



North Coast Draft Regional Water Strategy

What we heard

**Public Consultation
December 2021**

Find out more: www.dpie.nsw.gov.au

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Cover image: Bellingen River, Fernmount (Image: Destination NSW)

Acknowledgments: The NSW Government acknowledges Aboriginal people as Australia's first people practising the oldest living culture on earth and as the Traditional Owners and Custodians of the lands and waters. We acknowledge that the people of the Bundjalung, Githabul, Yaegl, Anaiwan, Gumbaynggirr, Dunghutti and Biripi Nations hold a significant connection to the lands in which the North Coast Regional Water Strategy falls upon.

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Introduction

The Department of Planning, Industry and Environment (the department) is developing 12 regional water strategies to provide long-term tailored water management solutions for NSW's regional communities.

Our vision for the North Coast Regional Water Strategy is to support the delivery of healthy, reliable and resilient water resources for a liveable and prosperous region. To achieve this, we need to position the region so there is the right amount of water of the right quality available to people, First Nations / Aboriginal communities, towns, industries and the environment.

The draft North Coast Regional Water Strategy (the draft strategy) is one of eight draft regional water strategies that have been released for public exhibition in 2020-2021.

An extensive engagement and consultation program, with the general public and First Nations / Aboriginal people, accompanied the release of the draft strategy. This included several face-to-face meetings and an online webinar. Submissions were also called for during the public exhibition period.

This report summarises the key issues we heard during the public exhibition period and highlights how your feedback has informed the next steps in the development of the North Coast Regional Water Strategy.

Figure 1 illustrates the process for developing the regional water strategies.

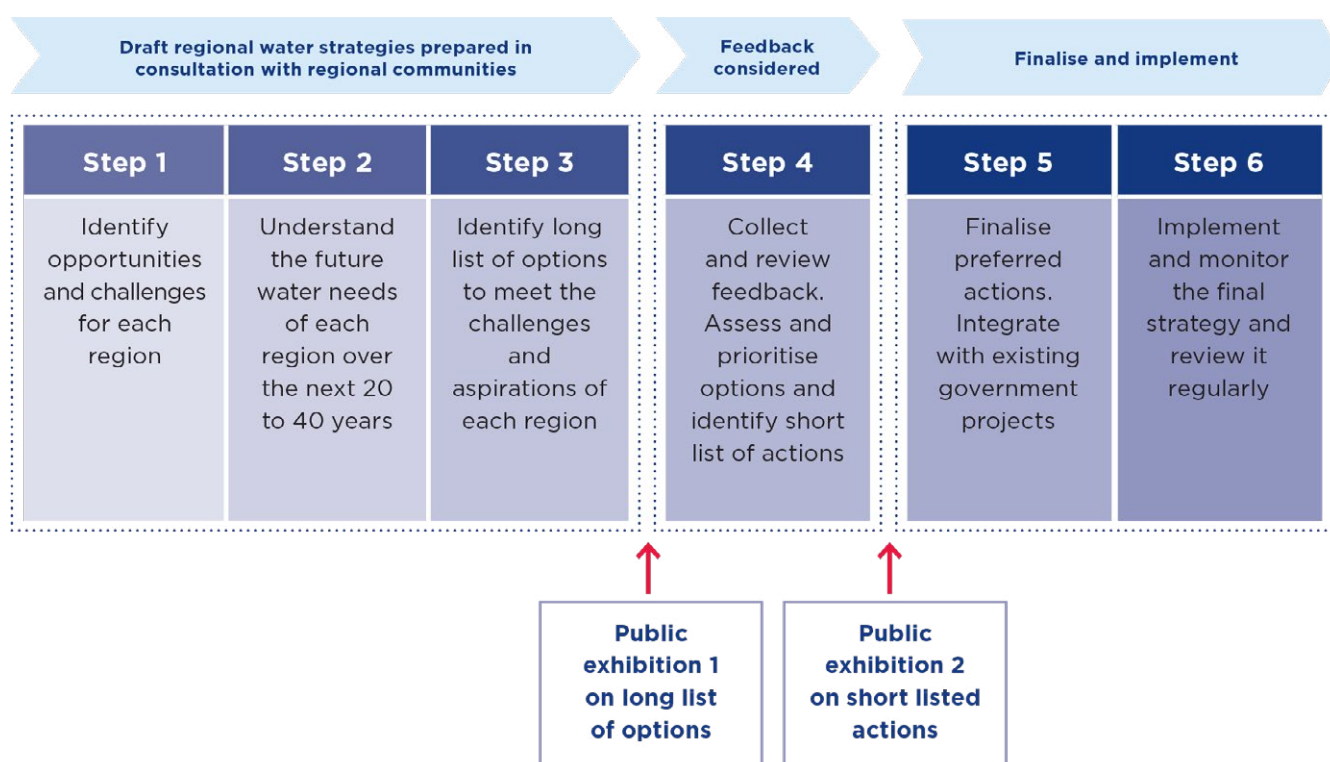


Figure 1: Regional water strategies – six step approach.

Engagement approach

Our engagement approach for the regional water strategies program is to share information, gather feedback and collaborate with key stakeholders on the development of the North Coast Regional Water Strategy to ensure regional communities have influence in its development.

The department is using a phased engagement approach, as illustrated in Figure 2. The timeline for engagement activities in Phase 2 (public exhibition) is shown in Figure 3.

