental management rules, the water sharing rules, and the water allocation change rules contained in the plan.

If the rules and provisions of the plan are implemented, the water resource plan's objectives will be achieved. The plan's monitoring and reporting requirements will be used to assess the effectiveness of the plan in achieving the water resource plan's outcomes.

What the final plan says

The plan's provisions are unchanged.

2.2.13 Ecological assets outside of the plan area—1 submission

What the draft plan proposed

The draft plan applies to the plan area listed in Schedule 1 of the water resource plan.

The issue

One submission suggested that the draft plan should consider the effects that implementing critical water sharing requirements would have on ecological assets outside the plan area, such as through the supplementation of flows in Crystal Creek from Paluma Dam.

How the issue was assessed

The plan area boundary has been defined by the water resource plan. Crystal Creek is outside of the plan area and accordingly, it is not appropriate for the plan to deal with issues relating to that watercourse.

An interim resource operations licence for the Paluma-Crystal Water Supply Scheme was issued to Townsville City Council in April 2008. This licence details the operating rules that apply to the scheme as well as the monitoring and reporting requirements that Townsville City Council must adhere to in operating the water supply scheme.

What the final plan says

The plan's provisions are unchanged.

2.2.14 Ongoing ecological investigations, critical water sharing requirements and implementation of monitoring requirements—1 submission

What the draft plan proposed

The plan details arrangements for the collection and assessment of data by the chief executive, relating to the general and specific ecological outcomes of the water resource plan.

The issue

One submitter expressed concern that there is limited information on how the general and specific ecological outcomes of the water resource plan would be implemented. The submitter questioned whether an analysis had been done to assess the ecological assets that are linked to the ecological outcomes of the water resource plan.

How the issue was assessed

In implementing the water resource plan, the draft plan provides for the sustainable management of water. The protection of biological diversity and the health of natural ecosystems are achieved through the plan's operating and environmental management rules, the water sharing rules and monitoring and reporting requirements.

The Minister's annual report, completed at the end of each water year, will assess any issues that have arisen in the previous year, and assess how effective the plan is in implementing the water resource plan. As a result of this report, if there are any deficiencies in the general and specific ecological outcomes detailed in the water resource plan, an amendment to the plan or the water resource plan may be triggered.

In determining the existing condition of water-dependent ecosystems in the plan area, the environmental assessment reports which were undertaken to inform the development of the water resource plan, provided a framework for further identification of ecological assets in the plan area. Aquatic biologists from the department are currently reconfirming the ecological assets in the plan area and identifying the priority areas for monitoring by the department and scheme licence holders.

What the final plan says

The plan's provisions are unchanged.

2.3 Water Supply Schemes

2.3.1 Operation of Clare Weir and Bowen River Weir fishways —2 submissions

What the draft plan proposed

The draft plan stated that releases must be made through the fishways first, then through the outlet valves, then over the crest of the weirs.

The issues

One submission stated that the timing and quality of releases from the fishways should coincide with requirements of ecosystem processes and functions.

Another submission stated that there may be instances where releases through the fishways are not always possible (i.e. when the fishway is clogged with sediment after a flood).

How the issues were assessed

If the rules and provisions of the plan are implemented, specifically, the minimum stream flow requirements and changes to the rate of release, the scheme licence holder will preserve ecosystem functions and services.

It is accepted that there may be times when releases cannot be made through the fishways due to events beyond the resource operations licence holder's control. When these events occur, they must be reported to the chief executive and include a timeframe for when the fishway will be operational again.

The requirements for fish passage are a matter outside of the jurisdiction of the *Water Act 2000*. The regulation of instream barriers to fish passage falls under the *Fisheries Act 1994*.

What the final plan says

The final plan has been amended to say that the resource operations licence holder should preferentially use the fishways to release water.

2.3.2 Supplying medium and high A1 priority group water allocations—1 submission

What the draft plan proposed

The draft plan stated that when releasing water to supply medium and high A1 priority group water allocations in the Bowen Broken Water Supply Scheme, the resource operations licence holder must preferentially release water from the Bowen River Weir, then Gattonvale Offstream Storage, then Eungella Dam.

The issue

One submitter requested additional wording in this section to include preserving seasonal flow variability and downstream water quality.

How the issue was assessed

The minimum stream flow requirements for watercourses in the Bowen Broken Water Supply Scheme are designed to mimic natural stream flows while maintaining the security of existing water users' entitlements.

If the rules and provisions of the plan relating to minimum stream flow requirements and staged releases are implemented, the scheme licence holder will preserve seasonal flow variability and ecosystem functions and services.

The resource operations licence holder only has control over the quality of water in its storages and the water it releases through an outlet - not what is released over the wall (i.e. when the dam or weir spills). As such, it is unreasonable to make the resource operations licence holder responsible for something that is beyond its control (e.g. catchment-based impacts on water quality).

What the final plan says

The plan's provisions are unchanged.

2.3.3 Expand the distribution operations licence holder responsibilities—2 submissions

What the draft plan proposed

The draft plan lists the watercourses for which the resource operations licence holder and the distribution operations licence holder can use to distribute surface water under their respective licences.

The draft plan details the responsibilities for scheme licence holders in implementing the plan's requirements.

The issues

Two submissions suggested that:

- watercourses in the North and South Burdekin water board areas be included in the list of authorised watercourses;
- the water boards be subject to responsibilities associated with the Bowen Broken Water Supply Scheme; and
- environmental flow requirements be established for watercourses that the water boards use to distribute water; and
- under the distribution operations licences, the water boards should be subject to responsibilities associated with the use of watercourses for distribution in the water supply schemes, the operation of the Bowen River Weir fishway, and monitoring water quality in relevant infrastructure.

How the issues were assessed

The responsibilities of the North and South Burdekin water boards are limited to the Burdekin Haughton Water Supply Scheme only. As such, it is inappropriate to give the boards responsibilities for the distribution of water and/or the operation of infrastructure in the Bowen Broken Water Supply Scheme.

The North and South Burdekin water boards manage the distribution of both surface water and groundwater to their customers in the Burdekin Haughton Water Supply Scheme. The primary role of each board is to manage and recharge the underground aquifers utilising supplemented surface water supplied to the boards from the Burdekin Haughton Water Supply Scheme. However, the boards also distribute water to customers located along the lower Burdekin River and the Anabranch.

The water boards will jointly hold a distribution operations licence that will formalise their role in distributing water to allocation holders supplied from the lower Burdekin River and Anabranch. For this part of the board's supply network, customers will be the holders of tradeable water allocations established under the plan.

