ROUS
COUNTY COUNCIL

[redacted]

[redacted]

Email: regionalwater.strategies@dpie.nsw.gov.au

Re: Submission – Draft Far North Coast Regional Water Strategy

Thank you for the opportunity to provide comment on the *Draft Far North Coast Regional Water Strategy.*

Rous County Council supports the options presented in the *draft Regional Water Strategy* and considers them to set up actions that will address some key long-term issue in the Northern Rivers.

We provide the following comments and suggestions on additional considerations around:

1. Whole of Government position on historical floodplain drainage systems.
2. Whole of catchment flood management in the Richmond River catchment.

1. Whole of Government position on historical floodplain drainage systems

As a Flood Mitigation Authority, Rous County Council has management responsibility for a large number of flood mitigation assets. This includes more than 40km of rural floodplain levees, over 700 individual floodgates and more than 200km of floodplain drainage systems. These assets primarily service rural areas downstream of Lismore on the alluvial, coastal floodplain of the Richmond River.

It is noted that one of the aims of the *Draft Regional Water Strategy* is to identify issues and opportunities to better respond to water management challenges and extreme events – through policy, regulatory, educational and technological and infrastructure options.

One such issue and opportunity is responding to the legacy of historical floodplain drainage. The majority of the floodplain drainage systems Council has responsibility for are historical, constructed between 60 and 100 years ago. These drainage systems have changed very little since they were constructed, and significant advances have occurred since that time in understanding of flooding and drainage, engineering and our knowledge of their impact upon floodplain and estuarine water quality.

Poor water quality leaving these floodplain drainage systems has a significant impact on the health of the Richmond River (as identified on page 14 and 64 of the *Strategy*). Extreme events such as the 2001 and 2008 fish kills in the Richmond River estuary from deoxygenated water are categorically linked with the presence and function of floodplain drainage (as mentioned on page 59 in the Strategy).

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Rous County Council's proclamation makes it responsible for both reducing the impact of flooding whilst also reducing the environmental impact of its infrastructure. In the case of the 200km of historical floodplain drainage Council has responsibility for, this is very difficult to achieve because of the system's nature and function. The environmental impact of floodplain drainage is also set to increase under climate change, with more extreme weather and the increased risk of very large floods occurring during Summer months leading to further deoxygenation events.

Apart from the environmental impact of floodplain drainage, predicted sea level rise will have an impact on the function of current flood mitigation infrastructure (as identified on page 45 and 47 of the *Strategy*). Higher tides and river levels are likely to impact on how well these assets function, and in the worst case scenario, some drainage systems and floodgates may cease to operate. This will have a significant impact on how floodplain land is used, which is primarily zoned Rural Lands and used for agriculture. In the Richmond, almost 12,000ha of the floodplain is under 1m AHD in elevation. This lowest lying land is a major source of poor water quality into the estuary, the most marginal for agriculture and the most at risk from sea level rise.

Whist the *Marine Estate Management Act* and *Strategy* provide a platform for this issue along the coast, there is a need for a strategic policy to address or create a framework to resolve this complex issue.

As an organisation, Rous County Council would benefit from a whole-of-government position and strategy on the future of these historical floodplain drainage systems, particularly those located in the lowest lying areas of the floodplain, which are currently extensively drained (by both private and local government owned drains) and used for agriculture.

2. Whole of catchment flood management in the Richmond River catchment

As the Flood Mitigation Authority for Lismore City, Ballina Shire and Richmond Valley Councils, Rous County Council considers that an additional option should be included in the final Strategy. The Richmond River catchment, which stretches from Kyogle Shire to Ballina Shire, is a large and complex catchment, in which each LGA manages their urban areas resulting in a piecemeal approach limiting the impact and effectiveness of solutions. The additional option presented below addresses this issue through the development of a whole of catchment flood management approach.