How we engaged

The department's engagement program involved:

- Consultation with councils in the North Coast area prior to the draft strategy being released
- A webinar held on 30 March 2021, available at http://d1z7estv58uudk.cloudfront.net/webcast/20210330_DPIE_1000_captioned.mp4
- Four public information sessions held in:
 - Coffs Harbour (Tuesday 20 April)
 - Grafton (Wednesday 21 April)
 - Kempsey (Thursday 22 April)
 - Armidale (Wednesday 28 April)
- Six information sessions with First Nations / Aboriginal people in:
 - Grafton (Tuesday 16 March)
 - Yamba (Wednesday 17 March)
 - Nambucca Heads (Thursday 18 March)
 - Armidale (Thursday 29 April)
 - Kempsey (Friday 30 April)
 - Armidale (Friday 28 May)

- Two peak body stakeholder meetings held in March and April 2021
- A formal stakeholder submissions process, with 52 submissions received.

These methods enabled the department to share information about the regional water strategies program and seek feedback on the draft strategy and the long list of potential options.

Who we engaged

During the 10-week exhibition period from 3 March 2021 – 16 May 2021, the department communicated and engaged with:

- Community members and peak bodies from First Nations / Aboriginal communities
- Local government and joint organisations
- Business and industry stakeholders
- Landholders and other individuals
- Peak representative organisations
- Individual members of the public.

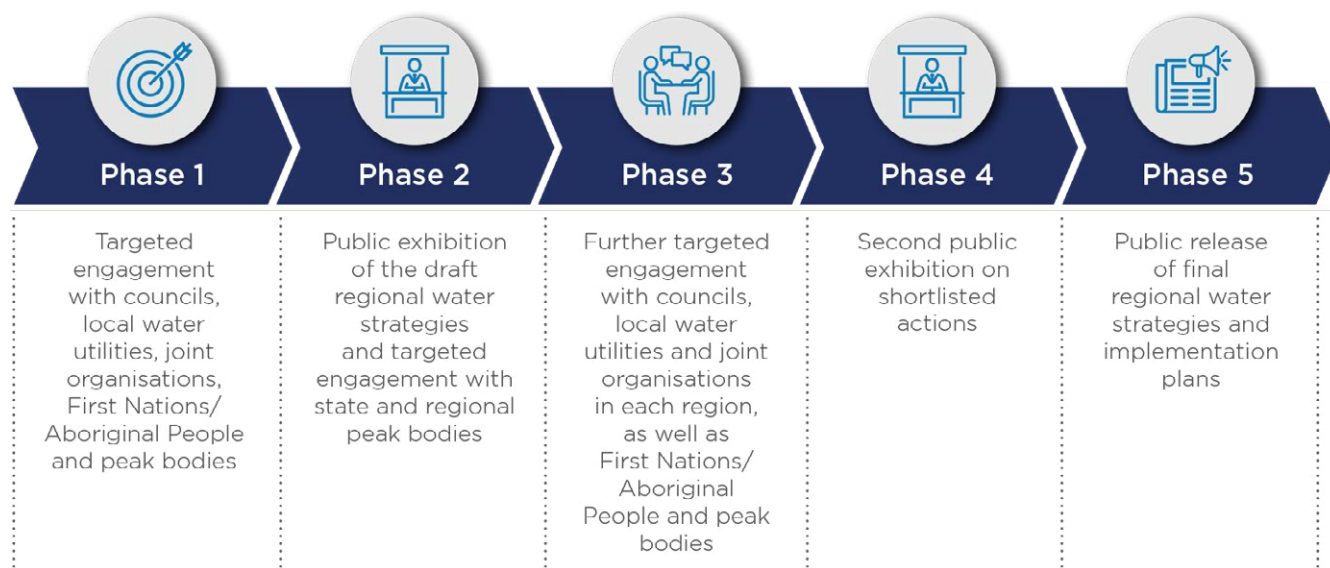


Figure 2: Phased approach to engagement for regional water strategies engagement program.

Timeline for engagement



Figure 3: Timeline for the engagement activities in the North Coast region.