For their delta distribution systems/groundwater recharge works, the boards currently hold an interim resource operations licence. The interim resource operations licence describes the boards' responsibilities for supplying groundwater and surface water to their customers. This includes the arrangements associated with the watercourses used by the water boards for water distribution as part of their respective recharge works. The boards will also hold supplemented water allocations for the Burdekin Haughton Water Supply Scheme, which are for the purpose of supplementation of the water supply scheme.

Given that the boards' delta recharge works supply both surface and groundwater to their customers, it is impractical, if not impossible, to separate the board's groundwater and surface water distribution functions. As such, it is appropriate that the surface water component of the boards' delta distribution arrangements to be dealt with at such time that the water resource plan is amended to deal with groundwater. At this time, the responsibilities relating to the use of those watercourses and channels for distribution and the associated environmental management rules may be specified in a future resource operations plan.

What the final plan says

The plan's provisions are unchanged.

2.3.4 Nominal operating levels of storages in Burdekin Haughton Water Supply Scheme—1 submission

What the draft plan proposed

The draft plan provided details about the operating levels of storages within the Burdekin Haughton Water Supply Scheme. Table 5 showed the minimum operating level and nominal operating level of these storages.

The issue

One submission requested that the nominal operating levels for the Val Bird Weir and the Giru Weir be increased to 6.65 m AHD and 3.5 m AHD respectively, as a reduced water level will cause anaerobic groundwater to flow into the weirs, adversely impacting in-stream fauna and flora.

How the issue was assessed

The nominal operating levels requested for the Val Bird Weir and the Giru Weir are higher than those proposed in the draft plan.

The current interim resource operation licence allows SunWater Limited to operate the weirs at full supply level. However, it has been suggested that the current operating arrangements for these weirs are contributing to rising groundwater issues in the Giru Benefited Groundwater Area. A lower nominal operating level for the weirs will allow the Haughton River to act as a discharge source for groundwater rather than potentially being a contributing factor to elevated groundwater levels.

Prior to the construction of infrastructure associated with the Burdekin Haughton Water Supply Scheme, the Haughton River was a naturally dry river with low seasonal flows. The weirs, and the pipeline transporting Burdekin River water from the Clare Weir, have altered the flow regime of the lower Haughton River. The lower reaches of the river have effectively turned into a large ponded area, which support irrigation. This may have contributed to the raised groundwater table, particularly in the Giru Benefited Groundwater Area.

After considering the matters raised in the submissions, the chief executive has accepted the argument made in the submission that the nominal operating levels proposed for the Val Bird Weir and the Giru Weir are impractically low. However, at the same time, the chief executive did not accept that it is appropriate for the nominal operating level to be at, or near, full supply level for the two weirs. The nominal operating levels for the Val Bird Weir and the Giru Weir are intended to mimic the natural system as much as possible whilst recognising practical storage operating requirements. By keeping a lower water level in the weirs, there is less groundwater recharge and more opportunity for the groundwater to discharge back to the river.

What the final plan says

The final plan states a revised nominal operating level of 6.2m AHD for the Val Bird Weir and 3.0 m AHD for the Giru Weir.

2.3.5 Operation of Gattonvale Offstream Storage in Bowen Broken Water Supply Scheme—1 submission

What the draft plan proposed

The draft plan outlined the rules for diverting water into, and releasing water from, the Gattonvale Offstream Storage.

The issue

One submission requested changes to the rules for diverting water into the Gattonvale Offstream Storage. Under the rules proposed in the draft plan, the resource operations licence holder would only be able to divert water into the Gattonvale Offstream Storage when trigger flow conditions were met at the department's Myuna gauging station. The submitter sought to have the trigger flow conditions measured as flow past the Bowen River Weir.

The submission also sought changes to the draft plan to enable the resource operations licence holder for the Bowen Broken Water Supply Scheme to be able to divert water released from Eungella Dam into the Gattonvale Offstream Storage. This would only occur when the water level in the Gattonvale Offstream Storage was below a prescribed nominal operating level.

The submission also sought for the maximum rate at which water could be diverted to the Gattonvale Offstream Storage to be increased from 250 megalitres per day to 300 megalitres per day. This change was proposed to recognise the difference between the nominal daily diversion rate of the existing pump station and the maximum daily diversion rate that is currently possible when the difference in the water level in the Gattonvale Offstream Storage and the water level in the Bowen River is low (as would occur during times of peak flood flows). The submission also requested that the maximum rate at which water is released from the Gattonvale Offstream Storage into the Bowen River Weir be increased from 156 megalitres per day to 180 megalitres per day. This change was again requested to reflect the maximum capacity of the existing outlet works rather than the nominal daily capacity.

The submitter believes that operating the Gattonvale Offstream Storage in the proposed manner will bring greater performance and security of supply to medium priority and high priority water users.

How the issues were assessed

The requested change to the maximum rates for diverting water to, and releasing water from, the Gattonvale Offstream Storage represents a minor and reasonable change to the draft plan provisions. Accordingly, the chief executive has accepted the submitter's suggestion.

The department undertook extensive hydrological modelling of the proposed nominal operating level that was proposed by the submitter for the Gattonvale Offstream Storage. Critically, this level defined the extent to which water released from the Eungella Dam could be pumped into the Gattonvale Offstream Storage. This modelling revealed that the proposed arrangement did not meet the water allocation security objectives that have been set by the water resource plan for the Bowen Broken Water Supply Scheme. To meet the water resource plan objectives, a much lower nominal operating level would need to be set for the Gattonvale Offstream Storage.

The trigger for water users to commence water harvesting is currently measured at the Myuna gauging station. This location was deliberately chosen as the trigger point for commencing water harvesting to ensure that the flows passing the Bowen River Weir were first able to recharge the intervening natural waterholes along the Bowen River before water harvesting into

the Gattonvale Offstream Storage was able to commence. For this reason, the trigger point for commencing pumping was maintained as the Myuna gauging station.

What the final plan says

The final plan:

- adopted the submitter's request to use the Gattonvale Offstream Storage to store water released from Eungella Dam;
- specified a nominal operating level for the Gattonvale Offstream Storage of 153.5 metres, which is 3.25 metres lower than that sought by the submitter;
- did not change the point at which trigger flows for commencing water harvesting into the Gattonvale Offstream Storage would occur; and
- adopted the changes to the maximum rates for diverting water to, and releasing water from, the Gattonvale Offstream Storage to 300 megalitres per day and 180 megalitres per day respectively.