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New Option. Characterising the flooding of the Richmond River Catchment	
Description	The Richmond River, running from Kyogle to Ballina, is fed by the major tributaries of the Leycester Creek and Wilsons River, which have their confluence in the Lismore CBD. The catchment of 7,032 sqkm (6th largest in NSW) includes Lismore, one of the most flood affected cities in Australia. In addition, the nearby towns of Kyogle, Casino, Coraki, Woodburn and Ballina are all regularly impacted by flooding in the Richmond River catchment. Climate change predictions show more intense periods of rain, potentially affecting flooding predictions in cities and towns along the Richmond River. The economic impacts of flooding in Lismore and surrounding towns are well documented, with one estimate following the March 2017 flood in Lismore, suggesting $3 billion. To address the long term, strategic needs of flood mitigation in the entire Richmond River Catchment, we need to effectively invest in understanding: • The flooding characteristics of the Richmond River and each of its main tributaries, through catchment wide hydrological and hydraulic flood models. • The available flood mitigation options that can provide relief to the broader community from the impact of flooding. Existing calibrated and reliable flood models would be utilised to build the catchment wide models, ensuring that existing knowledge is incorporated and work is not duplicated.
Intent	Ensure that the NSW and Local Governments and the affected communities have the required data and knowledge to inform flood mitigation actions and planning in the Richmond River.
Challenges Addressed	• The Richmond catchment is a large and complex catchment, that covers many local government areas. Under the current flood mitigation frameworks, each LGA manages their urban areas resulting in a piecemeal approach limiting the impact and effectiveness of solutions. • Lack of a contemporary, robust and validated flood model across the entire Richmond River catchment. • Ensuring the NSW and Local Governments and the affected communities have the required information to inform a broad range of flood mitigation actions in the Richmond River.
Potential combinations	This option could combine with: • Option 9. Managed aquifer recharge investigations and policy - to allow peak flood flows to be diverted off-stream to support aquifer recharge and reduce downstream flood impacts. • Option 17, Increased on-farm water storage - to increase water extraction from rivers, particularly in the higher parts of the catchment during higher flows, to potentially reduce the downstream impact of peak flood flows.

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	• Option 18. A grid of off-stream storage in the FNC region - to increase water extraction from rivers, particularly in the higher parts of the catchment during higher flows, to potentially reduce the downstream impact of peak flood flows. • Option 23. Improve stormwater management - to assist in delaying peak flows from towns and cities from reaching the river, and potentially assisting in reducing the peak flood impacts downstream. • Option 30. Northern River Watershed Initiative - to assist in quantifying the effectiveness and best areas for implementation of outcomes of the Initiative. • Option 31. River Recovery Program for the FNC: a region-wide program of instream works, riparian vegetation and sediment control - to inform the locations and type of work required under this Program, so that they are effective in the long term and contribute to a combination of outcomes.
Considerations	To be effective in addressing the long term, strategic needs for flood mitigation, the Richmond River's catchment boundary needs to drive this process, with one organisation leading the development of the work across the four LGAs, of Kyogle, Lismore City, Richmond Valley and Ballina Shire. Whilst the expertise and guidance of DPIE is important for the work, funding for this work needs to exist outside of their currently under-funded and short-term focus, so that a properly funded, multi-decade project can be considered.
Objective	Deliver and manage water local communities Enable economic prosperity Affordability

I trust this will address any concerns related to the recent works and once again I apologise for the inadequate consultation.

Yours faithfully

[redacted]

Regional Water Strategies Public Exhibition Submission Questionnaire

The NSW Government is taking action to improve the security, reliability, quality and resilience of the state's water resources. The Far North Coast Regional Water Strategy will deliver healthy and resilient water resources for a liveable and prosperous regional NSW.

This draft strategy is being developed by the Department of Planning, Industry and Environment and provides an opportunity to re-shape what we are doing in regional water management and chart a path forward.

We have been working with local water utilities, councils, communities, Aboriginal people and other stakeholders to ensure local and traditional knowledge informs the draft Far North Coast Regional Water Strategy and that it serves the regional community, including First Nations, the environment and industry.

Your Voice is important

We have prepared this draft strategy to continue our discussions with you. We would like to hear your views on the draft strategy as a whole including the process we used to develop the strategy and the evidence that supports it. We are also seeking your feedback on the options presented in the draft strategy and whether you have any further information that could help us to assess the benefits and disadvantages of any of the options.