Engagement at a glance

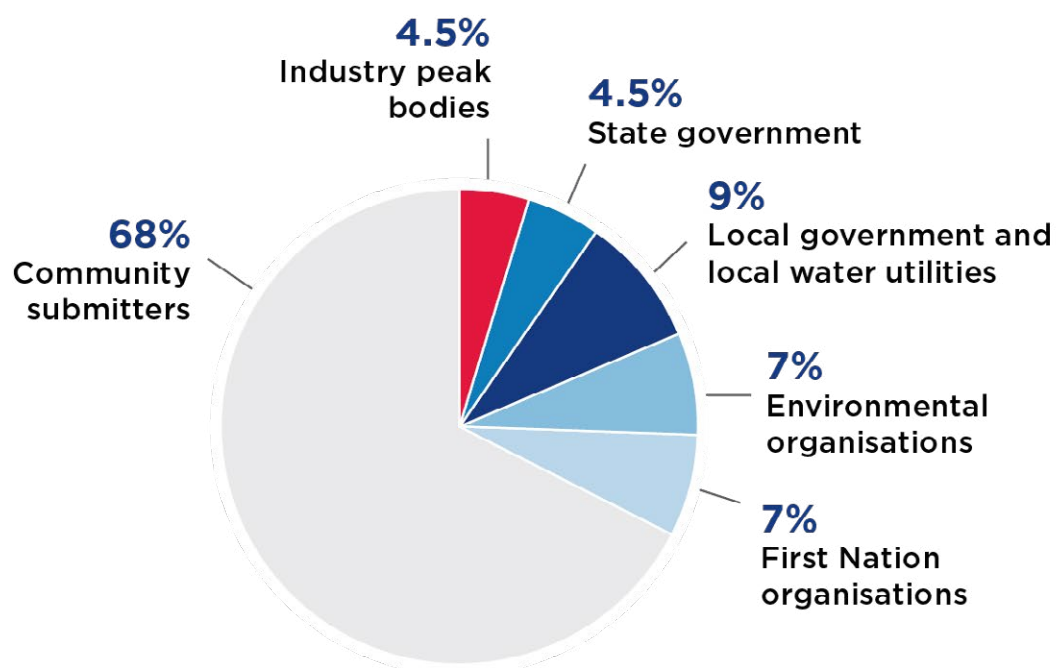


Figure 4: Overview of engagement in the North Coast region.

Coastal harvestable rights review

The NSW Government, through the Department of Planning, Industry and Environment (the department) has undertaken a review of harvestable rights for all coastal-draining catchments including the North Coast. The review explored the potential benefits and impacts of increasing the harvestable rights percentage, as well as allowing harvestable rights dams on third-order streams. The community consultation and submission period ran from 8 February to 16 May 2021.

The draft North Coast Regional Water Strategy (the draft strategy) has identified increasing harvestable rights (Option 14) as an option which could support greater flexibility to communities, towns and industries in securing their existing and future water needs. Given the relevance of the Coastal Harvestable Rights Review to the North Coast region and the overlap in consultation periods for both projects, this review process will consider feedback received by the department during public consultation for the Coastal Harvestable Rights Review.

Twenty five submissions were selected for review from over 500 submissions received during the Coastal Harvestable Rights Review because they were from a submitter in the North Coast region or from an organisation / industry peak body whose submission addressed the entire NSW coast and reflected on the North Coast region. They represent a mix of individuals, organisations and government agencies, including 16 relating to the North Coast region and nine state-wide submissions.

Of these 25 submissions, 44% were in support of increasing harvestable rights, 52% were opposed and one submission was neutral. Some who opposed an increase also suggested improving regulation of existing harvestable rights limits or reversing harvestable rights entirely. Consideration was also given to issues raised that were relevant to the draft strategy.

Our vision for the North Coast Regional Water Strategy is to support the delivery of healthy, reliable and resilient water resources for a liveable and prosperous region. To achieve this, we need to position the region so there is the right amount of water of the right quality available to people, Aboriginal communities, towns, industries and the environment.

*Mann River near Cangai
Image: My Clarence Valley*

What we heard

During the public exhibition we received 52 written submissions in response to the draft North Coast Regional Water Strategy and long list of proposed options.

The vision for the draft North Coast Regional Water Strategy was supported with comments reinforcing the need for more healthy, reliable and resilient water resources. There was also general support for the five objectives identified for the strategy, with some highlighting the need to balance these objectives in order to achieve improved water management and water security.

The department also heard that the next phase of the North Coast Regional Water Strategy should be accompanied by an open, transparent and broad-scale consultation process to ensure all stakeholder voices are heard and a broad cross-section of the community is represented in the discussion. We will be undertaking a further round of public consultation on a shortlisted set of actions before the North Coast Regional Water Strategy is finalised.

The consultation and engagement program for the draft strategy highlighted a wide variety of views on a range of issues. These issues can be categorised under the following themes:



Water quality, river health and ecosystems



Climate change



First Nations / Aboriginal people's water rights, interests and access to water



Water conservation, reuse and recycling



Managing increasing demand from different users



New and existing infrastructure



Data collection and sharing for improved compliance and enforcement

The following sections summarise the feedback received for each of these themes, as well as for the categories of proposed options identified in the long list within the draft strategy. Feedback on the Long List of Options is detailed from page 20 of this report.

Themes

*Nambucca Heads
Image: Jaime Plaza van Roon*



Theme 1: Water quality, river health and ecosystems

The need to protect and maintain healthy rivers and ecosystems was identified as the most important priority in feedback. Related to this was the imperative to improve water quality to achieve better environmental outcomes. There was general support for options that would protect and enhance healthy waterways and it was suggested that a more sustainable approach should be the priority for future water management and planning.

Key support

- Options that would protect and enhance healthy waterways were given support with a more sustainable approach to water management identified as the priority.
- Protecting the environment and addressing damage that had been caused in the past by poor land and water management were endorsed.
- Support for desalination as an alternative water source because it's sustainable and can alleviate environmental stress.
- Regeneration of riparian ecosystems.
- Understanding the positive impacts of flooding on ecosystems and waterways was an important opportunity, especially for protecting fish species.

Key concerns

- How water quality in the region is being impacted by pesticides, land clearing, agriculture, gravel extraction, coastal dune sand removal and other land uses.
- Opposition to infrastructure options that interfere with the natural environment rather than protect it such as damming creeks and gullies.
- The importance of natural water flows to river health and ecosystems and opposition to options that might affect flows.
- How changes to harvestable rights could impact the downstream environment, in particular sensitive estuaries which are already under stress.
- Concerns for the health of wetlands in the region due to the impact of development.
- Turbidity caused by clearing, bushfires and other impacts identified as a concern for water quality.
- The management of farm run-off is an ongoing source of poor water quality in the region and could be addressed further in the strategy.