2.3.6 Environmental low flow requirements in Burdekin Haughton Water Supply Scheme—2 submissions

What the draft plan proposed

The draft plan states that:

- the minimum stream flow requirements at the mouth of the Burdekin River (Node 1) must be equal to the cumulative daily natural flow recorded at the Sellheim and Red Hill Creek gauging stations, up to 360 megalitres per day; and
- the minimum stream flow requirements at the end of the Haughton River (Giru Weir – Node 2) must be equal to the cumulative daily natural flow recorded at the Mount Piccaninny and Major Creek gauging stations, up to 40 megalitres per day.

The issues

One submission requested that the measuring point for daily flows be changed from the mouth of the Burdekin River (Node 1) to the Clare Weir tailwater gauging station, and for the daily flow targets to be averaged over a running 30-day period. The same submitter requested that the measuring point for daily flows be at the crest of the Giru Weir, rather than downstream of the weir, and that the natural inflows to the lower Haughton River be measured at the Powerline gauging station.

Another submission requested that the resource operations licence holder monitor base flows at the river mouths to verify end-of-system environmental flows. This submitter also suggested that the 40 megalitres per day minimum flow requirement at the Haughton River mouth was excessive and that options for upgrading the Giru Weir be investigated if this minimum flow requirement was to be retained.

How the issues were assessed

The low flow requirements at the mouths of the Burdekin River and Haughton River have been designed so that releases from storages can be delivered to the end of the system to achieve the environmental flow objectives. Such arrangements are also consistent with achievement of the water allocation security objectives.

A considerable volume of water is taken for consumptive use purposes from the Burdekin River downstream of the Clare Weir. As such, it is not appropriate for the end-of-system low flow requirements to be measured at a point upstream of where this consumptive use occurs.

The minimum stream flow requirements specified in the draft plan for Node 1 are intended to reflect a more natural low-flow regime discharge to the estuarine reaches of the Burdekin River. Such a flow regime cannot be approximated by a “30 day average flow” as proposed by the submitter. This is because, under the approach proposed by the submitter, this could equate to a large volume of water being released for just 1 day rather than a more uniform flow rate being maintained over the 30 day period.

At Node 2 (the mouth of the Haughton River), a flow of up to 40 megalitres per day, but not more than the natural inflow into the supplemented reach of the Haughton River, is required to meet the general ecological outcomes of the water resource plan. The proposal that flows past the Guru Weir be measured at the crest of the weir implies that the weir will be kept full at all times. This is not consistent with the requirements for a nominal operating level for the weir of less than the full supply level (refer to section 2.3.4). For this reason, the submitter’s suggestion is not supported.

As such, the requirement to measure flows at the Giru Weir (Node 2) is preferred over the Powerline gauging station. Because the Powerline gauging station is downstream of some supplemented irrigators, their extraction of water will reduce the volume that reaches the Powerline gauging station, making it difficult to know what the true natural inflows are. The Major Creek and Mt Piccaninny gauging stations do not interfere with irrigation demand as they are upstream of the scheme. Hence, the cumulative total of the two gauging stations will be the trigger to measure the minimum stream flow requirement at Node 2 for the Haughton subcatchment.

Following the release of the final plan, the resource operations licence holder will be required to prepare a detailed implementation program. This program will provide details of how the resource operations licence holder intends to implement the provisions of the plan. Details about any infrastructure upgrades will be documented in the implementation program. The operational details detailing how daily flow targets will be measured can also be clarified in the implementation program.

The resource operations licence holder must detail their intended operational procedures in their implementation program to be submitted to the chief executive at the commencement of the plan

What the final plan says

The provisions relating to the location of nodes are unchanged.

2.3.7 Environmental low flow requirements in the Bowen Broken Water Supply Scheme—1 submission

What the draft plan proposed

The draft plan proposed that, between 1 April and 31 December of each year, the resource operations licence holder must release the total natural daily inflow into the Bowen River Weir up to a maximum of 40 megalitres per day.

This section continued the minimum flow rule stated in the amended interim resource operations licence for the Bowen Broken Water Supply Scheme, which was issued in 2004.

The issue

One submission proposed flows, based on natural daily inflows to the Bowen River Weir, of up to 40 megalitres per day between 1 April to 30 June and 1 October to 31 December; and up to 60 megalitres per day between 1 July to 30 September each year.

How the issue was assessed

One submitter proposed changes to the minimum stream flow requirements. The proposed changes were assessed by the department and were found to be consistent with the water allocation security objectives for high priority and medium priority users for the Bowen Broken Water Supply Scheme and for downstream water allocation holders. In addition, the proposed new flow rule provided improved benefits to the river downstream of the Bowen River Weir.

What the final plan says

The final plan will adopt the differential release rule proposed by the submitter, with flows, based on the natural inflow into the Bowen River Weir, of up to 40 megalitres per day between 1 April to 30 June and 1 October to 31 December; and up to 60 megalitres per day between 1 July to 30 September each year.

2.3.8 Inflow allowances in the Burdekin Haughton Water Supply Scheme—2 submissions

What the draft plan proposed

Table 9 of the draft plan showed an allowance for inflows into the Burdekin Falls Dam. The inflow parameter used in the announced allocation calculation for the Burdekin Haughton Water Supply Scheme is derived from minimum historical inflows based on modelled simulations.

The issues

One submitter requested a review of the inflow allowances as they believed there were discrepancies between those inflow allowances modelled by the department and those modelled by the current interim resource operations licence holder for the Burdekin Haughton Water Supply Scheme.

Another submitter requested that the inflow allowances be cumulative annual inflow volumes, rather than the monthly inflow allowance outlined in the draft plan.

How the issues were assessed

Under the draft plan, announced allocations for the Burdekin Haughton Water Supply Scheme are calculated at the start of the water year by taking the usable volumes in the Burdekin Falls Dam and the Clare Weir, and subtracting an allowance for storage losses, transmission losses, and river releases to meet environment flow requirements, and then adding for the minimum inflow volume that can be expected for the coming month.

Using a cumulative annual inflow allowance, as proposed by the submitter, would effectively mean that the announced allocation formula would be appropriating water for use at least 6 months prior to when the actual inflows are likely to occur. Given that announced allocations can not be decreased once announced at the start of the water year, it is imperative that there is a high degree of certainty that the volume of water that is announced as being available is actually available. In a system where water use is highest in the first 6 months of the water year while inflows are highest in the last six months of the water year, the use of an annual inflow allowance is inappropriate.