Please provide your feedback in the submission form below and email your completed submission to regionalwater.strategies@dpie.nsw.gov.au or post to Regional Water Strategies, Department of Planning, Industry and Environment, Locked Bag 5022, Parramatta NSW 2124 by **13 December, 2020.**

The questionnaire includes general questions about the regional water strategy including objectives, vision, modelling, opportunities and challenges. It also includes questions regarding the draft options along with personal information questions.

The questionnaire will take approximately 15 minutes to complete and your response can remain anonymous if you wish (see question 3).

Questions marked with an asterisk (*) require an answer.

If you have any questions about the questionnaire, please email:
regionalwater.strategies@dpie.nsw.gov.au

Making your submission public

We collect information about you, which may include personal information, to assess submissions in response to the department's dealings and activities, and perform other functions required to complete the project. This information must be supplied. If you choose not to provide the requested information we may not be able to assess your submission.

To promote transparency and open government, we intend to make all submissions publicly available on our website, or in reports. Your name or your organisation's name may appear in these reports with your feedback attributed.

If you would like your submission and/or feedback to be kept confidential, please let us know when making your submission. You will be asked for your confidentiality preference at question 1.

If you request your submission be kept confidential, it will not be published on our website or included in any relevant reports, however it will still be subject to the *Government Information Public Access Act 2009.*

Your submission will be stored securely consistent with the department's Records Management Policy and you have the right to request access to, and correction of, your personal information held by the department.

Further details can be found in our privacy statement available on our website.
https://www.industry.nsw.gov.au/privacy

Information from this form is collected for the purpose of receiving your feedback on the draft regional water strategy. The supply of this information is voluntary. Your details will be stored in NSW Department of Planning, Industry and Environment records. Information will be stored and managed in accordance with provisions under the Privacy and Personal Information Protection Act 1998. It will not be used for any other purpose and will not be given to any other third party except where required by law. To access or correct your personal information, contact us using the information at dpie.nsw.gov.au/contact

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1. Information on confidentiality and privacy *

I give my permission for my submission to be publicly available on the NSW Department of Planning, Industry and Environment website.

◯ Yes ◯ No

I would like my personal details to be kept confidential.

◯ Yes ◯ No

2. Your details

Email address *

Name *

Address *

Contact phone number *

Do you identify as an Aboriginal person?

◯ Yes ◯ No

Are you an individual or representing an organisation?

◯ Individual ◯ Organisation

3. Organisation or business details

Who do you represent?

◯ **Government:**
◯ Commonwealth ◯ New South Wales ◯ State other ◯ Local

◯ **Local Water Utility**

◯ **Peak representative organisation:**
◯ Environment ◯ Industry ◯ Business group or business chamber ◯ Community organisation

◯ **Other**

4. Draft regional water strategy objectives and vision

The draft Far North Coast Regional Water Strategy is one of 13 strategies (12 regional water strategies and a Greater Sydney Water Strategy) being developed by the department. All regional water strategies are being developed in line with the following objectives:

- **Deliver and manage water for local communities**
  - Improve water security, water quality and flood management for regional towns and communities.
- **Enable economic prosperity**
  - Improve water access reliability for regional industries.
- **Recognise and protect Aboriginal water rights, interests and access to water**
  - Including Aboriginal heritage assets.
- **Protect and enhance the environment**
  - Improve the health and integrity of environmental systems and assets, including by improving water quality.
- **Affordability**
  - Identify least cost policy and infrastructure options.

All draft regional water strategy options need to address at least one of the above objectives.

Our vision for this strategy is to have healthy and resilient water resources (that withstand extreme events and adapt to these changes) for a liveable and prosperous Far North Coast region.

To achieve this, we need to position the region so there is the right amount of water of the right quality, delivered in the right way to meet the future needs of Aboriginal people, towns, communities, industries and the environment

Do you support this vision for the Far North Coast Regional Water Strategy?

◯ Yes ◯ No

If no, please outline your vision for the long term management of water resources in this region?

5. Information and modelling used to develop the Far North Coast Regional Water Strategy

The draft Far North Coast Regional Water Strategy packages the most up to date information and evidence with all the tools we have – policy, planning, behavioural, regulatory, technology and infrastructure solutions.