Theme 2: Climate change

There was strong support for the strategy’s long-term vision and its consideration of future climate risks. The inclusion of existing climate studies as well as new climate data and modelling was praised. However, feedback suggested there should be further emphasis on options that could help waterways cope with predicted impacts such as low-flow periods and floods.

Key support

- Addressing climate change and how it influences decisions about water management and use.
- The strategy acknowledges that climate extremes are likely to become more frequent and severe.
- A desire to understand how climate change will impact water availability and what this means for industry and town water security, particularly when demand is increasing.

Key concerns

- Opposition to options that divert or interfere with existing waterways given the future impact of climate change on water levels in local rivers.
- Evidence of local farmers who have lived experience of the land over many generations has not been considered alongside new climate data.
- Further emphasis on the impacts of climate change on waterways and how they will cope with this risk and uncertainty into the future.
- How climate change might impact coastal groundwater resources and further consideration of this in the strategy.
- How the region will manage more intense rainfall events given its coastal locality and the likelihood of flooding.
- The changing nature of industry in the area in the context of climate change.



Theme 3: First Nations / Aboriginal people's water rights, interests and access to water

There was broad support for improving the recognition of First Nations / Aboriginal people's water rights, interests and access to water. Given their understanding and connection with the environment, many stakeholders felt that local First Nations / Aboriginal people had a valuable role to play in long-term water management. Stakeholders also emphasised the importance of involving First Nations / Aboriginal people in the development of the strategy and its implementation.

Key support

- The importance of water to First Nations / Aboriginal culture, as well as physical access to the river and protecting cultural sites.
- Support for the inclusion of First Nations / Aboriginal people's interests as an objective of the strategy.
- Opportunities to share traditional knowledge were identified through visits to Country and the employment of river rangers and cultural water officers.
- The formation of Aboriginal Water Advisory Committees to achieve greater participation in water management and decision-making.
- Opportunities to improve cultural, economic and environmental outcomes including employment programs, jobs on Country and training in water management.
- Support and interest in improving rights to water, including targeted water licences for First Nations / Aboriginal communities, Aboriginal businesses and cultural use.

Key concerns

- Cultural options included in other regional water strategies should be incorporated in the North Coast strategy.
- First Nations / Aboriginal rights, interests and access should be given greater focus in the strategy, with opportunities to involve them in long-term water management strengthened and prioritised.
- Greater involvement in the decision-making process for finalising the long list of options and greater transparency with First Nations / Aboriginal communities.
- First Nations / Aboriginal people's rights, interest and access should be interwoven throughout the strategy, especially where options have dual objectives.
- There were concerns from First Nations / Aboriginal communities about water quality, river changes and diversions as well as current and legacy industrial land uses.
- The need to acknowledge the diversity within the Aboriginal nations, and to recognise the various uses communities have for water along the rivers as individual groups.



Theme 4: Water conservation, reuse and recycling

Many comments highlighted the need to conserve water and supported options that facilitated this. The importance of water resilience, reuse and recycling was recognised. However, there were a number of practical challenges raised.

Key support

- Support for potable reuse for town water supply is growing in some communities.
- An opportunity to build acceptance and understanding of reuse and recycling options.
- Support from industry for increased use of treated wastewater for agricultural and horticultural use.
- Desire for new water savings measures and for households to capture rainwater.
- Further investigation of integrated on-farm treatment systems to enable water reuse.
- Suggestion that recycling effluent could be used for industrial purpose and watering sporting fields, parks etc.

Key concerns

- Impacts to the downstream environment, particularly from large uncontrolled discharges of recycled wastewater by horticultural operators.
- The capacity of government to regulate and undertake compliance if there was an increase in recycled water use.
- The willingness of the customer to pay for recycled water.
- The need to educate the community if recycled water were to be a viable option for town water use.
- The requirement for improved treatment of recycled water if it was proposed for agricultural and horticultural use.
- Treatment challenges and costs are major barriers for local water utilities.



Theme 5: Managing increasing demand from different users

Increasing demand for water in the North Coast region was recognised as an important consideration for the strategy. There were concerns that increasing demand from industry as well as predicted population growth would place the current water supply under greater pressure.

Key support

- Support for a more secure water source for industry, especially in extreme events such as drought.
- Industry peak bodies and water users supported water security given the value of their industries to the local and state economy. Long term viability and sustainability of these industries is underpinned by water security.
- The focus of the strategy should remain on water security for all users.
- Support for options that adopt innovative approaches and provide a sustainable water supply for communities over the long term.
- Future demand as the most relevant driver for water management going forward.

Key concerns

- The increasing demand for water from the growing horticultural and agricultural industry, particularly industries that require irrigation as opposed to rain-fed crops.
- The strategy does not adequately consider the impact of population growth and increasing demands on water sources.
- Opposition to options that provide water to industrial-scale horticulture users, given limited water supplies.
- Addressing the issues that competition and demand for water peaks in certain months.
- Further action should be taken to enhance water security for irrigated agriculture.
- Suggestion for the inclusion of population statistics including forecasted growth to assist in long-term planning.
- The need to guarantee a water supply for growing coastal communities.



Theme 6: New and existing infrastructure

A number of water infrastructure options are proposed in the strategy with stakeholders raising various opportunities and challenges. There was general concern for infrastructure projects that diverted water from natural waterways and questions relating to staging and environmental impacts. Infrastructure options that allowed for water reuse or promoted sustainable water management were supported.