The requirement in the draft plan provisions for the announced allocation to be reviewed monthly, and to be reset (at a higher level) if appropriate, means that water allocation holders will benefit through a higher announced allocation if actual inflows exceed the assumed inflow allowance for the preceding month.

What the final plan says

The plan's provisions are unchanged.

2.3.9 Provision for carryover and forward draw in the Burdekin Haughton Water Supply Scheme—2 submissions

What the draft plan proposed

The draft plan did not contain provisions for carryover or forward draw as part of the water sharing rules for the Burdekin Haughton Water Supply Scheme.

The issues

Two submissions requested that the water sharing rules be amended to include a provision for carryover to allow water users to transfer some of their unused water from one water year into the next.

One submission requested that the water sharing rules also include provision for a forward draw to allow water users to take some of their next year's water in the current water year.

How the issues were assessed

The water sharing rules and announced allocation formulas proposed in the draft plan were designed to define the share of water available to be taken under a water allocation in that water year. At the end of the water year, any water not used by a water allocation holder under their allocation, is effectively 'lost' from that user's account as the announced allocations are reset at the commencement of the next water year.

The existing interim resource operations licence for the Burdekin Haughton Water Supply Scheme allowed for carryover and forward draw arrangements to be offered, but contained no details or rules defining what these products actually entailed. The manner in which water is shared amongst water users can have a significant impact on the attainment of the water allocation security objectives that are specified in the water resource plan. As such, any arrangements such as a carryover and a forward draw are not consistent with the objectives of the water planning framework unless the rules under which they are offered are clearly specified and can be demonstrated as being consistent with the plan's objectives.

It is recognised that a carryover arrangement, if appropriately applied, can encourage and reward improved water use efficiency and improve the flexibility afforded to water users. This is because, rather than the announced allocation being reset at the commencement of the water year, carryover offers a mechanism by which efficient water users get at least part of their water savings in the following year.

A forward draw arrangement would allow a water user to take part of their next year's announced allocation in the current water year. Such an arrangement assumes that there will in fact be water available to the water user under their water allocation in the next water year. Such circumstances cannot always be assured. For a forward draw arrangement to apply, it would be necessary for the resource operations licence holder to determine an interim announced allocation before the end of a water year. Forward draws would then need to be

limited to ensure that the volume that could be taken did not exceed the interim announced allocation volume.

From information provided by the interim resource operations licence holder for the Burdekin Haughton Water Supply Scheme, it was evident that there was a significant water user demand for a carryover arrangement. However, historically, there has been relatively little interest expressed in a forward draw arrangement. Advice provided by the interim resource operations licence holder for the Burdekin Haughton Water Supply Scheme was that it did wish to offer a carryover arrangement for this scheme but did not support the continuance of a forward draw arrangement. This was because a carryover arrangement was seen as an important mechanism to encourage water use efficiency and was simple to implement.

In view of the position of the interim resource operations licence holder for the Burdekin Haughton Water Supply Scheme and for the following reasons, a forward draw arrangement has not been included in the final plan:

- complex administrative requirements would be required to support a forward draw arrangement (particularly in determining interim announced allocation arrangements);
- a forward draw arrangement offers little benefit to water users than is otherwise available through a seasonal assignment;
- a forward draw arrangement invariably results in water user expectations that they can regularly use more water in a water year than their water allocation otherwise allows; and
- a forward draw arrangement is not compatible with the water use efficiency arguments that otherwise justify the provision of a carryover arrangement.

The department has undertaken hydrological modelling of a carryover arrangement to assess whether rules could be put in place that would be consistent with environmental flow objectives and water allocation security objectives for high priority and medium priority users in the Burdekin Haughton Water Supply Scheme. From these assessments, it was determined that a carryover arrangement could be sustained, provided that the following limitations applied:

- the total volume of unused water for the scheme that is permitted to be carried over to the next water year must not exceed the lesser of:
 - 25% of the total nominal volume for the scheme; or
 - 94.6% of the announced allocation, for scheme water users, that is unused at the end of the water year;
- the volume of water must include a discount factor (which is required to account for additional storages losses) of 5.4% of the volume carried over by each water user; and
- the volume of water remaining in a water user's carryover account, must be set at zero whenever any of the following first occurs in a water year:
 - six months after the commencement of the water year; or
 - when Burdekin Falls Dam overflows, or
 - when the water level in Burdekin Falls Dam is less than, or equal to, 148.1m AHD.

The proposed carryover provisions set the maximum limitations for carryover in the Burdekin Haughton Water Supply Scheme from one water year to the next. None of these requirements prevent the resource operations licence holder from applying more prudent measures, as long as the methodology for determining the volume of water permitted to be carried over by each water user is publicly available on their website.

What the final plan says

The water sharing rules for the Burdekin Haughton Water Supply Scheme outlined in Chapter 4, Part 2 have been amended to incorporate provision for carryover. The inclusion of carryover

provisions also necessitated minor amendments to a number of other sections in Chapter 4, as well as Chapter 10 (Scheme Licence Holder Monitoring and Reporting).

The final plan provisions do not permit a forward draw arrangement.

2.3.10 Stream flow period in the Bowen Broken Water Supply Scheme—1 submission

What the draft plan proposed

The draft plan proposed that, during periods of high natural flows (but less than the water harvesting threshold level), supplemented water users in the Bowen Broken Water Supply Scheme (other than those in zone Bowen Broken E) could take water under their water allocation regardless of limitations that might otherwise apply due to the announced allocation for their water allocation. The total volume of water taken under a water allocation cannot exceed the nominal volume of the water allocation. The draft plan also stated that the resource operations licence holder is not required to announce a stream flow period when the announced allocation for medium priority users is greater than 100%.

The draft plan proposed that the commencement of the high flow period will be determined from the Myuna gauging station for zones Bowen Broken A and B.

The issues

One submission requested that, due to operational and site access constraints, the requirement for readings to be taken at the Myuna gauging station be changed to a single stream flow period monitoring point at the fixed crest of the Bowen River Weir for zones Bowen Broken A, B, C and D.

One submission proposed that the flow access rule of ‘greater than 40 megalitres per day’ should be changed to a defined period of ‘ON’ and ‘OFF’ to avoid situations where the stream flow period would be switched off and back on again after a short period of time. The submitter also requested that the announced stream flow period should last for at least one day to allow water users time to access the resource.