We have used the following information to develop the draft Far North Coast Regional Water Strategy:

- **New climate data**
  - Observed historical climate data - recorded rainfall, temperature and evaporation data from the past 130 years.
  - Paleoclimate data - scientific reconstructed data using sources such as tree rings.
  - Climate drivers – key drivers of wet and dry periods.
  - Climate change scenarios.
- **Review of existing studies**
  - to identify drivers and risks for water resource management.
- **Community engagement**
  - Local councils and joint council organisations.
  - Aboriginal peak bodies and Aboriginal community groups.
  - Review of previous water management consultations.

A) Do you have any comments about the information used to develop this strategy?

B) Please provide details if there is additional information you think we should consider?

6. Stochastic modelling method

We used a stochastic modelling method (based on the statistical characteristics of the new climate data) in order to get a dataset covering up to 10,000 years. This enables us to quantify the natural variability and extremes in the region with greater certainty.

A) Do you have any comments about the modelling method used to develop this strategy?

B) Is there any additional information that you believe could help us assess the benefits and disadvantages of draft options?

7. Opportunities and challenges for water management in the Far North Coast region

During the Far North Coast Regional Water Strategy drafting stage, the following opportunities, risks and challenges were identified.

- **Changing climate conditions will increase the pressure on water resources and water management challenges facing the region**
  - Droughts may be more severe in the future and the region is also likely to see seasonal shifts in rainfall patterns.
  - Flooding is a major issue and can adversely affect towns, business and communities.
  - Sea levels are predicted to rise in the region by between 0.31 and 0.88 metres by 2090.
  - Water extraction from waterways to meet community and industry demands is likely to increase due to decreases in rainfall and greater evaporative losses.
- **Towns, communities and industries in the region are susceptible to climate variability and change**
  - Population growth, increased water demand and climate variability will place increasing challenges on town water supplies and industry sectors.
  - The region is not used to managing the extreme dry periods and there is relatively little water storage available.
  - Saline intrusion due to sea level rise will make some supplies unfit for use and affect sewerage treatment plant operations.
  - Sea level rise effects may be magnified as freshwater inflows reduce.
- **Protecting water-dependent environmental assets and native species is challenging**
  - Water for the environment is not actively managed and largely dependent on stream flows.
  - Reductions in river flows and estuary inflows are forecast.
  - Water quality problems are present and projected lower flows, higher temperatures and sea level rise may further reduce water quality.

- **Better management of groundwater**
  - Groundwater is found in fractured rocks, coastal sands and smaller alluvial aquifers.
  - Urbanisation in coastal areas is impacting groundwater recharge patterns and increasing pollution risks.
  - Greater knowledge and information on groundwater is needed to ensure its sustainability across the region.
- **Opportunities to improve how we manage and use water in the region**
  - Link population growth with new investment to ensure water security into the future.
  - New climate information offers opportunities to review and update water sharing and access rules.
  - Diversify town water and industry supplies using new sources such as recycled water and desalination.
  - Involve Aboriginal communities more directly in water decision-making and incorporate traditional knowledge into water management.
  - Options to support the regions farmers to mitigate water security risks and accommodate shifting market trends.
  - Investigate options to improve Toonumbar Dam's low rate of use, reduce its financial burden and maximise its value to the community.

A) Do you have any comments on the opportunities, risks and challenges identified?

B) Are there any additional opportunities, risks and challenges that we should consider and what options could address these?

8. Draft Far North Coast Regional Water Strategy options

We have developed a long list of options that could be included in the final Far North Coast Regional Water Strategy. The options consider the opportunities and challenges facing the region and meet at least one regional water strategy objective.

The 39 options are grouped in different categories, being:

- Maintaining and diversifying water supplies.
- Protecting and enhancing natural ecosystems.
- Supporting water use efficiency and conservation.
- Strengthening community preparedness for climate extremes.

In addition the final long list of options will also include a focus on:

- Improving recognition of Aboriginal people's water rights, interests and access to water.

Only feasible options will be progressed to the final strategy stage – following a rigorous assessment process.

We are seeking your feedback to inform the options assessment process. Further details on each option is outlined in the strategy documents and a summary included below.