Key support

- Strong appetite for innovative infrastructure solutions that could alleviate stress to the environment while providing secure water sources.
- Support for desalination because it utilises water already available and repurposes it (especially if powered by renewable energy).
- Upgrading town water treatment facilities was seen as important to improve water quality and environmental outcomes.

Key concerns

- Opposition to options for inland diversion identified in the Border Rivers and Namoi strategies that would affect water sources in the North Coast region.
- Concern regarding the expansion of the Clarence – Coffs Harbour Regional Water Supply Scheme. Feedback emphasised the need to keep water local and viewed this option as ecologically unsustainable.
- Opposition to augmenting the Shannon Creek Dam as it would further stress the Nymboida River, impacting river health and ecosystems.
- General scepticism around the viability of new pumped hydro projects in the region due to cost, the time for the projects to come online and the potential to impact National Parks and wildlife.



Theme 7: Data collection and sharing for improved compliance and enforcement

Improved knowledge of water use and data collection was seen by many as essential to water management in the long term. This was specifically linked to concerns around a lack of compliance and confidence in government to regulate water use by horticultural and agricultural industries in the region.

Key support

- A data-informed approach to water management is important to long-term sustainable management.
- Support for improved data collection on water use and patterns to improve transparency and community confidence.

Key concerns

- The North Coast region currently has limited knowledge of water use, particularly when it comes to extraction rates for industry uses.
- Meters on water pumps and further monitoring of agricultural / horticultural water use to better understand extraction rates.
- The need to effectively monitor and enforce regulation around water extraction, farm run-off, uncontrolled discharges of recycled water and other compliance issues.
- Opposition to options that provide water to industrial-scale horticulture users given a lack of regulation and compliance.
- Lack of trust in government to enforce new and existing compliance measures.

Options

*Dangar Falls, Dorrigo
Image: Annette Corlis*

Long list of proposed options

Maintaining and diversifying water supplies

1. Expand the Clarence-Coffs Harbour Regional Water Supply Scheme
2. Portable desalination
3. Emergency water supply provided by new pumped hydro storage projects
4. Augment Shannon Creek Dam
5. Upgrade major town water treatment facilities
6. Repurpose existing assets to provide emergency storage for local industries
7. Vulnerability of surface water supplies to sea level rise and saline intrusion
8. New industry and rural licence category within major council storages
9. Protecting coastal groundwater resources for town water supplies and rural water users
10. Remove impediments to water reuse projects
11. Increase use of recycled wastewater for intensive horticulture
12. Indirect potable reuse of purified recycled water
13. Direct potable reuse of purified recycled water
14. Increased harvestable rights
15. Increased on-farm water storage

Protecting and enhancing natural systems

16. Establish sustainable extraction limits for North Coast surface water and groundwater sources
17. Convert low-flow water access licences to high-flow water access licences
18. Long-term water plans to support healthy coastal waterways
19. Characterising coastal groundwater resources
20. Protecting ecosystems that depend on coastal groundwater resources
21. Improve stormwater management and estuarine habitats
22. Bringing back riverine and estuarine habitats and threatened species
23. Fish-friendly water extraction
24. Improve fish passage in the North Coast region
25. Addressing cold water pollution
26. Coastal, regional focused water reference groups
27. Planning for climate change impacts on coastal groundwater resources
28. River Recovery Program for the North Coast: a region-wide program of instream works, riparian vegetation and sediment control

Supporting water use and delivery efficiency and water conservation

29. Improved data collection on water use and patterns
30. Active and effective water markets
31. Apply the NSW Extreme Events Policy to the North Coast region
32. Regional demand management program
33. Regional network efficiency audit
34. Regional capacity building program and skills hub
35. Support for local councils to lift performance standards
36. Regional framework to manage restrictions for non-urban water users of town water

Table 1: Long list of proposed options for the North Coast region.

Options 1-15: Maintaining and diversifying water supplies

Options that prioritised water reuse and recycling (Options 2, 10, 12 and 13) were most supported. However, stakeholders raised concerns including potential impacts to downstream environments and the need for compliance and monitoring. Some stakeholders strongly opposed options that would provide additional water to horticultural and agricultural industries (Options 8, 11, 14, and 15), emphasising the need to provide water to growing towns first and limited trust in the capacity of government to regulate and undertake compliance. Some infrastructure options (such as Options 1, 3, 4) were opposed due to practical challenges such as being unaffordable or ecologically unsustainable.

Options	Summary of feedback received
1. Expand the Clarence-Coffs Harbour Regional Water Supply Scheme	There was strong opposition due to perceived environmental impacts. Specific reasons include: • Inter-catchment diversion of water is ecologically unsustainable • It would have a detrimental effect on the Nymboida River below the offtake point and in both the Mann and Clarence rivers further downstream, threatening the viability of downstream industries which also depend on the river • Impacts to river health and biodiversity • Climate change is likely to affect the flow of these rivers and this hasn't been adequately considered • Concern that it would be used beyond emergency situations • In droughts, this option could place additional stress on the Nymboida River, the source of water from Shannon Creek Reservoir which feeds the scheme • Existing off-stream storage managed by Nambucca Valley Council is sufficient to deal with prolonged drought until other in-catchment options are implemented • The Clarence-Coffs Regional Water Supply Scheme already has problems and extending the system to other communities would likely threaten the security of the supply to existing users.

