



Our Ref: MMcK/NS: 2511/16 (123856/53971)

26 June 2020

Bryce Wilde  
Executive Director  
NSW Government Natural Resources Commission  
GPO Box 5341  
SYDNEY NSW 2001

Email: [nrc@nrc.nsw.gov.au](mailto:nrc@nrc.nsw.gov.au)

Dear Sir

**Submission to the review of the *Water Sharing Plan for the Richmond River Area Unregulated, Regulated and Alluvial Water Sources 2010***

Rous County Council is pleased to provide a submission as part of the Commission's review of the Richmond River Water Sharing Plan.

The following submission makes five key recommendations for your consideration. These recommendations focus on the provision of town water supply, increasing current understanding of water use within the plan area and facilitating a greater level of regulatory control and compliance with the water sharing plan. The recommendations provide opportunities for improved environmental, social and economic outcomes to enable secure and sustainable sharing of water between users and the environment.

Should you have any questions regarding this submission, please contact Council's Future Water Project Manager, Mr. Michael McKenzie on  or via email at 

Yours faithfully



Phillip Rudd  
General Manager

---

## **Rous County Council submission to the review of the *Water Sharing Plan for the Richmond River Area Unregulated, Regulated and Alluvial Water Sources 2010***

### **Introduction**

Rous County Council (RCC) provides bulk water to four local water utilities on the far north coast of NSW, servicing the urban areas of the following constituent council local government areas:

- Ballina Shire Council, excluding Wardell and surrounds.
- Byron Shire Council, excluding Mullumbimby.
- Lismore City Council, excluding Nimbin.
- Richmond Valley Council, excluding Casino and all land west of Coraki.

RCC also provides water supply services to rural and urban connections direct from the bulk supply trunk main system (known as RCC direct retail customers).

### **Existing water supply**

Surface waters are the primary water resource utilised by RCC although there are also some groundwater sources available for use during dry periods. Table 1 provides details of RCC raw water sources including source type, treatment and licence entitlements under the relevant water sharing plan. The principal component of the RCC bulk supply is Rocky Creek Dam situated 25 km north of Lismore near the village of Dunoon. Water from Rocky Creek Dam is treated at the Nightcap Water Treatment Plant (WTP) and is distributed to consumers. Water from the Wilsons River Source upstream of Lismore is pumped directly from the Wilsons River to the Nightcap WTP for treatment and distribution to consumers. Water from Emigrant Creek Dam is treated at the Emigrant Creek WTP and is distributed to supplement supplies to Ballina and Lennox Head. RCC has several Groundwater supplies which are utilised once levels in Rocky Creek Dam drop to 60% of full supply volume.

The RCC water sources are subject to licences under the *Water Management Act 2000*. The *Water Sharing Plan for the Richmond River Area Unregulated, Regulated and Alluvial Water Sources 2010* (RRWSP) is the applicable WSP for the RCC surface water sources. Emergency groundwater sources at Alstonville are subject to the *Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016*. Emergency groundwater sources at Woodburn are subject to the *Water Sharing Plan for the North Coast Coastal Sands Groundwater Sources 2016*.

**Table 1: RCC raw water sources**

Details	Rocky Creek Dam	Emigrant Creek Dam	Wilson's River Source	Convery's Lane Bore	Lumley Park Bore	Woodburn Bores
<b>Water source<sup>1</sup></b>	Terania Creek	Alstonville area	Wyrallah area (Wilson River)	Bangalow Groundwater	Alstonville Groundwater	Richmond Coastal Sands
<b>Source type</b>	Large in-stream storage	Large in-stream storage	Run-of-river abstraction	Groundwater extraction	Groundwater extraction	Groundwater extraction
<b>Storage capacity</b>	13,500 ML	854 ML	-	-	-	-
<b>Area served</b>	Lismore City, Richmond Valley, Ballina and Byron Shires	Ballina and Lennox Head	Lismore City, Richmond Valley, Ballina and Byron Shires	Alstonville, Wollongbar	Alstonville, Wollongbar (dry periods)	Woodburn, Evans Head, Broadwater (dry periods)
<b>Water Treatment</b>	Nightcap WTP (68 ML/d)	Emigrant Creek WTP (7.5 ML/d)	Nightcap WTP	Chlorination	Chlorination	Chlorination
<b>Licence entitlement</b>	12,358 ML/a <sup>2</sup>	2,620 ML/a <sup>2</sup>	5,400 ML/a <sup>2</sup>	150 ML/a <sup>3</sup>	530 ML/a <sup>3</sup>	242 ML/a <sup>4</sup>