Maintaining and diversifying water supplies

1. Interconnection of independent water supplies in the region to the Rous County Council network
2. Interconnection of Rous County Council and Tweed Shire Council bulk water supplies
3. Use Toonumbar Dam to augment town water supplies
4. Connect the regional water system to the South East Queensland water grid
5. Vulnerability of surface water supplies to sea level rise
6. Remove impediments of water use reuse projects
7. Indirect potable reuse of purified recycled water
8. Direct potable reuse of purified recycle water
9. Manage aquifer recharge investigations and policy
10. Decentralise desalination
11. Regional desalination
12. Raise Clarrie Hall Dam level
13. New Dam on Byrrill Creek
14. New Dunoon Dam on Rocky Creek
15. Increased harvestable rights
16. Provide purified recycled wastewater for industry and rural users
17. Increased on-farm water storage
18. A grid of off-stream water storages in the Far North Coast Region
19. Raise Toonumbar Dam level

Protecting and enhancing natural ecosystems

20. Establish sustainable extraction limits for Far North Coast surface water and groundwater sources
21. Establish and/or increase environmental water releases from major storages in the Far North Coast
22. Convert low flow water access licences to high flow water access licences
23. Improve stormwater management
24. Bringing back riverine and estuarine habitat and threatened species
25. Fish-friendly water extraction
26. Improve fish passage in the Far North Coast region
27. Addressing cold water pollution
28. Characterising coastal groundwater resources
29. Protecting ecosystems that depend on coastal groundwater resources
30. Northern Rivers Watershed Initiative
31. River Recovery Program for the Far North Coast: a region-wide program on instream works, riparian vegetation and sediment control

Supporting water use efficiency and conservation

32. Improved data collection and information sharing
33. Active and effective water markets
34. Regional Demand Management Program
35. Regional network efficiency audit

Strengthening community preparedness for climate extremes

36. Apply the NSW Extreme Events Policy to the Far North Coast region
37. Protecting coastal groundwater resources for town water supplies and rural water users
38. Planning for climate change impacts on coastal groundwater resources
39. Planning for land use pressures on coastal groundwater resources

A) Which five (5) options do you think are *most* important?

Please list the option numbers in order of importance with the first option being most important

Option Number ☐
Option Number ☐
Option Number ☐
Option Number ☐
Option Number ☐

B) Please comment on why you think these options are most important?

C) Which five (5) options do you think are *least* important (if any)?

Please list the option numbers in order of least importance with the first option being least important

Option Number ☐
Option Number ☐
Option Number ☐
Option Number ☐
Option Number ☐

D) Please comment on why you think these options are least important?

E) Do you have any comments on the draft options?

9. Option combinations

The option list provided in the draft strategy also identifies potential combinations of options. These combinations recognise that most options require associated works, further assessments and/or legislative, policy and planning changes to ensure they address the risks and challenges identified in the Far North Coast region and do not have unintended impacts.

A) Do you have any thoughts on how the options could be combined with other options?

B) Are there additional options that we should consider?

10. Other comments

Do you have any other comments about the Far North Coast Regional Water Strategy?

11. How did you hear about the public exhibition of this strategy?

We are interested to know how you heard about the opportunity to make a submission. Please indicate the communication methods below:

- ◯ Newspaper
- ◯ Radio
- ◯ Department of Planning, Industry and Environment website
- ◯ Direct email
- ◯ Social media
- ◯ Have your say NSW Government website
- ◯ Communication from peak body
- ◯ Other

12. Additional Information and submission process

If you would like to provide any supporting documents to help us understand your view, please either, email these from the same email you provided in this form, or attach supporting documents to this form if you are returning your submission by mail.

All submissions on the draft Far North Coast Regional Water Strategy will be reviewed following the public exhibition period. Further targeted engagement will be undertaken along with the final phase of stakeholder engagement later in the year to review the final documents.

Please email your completed submission and supporting documents to regionalwater.strategies@dpie.nsw.gov.au

or post to Regional Water Strategies, Department of Planning, Industry and Environment, Locked Bag 5022, Parramatta NSW 2124 by 13 December, 2020.

Further details on all regional water strategies can be found on our website https://www.dpie.nsw.gov.au/regional-water-strategies

Thank you for your submission.