Options	Summary of feedback received
2. Portable desalination	There was support for portable desalination, based on the following justifications: • It has a positive environmental impact when compared to damming rivers and streams to provide town water • It utilises water already available and repurposes it. Stakeholders suggested the following amendments or additions to this option: • Any desalination should be powered by renewable energy • Solar thermal desalination should be considered during extended periods of drought • Fixed units should be used instead of portable units • Permanent desalination is preferred to portable desalination • It should also be used for townships. Two councils in the region are already investigating desalination to secure future water supplies. Some stakeholders opposed desalination, referring to it as a last-resort technology that is expensive and not necessary in the Clarence River catchment.
3. Emergency water supply provided by new pumped hydro storage projects	There was opposition to pumped hydro storage projects due to: • The economic cost and time taken for the project to come online • It would be extremely difficult to provide water to Armidale due to the large elevation difference • General scepticism around the viability of the Oven Mountain Pumped Hydro project and the expectation that there will be better options available, given the advancement of technology by the time this project is complete • Potential to impact national parks and wilderness in the area. One stakeholder noted that this option would have only a minor environmental impact on the Macleay River.

Options	Summary of feedback received
4. Augment Shannon Creek Dam	There was strong opposition for the following reasons: • The potential for adverse impacts on natural waterways and the environment • Turbidity problems in the Nymboida River currently prevent the dam being filled to full capacity • There were significant biodiversity impacts when the dam was built and enlarging it would further impact endangered and vulnerable species • A combination of a ‘transparent’ licence and an increased flow extraction limit may mean that an augmented dam would never be filled to capacity • Possible future changes to approval requirements could preclude the viability of this option • The dam is currently adequate to support the areas it was designed for. One stakeholder noted that augmentation should have a negligible impact on the natural flow regime of the Nymboida River as this is an off-river storage. However, rules for harvesting flows from the Nymboida River would be critical to minimising the impact of the enlarged storage.
5. Upgrade major town water treatment facilities	Stakeholders commented in support of the option for the following reasons: • The potential for improved water quality and consistency • The option would be preferred to increasing reliance on ground and surface water sources.
6. Repurpose existing assets to provide emergency storage for local industries	There was overall support for this option, however it was noted there may be limited opportunities across the region and it should be assessed on a case-by-case basis.
7. Vulnerability of surface water supplies to sea level rise and saline intrusion	There was limited discussion of this option, although one stakeholder noted that understanding the impacts of sea level rise would assist in determining the need for additional sources of water.

Options	Summary of feedback received
8. New industry and rural licence category within major council storages	There was strong opposition to this option, with stakeholders emphasising the importance of providing water sustainably to a growing population before creating new licences for industry. Further reasoning included: • New industries should be based on highly efficient water use and treated wastewater. The strategy should not cater to industries unsuited to the region • Agricultural water needs should not be considered equivalent to human water needs • Concern that downstream ecologies would be degraded, as new licences would take more water from existing town water storages, reducing spill frequency and the magnitudes of small to moderate freshes downstream of these storages.
9. Protecting coastal groundwater resources for town water supplies and rural water users	There was mixed feedback on this option. Stakeholders emphasised the need to protect groundwater resources from over-extraction and noted that groundwater dependent ecosystems would need to be identified and mapped so they could be monitored and assessed for impact. Others noted this option was most relevant to the Bellingen area.
10. Remove impediments to water reuse projects	There was strong support for this option, with stakeholders emphasising the need to treat water as a finite resource. Further feedback included: • The disposal of the removed contaminants was a lesser issue than the negative environmental effects of alternative water sources • It had the potential to improve the resilience of urban water supplies • It could reduce stress on dams and other water supplies • This option should include on-farm water reuse projects • There is a need to manage nutrient loads and other contaminants for recharge into groundwater and surface water streams/bodies. • There is potential to incorporate storm water harvesting and use in urban situations.

Options	Summary of feedback received
11. Increase use of recycled wastewater for intensive horticulture	There was support for the concept of recycling wastewater, however stakeholders raised concerns around the practical implementation of this option, including: • The impact to the downstream receiving environment due to elevated phosphorus levels • The capacity of government to regulate and undertake compliance of water users • Unwanted volumes of treated water that would need to be disposed of during extended periods of wet weather / flooding • The willingness of water users to pay based on a cost-benefit analysis. One stakeholder noted that the quality of the water would need to be improved if it were to be used as a long-term sustainable water source for intensive horticulture.
12. Indirect potable reuse of purified recycled water	There was support for this option, however stakeholders made the following suggestions: • Implement a carefully designed education program to gain community support • Employ appropriate monitoring systems to ensure community health is not endangered • Ensure careful planning and monitoring to manage any potential impact to ecosystems. This option is already being considered by one council in the region and therefore presents a common solution. Some stakeholders did not support this option due to the perceived risk of serious contamination to the environment and to human health.
13. Direct potable reuse of purified recycled water	A number of stakeholders discussed Options 12 and 13 together. Those who distinguished between the two options were more supportive of direct potable reuse (Option 13) for the following reasons: • The perceived positive outcome of managing recharge under stress • The option supports a growing population in a sustainable way • The option reduces stress on dams and other water supplies. Some stakeholders did not support this option due to perceived risks to human health.