1. As specified in the relevant Water Sharing Plan.

2. Water Sharing Plan for the Richmond River Area Unregulated, Regulated and Alluvial Water Sources 2010.

3. Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016

4. Water Sharing Plan for the North Coast Coastal Sands Groundwater Source 2016.

## RCC Future Water Project 2060

The RCC Future Water Project 2060 identifies potential new water supply sources to ensure long-term water supply security for the region. This project builds on extensive investigations undertaken by RCC over the last few decades to identify source augmentation options and enable selection of a preferred long-term strategy. RCC has recently completed detailed assessment of a range of new, as well as previously identified supply options, including demand management, new surface water storages, groundwater harvesting, desalination and indirect potable reuse. The assessment determined two feasible scenarios that can provide the required secure yield over the long term (Hydrosphere Consulting, 2020):

- Scenario 1 – Groundwater. This scenario includes the connection of Marom Creek WTP to the Rous regional supply in the short term with staged implementation of groundwater schemes and treatment plants until the required supply yield is achieved.
- Scenario 2 – Dunoon Dam. This scenario includes the connection of Marom Creek WTP to the Rous regional supply in the short term with construction of a new dam at Dunoon.

- 
- Scenario 2A considers a 20 GL dam designed to allow for future augmentation to 50 GL (expected to be required in the mid 2060's).
  - Scenario 2B considers a 50 GL dam.

Both scenarios include initial implementation of the Marom Creek and Alstonville groundwater options. The Dunoon Dam option involves the construction of a new onstream water storage on Rocky Creek, approximately 8 river km downstream of the existing Rocky Creek Dam and approximately 2.5 km west of the village of Dunoon. The dam would store inflows from its catchment up to the existing Rocky Creek Dam and from spills over the Rocky Creek Dam spillway.

The RCC *Future Water Project 2060* (Hydrosphere Consulting, 2020) will be on public exhibition from 1 July 2020. At its Council meeting of 17 June 2020, RCC resolved to progress investigations into Dunoon Dam.

## Discussion

This submission has a focus on the provision of town water supply and associated environmental, social and economic outcomes and opportunities for improvement in response to NRC's evaluation questions for the RRWSP review.

- 1. Part 10, Division 1, Clause 65 of the RRWSP** *“Granting or amending water supply work approvals (1) A water supply work approval must not be granted or amended to authorise an in-river dam on a third order or higher stream within the following water sources:...*

*(h) Terania Creek Water Source”.*

The DPIE-Water stream order mapping (NSW DPIE-Water, 2020) indicates that the site of the proposed Dunoon Dam is located on Rocky Creek, a third order (or higher) stream within the Terania Creek Water Source. Therefore, it is understood that Part 10, Division 1, Clause 65 of the RRWSP applies, and a water supply work approval must not be granted to authorise an in-river dam at this location. Initial discussions with DPIE-Water have indicated that there is currently no exemption from this clause in the RRWSP for local water utilities.

RCC understands from other recently completed dam projects in NSW that a similar clause in other WSPs (e.g. Shannon Creek Dam) has been successfully negotiated by other local water utilities and approvals for in-river dams on third-order streams have been issued. These negotiations have however, added time and expense to these public water provision projects and placed additional demand on public resources. By unnecessarily contributing to the time and expense of public water provision, this current clause in the RRWSP is detracting from the social and economic objectives of the plan (Part 2, Section 10).