How the issues were assessed

The announced stream flow period allows customers access to natural flows that are not part of storage releases at times when flows are above 40 megalitres per day as recorded at the Myuna gauging station. Water users cannot take more than the nominal volume on their water allocation. The provision for the announcement of a stream flow period recognises that the announced allocation is based on the stored volume of water. However, there is often opportunity for water users to take water that is available under their entitlement without impacting on the reserves of stored water or on downstream environmental and consumptive water needs.

Water users in the parts of the scheme downstream of the Bowen River Weir (zones Bowen Broken A and B) often benefit from inflows from Pelican Creek, Cerito Creek and other tributary inflow below the Bowen River Weir. This ensures that water users’ benefit from increased stream flows as soon as they occur. Changing the monitoring point from the Myuna gauging station to the Bowen River Weir would affect the opportunity for water users in the downstream stream reaches and adversely affect the water allocation security objectives of medium priority users.

Currently, there are no medium priority users in zones Bowen Broken C and D. However, in anticipation of small volume trading possibilities in this area, a simple rule requiring that ‘flow over the Bowen River Weir is greater than 40 megalitres per day’ is considered adequate and is compatible with the water resource plan’s objectives.

What the final plan says

The provisions are unchanged with the exception of ending the stream flow period for a zone when the 40 megalitre per day flow rate is no longer being met for a period of one business day.

2.3.11 Critical water supply arrangements—1 submission

What the draft plan proposed

The draft plan did not propose critical water supply arrangements.

The issue

One submission requested that a mechanism be provided to enable the future inclusion of critical water supply arrangements for water supply schemes, if considered necessary at some point in the future, to provide increased protection for certain high priority water users.

How the issue was assessed

Critical water supply arrangements determine, despite the water sharing rules contained in the plan, how available water would be assigned amongst users during periods of critical water shortages. The arrangements are designed to ensure continuity of supply to high priority water users, particularly town water supplies.

Critical water supply arrangements were not included in the draft plan. Instead, the plan specified cut-off levels for the main storages in order to ensure the performance of high priority water allocations. These cut-off levels were proposed in the announced allocation formulas. In addition, provisions contained in the Act already allow the Minister to take urgent action in the event of a water shortage or other emergency situation.

These existing measures were considered adequate to provide future water supply at critical times to high priority users. However, the submitter’s suggestions have been accepted as an additional safeguard available to address future supply security concerns.

What the final plan says

The final plan retains the cut-off levels of the storages and the high priority reserves, but has been amended to specify that the resource operations licence holder may prepare critical water supply arrangements to operate in each water supply scheme. These arrangements may be submitted to the chief executive for consideration, and if appropriate, inclusion into the plan.

2.4 Monitoring and Implementation

2.4.1 Timeframes for implementation by scheme licence holders—1 submission

What the draft plan proposed

The draft plan required scheme licence holders and the chief executive to implement the requirements of the plan as soon as practicable.

The issue

One submission stated that the department must provide clear timeframes by which provisions of the plan must be implemented by scheme licence holders.

How the issue was assessed

The department does not expect scheme licence holders to be able to implement all of the plan's requirements immediately. Therefore, the plan allows scheme licence holders to prepare an implementation schedule detailing the measures they will take to meet the plan's requirements. In some instances, this may mean upgrading infrastructure such as outlet works. Timeframes for completing these tasks are difficult to specify in the plan as they will depend on a number of factors that can only be assessed once the requirement is specified.

The plan gives scheme licence holders time to consider what they need to do to fully comply with the requirements of the plan and submit a program outlining the steps they will take.

Section 98 (2)(f) of the *Water Act 2000* requires implementation of the plan over a period of up to 5 years. This timeframe was not specified in the draft plan but will be included in the final plan to provide certainty to scheme licence holders and the community to ensure the plan's requirements are implemented within 5 years.

What the final plan says

Section 14 of the final plan has been amended to specify that progressive implementation of the requirements of the plan must occur over a period of up to 5 years.

2.4.2 Timeframes for implementation for land and water management plan holders—1 submission

What the draft plan proposed

The draft plan did not propose any timeframes by which landholders with a land and water management plan must implement their plan.

The issue

One submission stated that the department must provide clear timeframes by which provisions of the plan must be implemented by land and water management plan holders.

How the issue was assessed

The requirements for preparing and amending land and water management plans are prescribed in section 72 to 78A of the *Water Act 2000*. In accordance with the *Water Act 2000*, provisions for preparing a land and water management plan contained in the draft plan apply only to those seeking to access unallocated water for irrigation purposes.

Once an approved land and water management plan is in place, the holder is responsible for its implementation. Where appropriate, the land and water management plan will incorporate a formal reporting framework where the holder provides information for performance verification to the department that can be used to demonstrate progress on specific actions at specified intervals. The reporting framework needs to provide meaningful information to demonstrate compliance with the land and water management plan's requirements.

The inclusion of an implementation program or equivalent is an existing requirement in preparing / approving a land and water management plan.

What the final plan says

The plan's provisions are unchanged.

2.4.3 Monitoring, reporting and remediation—1 submission

What the draft plan proposed

Section 88 of the draft plan provided details of the minimum stream flow requirements for the scheme licence holder of the Burdekin Haughton Water Supply Scheme to adhere to. Sections 255-257 of the draft plan contained details about operational and emergency reporting for scheme licence holders.

The issue

One submission requested that the plan incorporate a remediation framework for scheme licence operators to adhere to.

How the issue was assessed

The plan outlines the reporting requirements for scheme licence holders, including operational and emergency reporting requirements. An operational report is required when the scheme licence holder cannot comply with the rules and requirements in the plan, or when they detect instances of fish stranding or bank slumping. An emergency report is required when the scheme licence holder cannot comply with the conditions of the plan as a result of an emergency (for example, contamination of a water supply or structural damage to infrastructure). The scheme licence holder must include any responses or activities carried out as a result of the incident in a report to the chief executive.

Remediation of issues cannot be prescriptive as not all scenarios can be anticipated. Where an operational or emergency incident arises, the department will be able to work closely with the scheme licence holders to ensure that problems are rectified as quickly as possible with minimal inconvenience to existing water users and the environment.

What the final plan says

The plan's provisions are unchanged.

2.4.4 Ecosystem monitoring for scheme licence holders—1 submission

What the draft plan proposed

The draft plan outlined the monitoring and reporting requirements for scheme licence holders which must be undertaken.

The issue

One submission stated that ecosystem monitoring guidelines need to be stipulated for scheme licence holders in the Burdekin Haughton Water Supply Scheme. These guidelines should include monitoring of dissolved oxygen, weed infestation levels and fish diversity and abundance. Adaptive management responses to threshold changes should also be defined.