Options	Summary of feedback received
14. Increased harvestable rights	There is opposition to increasing harvestable rights for the following reasons: • Impact to the downstream environment, particularly to sensitive estuaries • Drinking water supply for the growing population of Coffs Harbour could be made less secure • Lack of compliance from water users could result in illegal overuse of water • Potential to impact water supply to Malpas Dam • Little trust in the community that government could effectively manage and monitor • Added pressure to aquatic ecosystems. It was suggested limits should be reviewed on a catchment-by-catchment basis as modelling indicates different levels of impacts among catchments. Modelling may show that it is possible to increase extraction during periods of high-flow with minimal impact on stream hydrology. Two stakeholders supported this option due to the imperative to increase water security for upriver rural residents and for agricultural / horticultural industry.
15. Increased on-farm water storage	Most stakeholders did not support this option and refer to the same reasoning expressed for Option 14, stating the two options were, in effect, the same. Some supported this option as it would assist in making farms more resilient in drought. There was support for innovative approaches to increasing on-farm storage, given many farmers in the Coffs Harbour Local Government Area have small lots with limited space. It was suggested the effectiveness of this option depended on the size of dams, the density of dams in the catchment and their placement so they did not interfere with natural run-off. It was noted this option has the potential to remove pressure on low stream flows.

Options 16-28: Protecting and enhancing natural systems

All options were generally supported, however Options 16, 22 and 28 were most important to stakeholders because they could address existing causes of environmental degradation, assist with recovery of natural ecosystems and help build resilient, healthy waterways.

Options	Summary of feedback received
16. Establish sustainable extraction limits for North Coast surface water and groundwater sources	There was general support for this option as greater control on water extraction was seen as a way to protect and restore local waterways. Comments on this option noted: • To meet sustainable outcomes, there must be variations in existing extraction levels, coupled with an effective level of compliance / monitoring which does not include self-regulation of licensees • It is important to establish conservative extraction limits because groundwater aquifers gradually run out of water • Previous calculations of extraction limits of water sources among the Clarence, Coffs Harbour and Nambucca water sharing plans may no longer be up to date. This option is already being considered by one council in the region and is therefore a common solution.
17. Convert low-flow water access licences to high-flow water access licences	There is conditional support for this option, although stakeholders suggested the following requirements: • Strong compliance and monitoring • Tamper-proof meters on pumps • Environmental requirements should be taken into consideration during low flow and high-flow events, particularly for wetlands • Independent review of each water source. Some stakeholders felt Options 16 and 17 were contradictory, given turbidity is one of the biggest problems the region faces. There was also some concern about whether this option would allow water to be traded out of the North Coast region.
18. Long-term water plans to support healthy coastal waterways	This option was supported, but there was some scepticism around whether this could be achieved.
19. Characterising coastal groundwater resources	There was support for this option as it would establish important baseline data and fill gaps in current knowledge. This is seen as a prerequisite for developing groundwater resources.

Options	Summary of feedback received
20. Protecting ecosystems that depend on coastal groundwater resources	There was strong support for this option and stakeholders emphasised that groundwater dependent ecosystems need to be protected. It was suggested that because these ecosystems have been threatened in the past and will come under increasing pressure in the future, accurate knowledge and varied regulation are essential to their continued protection.
21. Improve stormwater management and estuarine habitats	The improved management of stormwater was supported as an opportunity to manage the negative environmental impacts of urban run-off and offer a new water source. One stakeholder invited more research into this option, including the potential to use treated stormwater in drip irrigation.
22. Bringing back riverine and estuarine habitats and threatened species	This option had strong support for its potential to improve aquatic ecosystems and regenerate riparian ecosystems which have been affected by forestry, grazing and mining. This option is already being considered by one council in the region and is therefore a common solution.
23. Fish-friendly water extraction	This option was supported by stakeholders who noted that native fish are endangered and suggested it should be mandatory that large pumps are fitted with screens.
24. Improve fish passage in the North Coast region	There was strong support for this option as it would significantly benefit fish movement and enhance the biodiversity of local waterways. It was suggested that any investigation or possible construction of this option would need to ensure access to drinking water is not compromised. One stakeholder did not support this option, viewing it as less important than options which supported provision of water to communities and agricultural industries.

Options	Summary of feedback received
25. Addressing cold water pollution	Some stakeholders strongly supported this option and suggested it be implemented on all new and existing structures, particularly the Shannon Creek Dam. It was also suggested that this option might be less relevant to the region and analysis of water temperature should be used to inform whether this option is worth pursuing. One submitter did not support this option, viewing it as less important than options which supported provision of water to communities and agricultural industries.
26. Coastal, regional focused water reference groups	There was support for this option on the basis that there is diverse and appropriate representation, including community members and industry representatives.
27. Planning for climate change impacts on coastal groundwater resources	There was support for this option with stakeholders emphasising the importance of taking a holistic approach to water management that considers the future impacts of climate change. It was suggested that setting up monitoring bores for vulnerable aquifers would assist with long-term management. One stakeholder did not support this option, citing scepticism around climate change.
28. River Recovery Program for the North Coast: a region-wide program of instream works, riparian vegetation and sediment control	There was strong support for this option as it has the potential to: • Build resilience to future climate change • Assist in the recovery of many aquatic groups • Address some major causes of degraded coastal rivers and streams. Some suggested that the initial activities and approaches that caused degradation must also be addressed. There was also a suggestion that First Nations / Aboriginal knowledge could be used to enhance riparian zones.

Options 29-36: Supporting water use efficiency and conservation

There was limited discussion and feedback around Options 29 - 36, with stakeholders suggesting these options were less effective at managing water in the long term and may even cause inefficiencies. Of this group, options 29 and 30 were most important to stakeholders as they could help ensure consistency and transparency in water management and create a better understanding of opportunities for water conservation.