---

RCC has obtained preliminary planning pathway advice for the Dunoon Dam proposal which indicates that the Dunoon Dam would be State Significant Development in accordance with the requirements of the State and Regional Development SEPP. The approvals require the preparation of an Environmental Impact Statement (EIS) in accordance with Schedule 2 of the *Environmental Planning & Assessment Regulation, 2000*. The EIS would assess the economic, environmental and social impacts of the proposed dam including a comprehensive assessment of river flow and aquatic ecology impacts. Given the rigorous and public environmental assessment and approvals process, the additional work required to gain exemption under Clause 65 of the RRWSP is considered to be unnecessary duplication. It is requested that the NRC reviews Clause 65 of the RRWSP and provides an exemption for local water utilities in the interests of more efficiently achieving plan objectives.

Review and amendment of this Clause is required to allow provision of essential town water supply sources required to meet future demand for town water supply in the region. The approvals process to be conducted for the proposed Dunoon Dam will address social and environmental requirements in accordance with the RRWSP objectives.

**Recommendation 1:** The NRC reviews Part 10, Division 1, Clause 65 of the RRWSP and provides an exemption for local water utilities under this clause.

## **2. Review of basic landholder rights to extract water**

Under Part 5, Division 2 of the RRWSP, landholders can take water from water sources for stock and domestic purposes under basic landholder rights without a licence. Basic landholder rights include water for domestic and stock purposes extracted from a water source fronting a landholder's property or from any aquifer underlying the land, harvestable rights (i.e. from an off-river dam) and for native title rights (NSW DPI Water, 2016). The access rules specified in the RRWSP only apply to licensed water users and do not extend to extractions for basic landholder rights.

As such, there are currently no rules or guidelines that govern what is reasonable in terms of the volume and timing of extraction by individual landholders under basic landholder rights. There are no restrictions in place for example in pump size or pipe size and no requirement for meters to measure the amount of water taken. It follows that there are currently no records of the location and volume of extraction under basic landholder rights in the Richmond River catchment. RCC submits that an accurate understanding of extraction for basic landholder rights is required in order to adequately manage waterways to the benefit of all users including environmental values.

RCC has observed the cumulative impact of over extraction on river flow, particularly during dry periods when demand is greatest and flows are at their lowest. The environmental impacts can be numerous and varied and include direct impacts to the biological, chemical and physical properties of aquatic ecosystems and riparian environments. There is a body of evidence that suggests low flows are essential for maintaining water quality, allowing passage over riffles for fish and other fauna to pools used for drought refuge and maintaining productive aquatic ecosystems. It is anticipated that these impacts will increase with increasing population in the Richmond River catchment, increasing extraction rates and climate change factors (e.g. longer dry periods inducing greater demand for water).

---

The NSW Natural Resource Access Regulator (NRAR) is responsible for ensuring compliance with NSW water management laws to enable secure and sustainable sharing of water between users and the environment. However, NRAR does not currently have the rules and guidelines required to assess whether water extraction for basic landholder rights is reasonable in terms of the volume extracted. RCC suggest that the establishment and enforcement of reasonable use guidelines should be undertaken as a matter of priority.

This would contribute to the RRWSP objectives, namely equitable sharing between users, ecosystem protection and encouragement of responsible use of water.

**Recommendation 2:** The RRWSP be amended to better define basic landholder rights, including the establishment of reasonable use guidelines and provisions to facilitate a greater level of regulatory control by NRAR.

### 3. Requirements for metering of water extraction

There are approximately 2,345 water licences in the area covered by the RRWSP, totalling 97,407 ML of entitlement. This is approximately five per cent of the average annual flow. The majority of these licences are for irrigation, with a significant proportion also used for town water supply. There has been an embargo on granting new surface water licences in both the unregulated and regulated systems of the Richmond River catchment since 1995. Alluvial aquifers were embargoed in 2008 (NSW DPI Water, 2016).

The RRWSP assumes full development of all entitlements in setting the extraction limits. Within the Richmond Regulated Water Source (Toonumbar Area), current extraction rates are monitored through a broad scale metering system and this data indicates the current usage rates are well below full development (NSW DPI Water, 2016). Detailed information on actual levels of water extraction is not currently available in the unregulated rivers or alluvial aquifers within the RRWSP area because there is no broad scale metering in these water sources. Due to the lack of metering, there is currently a lack of understanding of the 'real' level of extraction and therefore the level of existing licence utilisation in the plan area. RCC suggests that a clear understanding of current extraction rates will allow for greater transparency and flexibility in the equitable sharing of water resources (e.g. allocations to licences that are not being utilised could be redistributed for town water supply or greater agricultural production).