How the issue was assessed

Scheme licence holders are required to undertake water monitoring in accordance with the department's Water Monitoring Data Collection Standard. The water monitoring program

operated by the department is a certified quality management system. This ensures public confidence in the data and in the department's water planning and management programs.

The Water Monitoring Data Collection Standard provides information on the parameters that scheme licence holders are required to monitor in water supply schemes. Some of these parameters include temperature, dissolved oxygen, pH, electrical conductivity, total nitrogen, total phosphorus, cyanobacteria and total sulphides. The values set in the standard for each parameter have been set based on national and international policies and guidelines such as the Australian and New Zealand Environmental Conservation Council (ANZECC) guidelines.

The department will evaluate compliance and other operational matters to establish whether arrangements should be refined or modified to better support the water resource planning outcomes.

The department's own hydrographers and aquatic biologists also monitor river flows and ecosystem health.

What the final plan says

The plan's provisions are unchanged.

2.4.5 Monitoring of Giru Benefited Groundwater Area—1 submission

What the draft plan proposed

The draft plan required the resource operations licence holder to monitor and assess the groundwater levels and electrical conductivity in the Giru Benefited Groundwater Area.

The issue

One submission requested that the resource operations licence holder's monitoring requirements in the Giru Benefited Groundwater Area be removed on the basis that monitoring of groundwater should not be a resource operations licence holder's responsibility.

How the issue was assessed

Due to the fact that groundwater taken from the Giru Benefited Groundwater Area has for some time been considered to be supplemented water supplied through the Burdekin Haughton Water Supply Scheme, water in the Giru Benefited Groundwater Area has been declared to be water in a watercourse. In this area, surface and groundwater are managed as a single resource and all water taken, other than for stock or domestic purposes, must only be taken under a water allocation.

Due to the fact that the resource operations licence holder for the Burdekin Haughton Water Supply Scheme is delivering supplemented water to the Giru Benefited Groundwater Area, the responsibility for monitoring the bores should rest with the resource operations licence holder. Such an arrangement is no different to resource operations licence holder responsibilities for measuring, recording and reporting stream flows for watercourses in the relevant scheme area.

What the final plan says

The plan's provisions are unchanged.

2.4.6 Effects of monitoring requirements—1 submission

What the draft plan proposed

The draft plan contained monitoring and reporting requirements for scheme licence holders. Monitoring and reporting undertaken by scheme licence holders must be consistent with the department's Water Monitoring Data Collection Standard and the Water Monitoring Data Reporting Standard.

The issue

One submitter expressed concern about the burden the monitoring requirements placed on the resource operations licence holder and that the resource operations licence holder should only monitor priority areas of risk related to the operation of the water supply schemes.

How the issue was assessed

Effective monitoring and reporting are integral components of the water resource planning process and are essential in helping to determine whether the outcomes of the water resource plan are being achieved. The department's monitoring and reporting standards have been prepared in conjunction with a range of state and national guidelines. The monitoring and reporting framework by scheme licence holders will also help Queensland meet its National Water Initiative obligations and the requirements of the water resource plan.

The monitoring requirements for the resource operations licence holder apply only to their activities within the water supply schemes which they operate.

What the final plan says

The plan's provisions are unchanged.

2.4.7 Water quality monitoring data collection—1 submission

What the draft plan proposed

The draft plan proposed that where scheme licence holders are required to monitor their operations, including measurement, collection, analysis and storage of data, the monitoring must be consistent with the department's Water Monitoring Data Collection Standard.

The issue

One submitter expressed concern that the Water Monitoring Data Collection Standard was not consistent with the former Environmental Protection Agency's water quality sampling and monitoring standards.

How the issue was assessed

The department's Water Monitoring Data Collection Standard forms the basis for consistent data collection and management. The standard applies to all water resource monitoring in Queensland required under the *Water Act 2000*, and any subordinate legislation such as the water resource plan.

The Standard complies with, and must be read in conjunction with a broad range of state and national standards, including:

- Water Quality Sampling Manual, Queensland Environmental Protection Agency 1999;
- Queensland Water Quality Guidelines 2006, Queensland Environmental Protection Agency 2006;

- Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000. Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australia and New Zealand.

What the final plan says

The plan's provisions are unchanged.

2.4.8 Amendments to monitoring requirements—1 submission

What the draft plan proposed

The draft plan stated the amendments that would and would not require public notification, including amendments to the plan's monitoring requirements.

The issue

One submission was concerned that there was no criteria in the draft plan for when changes to the plan's monitoring requirements would occur or if there would be consultation with other government agencies before changes were made.

How the issue was assessed

Section 274 of the draft plan is concerned with amendments to the monitoring requirements for assessing the water resource plan outcomes. An amendment to the monitoring requirements cannot occur if removing the requirements would result in the outcomes of the water resource plan not being met.

The decision to reduce or remove monitoring requirements is the chief executive's decision and would be based on the practicalities and relevance of the requirements. The chief executive would consult with other agencies prior to making a decision.

What the final plan says

The plan's provisions are unchanged.

2.5 Overland Flow

2.5.1 Constructing overland flow storage greater than 250 megalitres—1 submission

What the draft plan proposed

In accordance with the limitations that apply on taking overland flow water prescribed in the water resource plan, the draft plan details the process for granting water licences for taking overland flow water.

The issue

One submission requested that landholders should be permitted to construct overland flow storages greater than 250 megalitres without a water licence.

How the issue was assessed

The water resource plan states that a person may take overland flow water under an existing water licence or for any purpose if the storage is not greater than 250 megalitres.

New overland flow storages, with a capacity of greater than 250 megalitres, are not able to be constructed unless the landholder obtains a water licence authorising the take of overland flow and obtains a development permit under the *Integrated Planning Act 1999*.

What the final plan says

The plan's provisions are unchanged.

2.5.2 Ecological sustainability of capturing overland flow and limit on the number of overland flow storages—1 submission

What the draft plan proposed

The draft plan contains provisions for granting or amending water licences to take overland flow water. These provisions are consistent with the requirements of the water resource plan.

The issue

One submission raised concern over the lack of management criteria to regulate the take, storage and use of overland flow water. The submission asked for specific management objectives to be developed and incorporated into the plan to:

- ensure that the capture, storage and use of overland flow water throughout the plan area is ecologically sustainable;
- specify an upper limit to the number of overland flow storages that can be constructed either per property or throughout the plan area; and
- prevent adverse environmental impacts that the unrestrained take of overland flow water could cause throughout the plan area.

How the issues were assessed

The water resource plan states that a person may take overland flow water using an existing storage, for stock purposes or for any purpose if the storage is not greater than 250 megalitres. For new storages, a range of self-assessable codes for the take of overland flow water have been developed by the department. A person constructing works under these codes will be required to comply with various state legislation and policies, including the:

- *Vegetation Management Act 1999*;
- *Environmental Protection Act 1994*;
- *Aboriginal Cultural Heritage Act 2004*; and
- provisions of the *Water Supply (Safety and Reliability) Act 2007* relating to dam safety.

New storages greater than 250 megalitres will require a water licence and are assessable development under the *Integrated Planning Act 1999*. Similarly, these storages may be subject to the provisions of the *Water Supply (Safety and Reliability) Act 2007*.

Apart from stock water supply dams, there are very few overland flow storages of any size located in the Burdekin plan area. This is due largely to the high evaporation rates experienced in the area. As such, an overland flow storage would generally need to be of considerable capacity to store enough water to provide a viable water supply source for irrigation and other commercial uses. The taking of water by such larger storages is regulated and limited by the provisions of the water resource plan. The notification requirements associated with the self assessable code for the smaller storages will also allow the department to keep track of the development of storages that are not greater than 250 megalitres in capacity and identify if any threat is being posed to the plan's objectives as a result of such development. Such information will inform future plan review processes.

What the final plan says

As the concerns raised by the submitter are adequately addressed in the water resource plan, the plan's provisions are unchanged.

2.6 Other

2.6.1 Additional entitlement for riparian landholders for water harvesting when earth dams are unavailable—30 submissions

What the draft plan proposed

The draft plan does not provide for additional water entitlements to be granted other than through the process associated with releasing water from the unallocated water reserves.

The issue

Submitters located in the Lower Burdekin subcatchment proposed that a new water harvesting entitlement should be granted to riparian irrigators.

How the issue was assessed

The moratorium on dealing with certain water licence applications, which was temporarily continued under section 27 of the water resource plan, has prevented the department from processing applications or accepting new applications that would result in an increase in the amount of water taken in the plan area. On finalisation of the resource operations plan, the department will process all outstanding applications. The final plan specifies how licence applications that would lead to an increased take of water will be dealt with.

The rules set out in the water resource plan and the draft resource operations plan for granting authorisations for the management of, taking of and interfering with water, are consistent with national water reform measures. Allowing riparian landholders, who do not have existing entitlements to take water, does not contribute to a fair, orderly and efficient allocation of water or improve the confidence of water users regarding the availability and security of water entitlements.

The draft plan recognises that there may be times when landholders, irrigators, and other stakeholders require additional water on top of their allocation. Provisions in the plan to meet additional demand include the establishment of a tradeable water market where water allocation holders will be able to permanently or seasonally trade all, or part of, their water allocation. Also, a general reserve of 55 000 megalitres of unallocated water has also been set aside to meet future demands in the Lower Burdekin subcatchment.

What the final plan says

The plan's provisions are unchanged.

2.6.2 Cost of water—1 submission

What the draft plan proposed

The draft plan does not include any provisions relating to the cost of water supplied by scheme licence holders to their customers.

The issue

One submission stated that the cost of transporting water from the river to properties was excessive. The submitter also requested that the cost of water should be reduced where increased rainfall improved access to water.

How the issue was assessed

This issue is outside the scope of the water resource and resource operations planning processes.

What the final plan says

The plan's provisions are unchanged.

2.6.3 Separation of surface water and groundwater on water allocation—2 submissions

What the draft plan proposed

The draft plan applies only to water in a watercourse, lake or spring, and overland flow water not connected to artesian or subartesian water.

The issue

Two submitters claimed that they take both surface water and groundwater from the Burdekin River and that both water sources should be considered in determining the nominal volumes of their water allocations.

How the issue was assessed

The submitters concerned currently have spears in the bedsands of the Burdekin River. Water taken via spears in the bedsands of a river is deemed to be water in a watercourse and is therefore, surface water. As such, the submitter's existing water licences are being converted to supplemented water allocations.

Where an existing authorisation is being converted to a water allocation, the nominal volume on the water allocation has been determined by using the volumetric limit stated on the existing water licence or by converting an area-based licence using a conversion factor of 8 megalitres per hectare on the area stated on the existing licence.

Where a landholder does not have an existing authorisation, but is being granted a water allocation in accordance with section 53 of the water resource plan, the nominal volume was determined by calculating the area being irrigated and applying the 8 megalitre per hectare conversion factor to the area being irrigated from surface water sources.

However, the water resource plan allows for water users to obtain a rate of up to 12 megalitres per hectare if the higher factor can be justified as part of a properly made submission to the draft plan. This conversion factor could only increase if the submitter could prove they were using more than 8 megalitres per hectare under their current irrigation practices.

A future planning process will be undertaken to amend the water resource plan to include groundwater. Until such time, the existing arrangements dealing with the taking of groundwater in the plan area continue to apply.

What the final plan says

The plan's provisions are unchanged.

2.6.4 Insufficient water to trade—1 submission

What the draft plan proposed

The draft plan details the provisions that will apply to allow water allocation holders to permanently or seasonally trade their water allocations.

The issue

One submission stated that there would not be any excess water to trade as the volumes allocated to landholders are insufficient to meet their own irrigation needs.

How the issue was assessed

Water allocations within the Burdekin Haughton and Bowen Broken water supply schemes may be permanently or seasonally traded subject to rules detailed in the plan. This will enable greater efficiency in water usage as well as increased flexibility for water users to ensure water moves to its highest value use.

The Burdekin Haughton Water Supply Scheme currently has a significant volume of unused water entitlements (which are held by SunWater Limited). These entitlements alone provide significant opportunity for future growth in scheme water use.

In addition, irrigators who adopt more efficient irrigation practices are likely to have surplus water to trade in some years. Where water trading is not practical or demand exceeds supply, additional water can be made available from the unallocated water reserves.

What the final plan says

The plan's provisions are unchanged.

2.6.5 Reliability of fresh water to water users in tidal zones—1 submission

What the draft plan proposed

The draft plan specifies the responsibilities of the scheme licence holders in supplying water to water allocation holders within the Burdekin Haughton Water Supply Scheme.

The issue

One submitter argued that if irrigators have to pay for water then access to fresh water in the Lower Burdekin River tidal zone should be available year round, particularly when earth dams have been washed away.