There is also insufficient information to understand how the level of extraction varies throughout the year and in relation to river flow. Without measurement of these key parameters, it is difficult to see how effective management of the resource is being achieved to ensure sustainable sharing of water between users and the environment. This information is also critical in determining whether regulation and enforcement activities are achieving the objectives of the RRWSP and the *Water Management Act 2000*. This is key information that should be monitored and reported to achieve a greater level of oversight and ensure equitable sharing of water and compliance with the RRWSP. RCC also suggests that these issues should be discussed in the new RRWSP background document.

---

RCC has also encountered issues associated with the adequacy of current river flow gauging stations in informing management of the low flow sharing rules and cease to pump rules. It is recommended that as part of the RRWSP review, a gap analysis is undertaken of current river gauging locations to determine their adequacy in informing management of the low flow sharing rules and cease to pump rules and to make recommendations for modification as needed.

These modifications would contribute to achievement of the RRWSP objectives relating to ecosystem protection and Aboriginal, cultural and heritage values, ensure equitable sharing between water users, encourage responsible use of water and adaptively manage the water sources.

**Recommendation 3:** In order to achieve a greater level of oversight and ensure compliance with the RRWSP, a system for metering water extraction should be implemented within the unregulated rivers and groundwater aquifers.

**Recommendation 4:** Gap analysis of river gauge locations and modification if required.

#### **4. Improved data management and reporting.**

As discussed above, the current RRWSP Background Document (NSW DPI Water, 2016) provides some information on the current extraction rates within the Richmond Regulated Water Source (Toonumbar Area) where a broad scale metering system is active. The NSW Water Register (Water NSW, 2020) provides public access to information about water licences, approvals, water trading, water dealings, environmental water and other matters related to water entitlements in NSW. The Water Access Licence Register maintained by NSW Land Registry Services provides more detailed information about every water access licence in NSW. However, none of these data sources provide information on the measured level of extraction occurring in the Richmond River catchment. Collection and public reporting of this information is key to effectively and equitably managing water sources in the RRWSP area.

Data management and reporting could be accommodated through the current NSW Water Register, allowing users to search the register and view/download water usage information. Annual reporting of extraction throughout the year by extraction management unit and water source is suggested as a means to clearly communicate patterns of extraction in relation to flow and rates of licence utilisation. Public reporting of extraction levels will introduce a greater level of accountability for licence holders to comply with licence conditions and increase public confidence that water resources are being managed effectively and equitably.

**Recommendation 5:** Clear and concise public reporting of water extraction within the plan area.

---

## References

Department of Industry (2018). *Determining Stream Order Fact sheet*.  
[https://www.industry.nsw.gov.au/\\_data/assets/pdf\\_file/0020/172091/Determining-Strahler-stream-order-fact-sheet.pdf](https://www.industry.nsw.gov.au/_data/assets/pdf_file/0020/172091/Determining-Strahler-stream-order-fact-sheet.pdf) - accessed June 2020.

Hydrosphere Consulting (2020). *Rous Regional Supply: Future Water Project 2060 Integrated Water Cycle Management Development: Assessment of Augmentation Scenarios*. Prepared on behalf of Rous County Council.

NSW DPI Water (2016). *Water Sharing Plan for the Richmond River Unregulated, Regulated and Alluvial Water Sources - Background document for amended plan 2016*.

NSW DPIE – Water (2020). Hydro line spatial data.  
[www.industry.nsw.gov.au/water/licensing-trade/hydroline-spatial-data](http://www.industry.nsw.gov.au/water/licensing-trade/hydroline-spatial-data) - accessed June 2020.

NSW Land Registry Services (2020). Water Access Licence Register.  
<https://www.nswlrs.com.au/Public-Register/WAL-Register> – Accessed June 2020.

Water NSW (2020). NSW Water Register. <https://waterregister.watarnsw.com.au/water-register-frame> - accessed June 2020.