How the issue was assessed

The earth dams in the lower Burdekin River and the Anabranche are owned and maintained by the North Burdekin and South Burdekin water boards. A distribution operations licence has been issued to the boards for the operation of these earth dams and for the distribution of water to scheme customers in the lower Burdekin River and the Anabranche.

SunWater Limited operates infrastructure (Burdekin Falls Dam and the Clare Weir) upstream of the water users in the Lower Burdekin subcatchment. Water users accessing water supplied from these storages enter into a supply contract with SunWater Limited. This supply contract contains the details of water supplied to users. Similarly, the water boards are expected to have contracts with their customers detailing conditions associated with the operation of the boards' distribution infrastructure. The water charges levied by the water boards and by SunWater

Limited for the supply of water from the Burdekin Haughton Water Supply Scheme reflect the costs of providing water services to the area's water users.

The delivery and cost of water is outside the scope of the resource operations planning process.

What the final plan says

The plan's provisions are unchanged.

2.6.6 Alignment of plan with other planning frameworks—1 submission

What the draft plan proposed

The Overview Report prepared in 2006 for the release of the draft water resource plan detailed how the water resource plan aligned with other planning frameworks within the region, including the Reef Water Quality Protection Plan and the Natural Resource Management Plan, prepared by the then Burdekin Dry Tropics Board, under the Natural Heritage Trust program.

The issue

One submission stated that because the Burdekin Basin is identified as a significant contributor of sediments, nutrients and other pollutants into the Great Barrier Reef, the plan must align with, and complement, other planning frameworks, such as the Reef Water Quality Protection Plan.

How the issue was assessed

The water resource plan provides a statutory framework that supports the goals of the Reef Water Quality Protection Plan and the Burdekin Dry Tropics Natural Resource Management Plan, and encourages efficient and sustainable water use. In implementing the water resource plan, the draft plan also supports these planning initiatives.

The draft plan aligns with the Reef Water Quality Protection Plan through converting water licences to tradeable water allocations, and requiring landowners who obtain a new water entitlement for irrigation to prepare a land and water management plan to minimise potential nutrient loads and retain any contaminated run-off.

The plan also aligns with the Burdekin Dry Tropics Natural Resource Management Plan through:

- protecting water ecosystem values and environmental conditions;
- maintaining the current morphology and biodiversity of aquatic habitats;
- promoting and allowing for sustainable water use to provide economic and social benefits to the community; and
- providing a more robust system of water allocation, reinforced by stronger licensing and monitoring of water use, leading to greater protection of water resources.

What the final plan says

As the water resource plan and the resource operations plan support the goals of the Reef Water Quality Protection Plan and the Burdekin Dry Tropics Natural Resource Management Plan, the plan's provisions are unchanged.

2.6.7 Security of supply for irrigators in the Lower Burdekin and Haughton subcatchments—1 submission

What the draft plan proposed

The draft plan implements the environmental flow objectives set in the water resource plan which specifies that at least 75% of the pre-development average annual discharge from the Burdekin River and 92% of the pre-development average annual discharge from the Haughton River continues to flow into the Great Barrier Reef lagoon.

The issue

One submitter expressed concern that achieving such environmental flow objectives could impact upon the security and reliability of supply for irrigators in the Lower Burdekin and Haughton subcatchments.

How the issue was assessed

Two key objectives of the water resource plan were to protect the security of existing water users' entitlements and maintain flows to sustain the environment. An Integrated Quantity and Quality Model was developed for the Burdekin Basin and was used to compare simulated pre-development flows with different development levels. This demonstrated the potential effects of differing development levels on stream flows and existing water users.

These water allocation security objectives and environmental flow objectives are set by the water resource plan and must be complied with in the resource operations plan. It is incorrect to suggest that the environmental flow objectives could threaten the reliability of water supplies for irrigators.

What the final plan says

The plan's provisions are unchanged.

3 Plan finalisation

3.1 The finalised Burdekin Basin Resource Operations Plan

The final resource operations plan:

- details the rules for the conversion of over 800 water entitlements into tradeable water allocations;
- sets out a process for dealing with more than 543 000 megalitres of unallocated water;
- provides for resource operations licences to be granted to SunWater Limited to operate infrastructure and manage water allocations in the Burdekin Haughton and the Bowen Broken water supply scheme areas;
- provides for a distribution operations licence to be granted jointly to the North and South Burdekin Water Boards to formalise their role in distributing surface water in the lower Burdekin River system;
- details the operating and environmental management rules, water sharing rules, water allocation change rules and seasonal water assignment rules to apply in the Burdekin Haughton and Bowen Broken water supply scheme areas;
- establishes a process for granting or amending entitlements to take overland flow water;
- details water and natural ecosystem monitoring and assessment requirements; and
- details monitoring and reporting requirements that will be used to assess the effectiveness of the implementation of the water resource plan.

3.2 Changes to the final plan

The final resource operations plan incorporates many changes that resulted from the community consultation input that followed the release of the draft plan. Changes of note include:

- the water allocation schedule has been amended to reflect new volumetric limits of up to 12 megalitres per hectare for 27 submitters;
- the rules for converting existing authorisations to supplemented water allocations now state that the nominal location for a water allocation will be the same as the location from which water may be taken.
- a change to the nominal location of a water allocation is now a permitted water allocation change in both water supply schemes provided the change would result in the same nominal location of the water allocation.
- gives supplemented water allocations to an additional eight water users in the Burdekin Haughton Water Supply Scheme;
- the requirement for the resource operations licence holder to preferentially use the fishways to release water;
- a revised nominal operating level of 6.2m AHD for the Val Bird Weir and 3.0m AHD for the Giru Weir;
- allowing the Gattonvale Offstream Storage to be used to store water released from the Eungella Dam;
- a nominal operating level for the Gattonvale Offstream Storage of 153.5 metres;
- changes to the maximum rates for diverting water to, and releasing water from, the Gattonvale Offstream Storage to 300 megalitres per day and 180 megalitres per day respectively;
- the water sharing rules for the Burdekin Haughton Water Supply Scheme have been amended to incorporate provision for a carryover arrangement;

- minor amendments to Chapter 4, as well as Chapter 10 Scheme licence holder monitoring and reporting to incorporate the carryover provisions for the Burdekin Haughton Water Supply Scheme;
- a stream flow period for a zone will end when the 40 megalitre per day flow rate is no longer being met for a period of one business day.
- that the resource operations licence holder may prepare critical water supply arrangements to operate in each water supply scheme; and
- an amendment to section 14 to specify that progressive implementation of the requirements of the plan must occur over a period of up to 5 years.