Options	Summary of feedback received
29. Improved data collection on water use and patterns	There was strong support for this option, with many stakeholders stating that water could not be sustainably managed until more data on water use and patterns was available. It was viewed as particularly relevant to understanding groundwater resources and current extraction, and a way to improve transparency and community confidence. It was also suggested that, given the spread of catchments across local government areas and the cost of this option, it should be a NSW Government responsibility.
30. Active and effective water markets	Stakeholders that discussed this option emphasised the importance of highly regulated water markets that prioritise the protection of the environment. It was suggested by one stakeholder that this option was less important given the lack of competition or varied demand in the area. There was also some concern that this option would allow water to be traded out of the North Coast region.
31. Apply the NSW Extreme Events Policy to the North Coast region	There was conditional support for this option if it included: • Trigger points and management strategies to service environmental needs during droughts • A risk-averse approach to avoid cutting off environmental water in the event of water supply crises • Decisions of the panel of water use are referred to the reference group for input to any final decision on water management.
32. Regional demand management program	There was support for this option, however stakeholders raised concerns that this program might cause unnecessary delay and regulation that inhibited the effective protection of riverine ecosystems.
33. Regional network efficiency audit	There was limited discussion and feedback around this option. Some stakeholders suggested other options were more important and effective in water management and that this option should be considered a standard part of general infrastructure management.

Options	Summary of feedback received
34. Regional capacity building program and skills hub	There was limited discussion around this option, given either a lack of information or a sentiment that other options were more important and effective in water management. One stakeholder suggested that this should be orchestrated at a state-wide level. It was noted that increased access to localised training and workshops would be beneficial and help improve understanding of water rights and responsibilities amongst growers.
35. Support for local councils to lift performance standards	There was limited discussion and feedback around this option. One stakeholder stated that many local councils were under-resourced, and support would be essential to optimise water management moving forward. It was noted that growers had faced challenges with the interpretation of a dam as development requiring consent by a local council and encouraged this be reviewed.
36. Regional framework to manage restrictions for non-urban water users of town water	Some stakeholders supported this option and offered the following considerations: • Water distribution management was a weakness which should be addressed • Water users should be more self-reliant with water reuse and recycling • Town water should not be available for non-urban users.

Suggested additional options

Respondents provided suggestions for additional potential options. There were many suggestions that related to existing proposed options, offering enhancements or further detail, and these are being considered. The following suggestions were assessed as new options and reflect opportunities for further innovation and economic diversification. These ideas will be considered in the option shortlisting which will form part of the next stage of the development of the North Coast Regional Water Strategy.

Options	Summary of feedback received
Pollution mitigation	The cancelling of any mining licences or leases to address the risks of mining polluting the Clarence Catchment. It was suggested that this would have a significant positive effect on river health, tourism, fishing and water supply.
Alternative water storages	- A new dam above The Gorge and a new cross-river dam on the Clarence. - Off-stream storage to improve the resilience of water supplies in the Bellinger Valley and Nambucca regions, especially in prolonged drought
Water saving initiatives	Expanding the BASIX program for new and existing buildings to ensure better water retention and use. Specific examples included incentives for water tanks and more efficient water supply.
Catchment management	- Rehydrating the landscape to improve the capacity of ground surfaces to absorb water from significant rain. It was suggested that this allows soil to release excess water gradually to assist in controlling storm and flood peaks and improving the health of ecosystems. - Restoring the practice of gravel extraction as a way of protecting riverbanks from gravel “slugs”.

Response

Clarence River, Iluka
Image: My Clarence Valley

Response to feedback

Since the publication of the draft North Coast Regional Water Strategy, the NSW Water Strategy has been released for public consultation and finalised. Some of the issues highlighted in the draft strategy and from communities in the North Coast region are consistent challenges across the state. These state-wide issues have been included as priority focus areas in the NSW Water Strategy and are outlined below.

Stakeholder feedback has also been used to help refine the priority challenges that we need to focus on in the final North Coast Regional Water Strategy, as well as the options that will be shortlisted for further investigation.

Further consultation

We have heard and accepted stakeholder feedback requesting more consultation on the regional water strategies, and a greater say in how options are shortlisted and prioritised.

As a result, we will be undertaking public consultation on a shortlist of actions before the North Coast Regional Water Strategy is finalised.

New climate data

The new climate datasets and updated modelling that underpin the draft North Coast Regional Water Strategy are an important advance on previous climate work. We can now better assess the likelihood of a range of drought conditions, and the impacts on surface water security and reliability over a much wider range of climate conditions. This is a major improvement from our previous reliance on only observed historical records.

The key next step is to work with the community to detail how this climate data should be used. This may include establishing the risk appetite of the community and identifying which historical droughts should be used as the basis for water management.

The new climate data is already being used in business cases to assess the impacts and benefits of proposed major state water infrastructure business cases. This information will be useful for local water utilities and other stakeholders in assessing the long-term water security of individual towns. Making this data available in a useable format is a priority under the Town Water Risk Reduction Program.

As with all types of science, we need to continually improve the data. The next steps in continuing to improve the climate data and modelling method will be to incorporate it into groundwater. This is being progressed through a NSW Groundwater Strategy, consistent with action 3.6 of the NSW Water Strategy.

First Nations / Aboriginal water rights

One of the primary objectives of the North Coast Regional Water Strategy is to recognise and protect First Nations / Aboriginal water rights, interests and access to water. It is also a key priority in the NSW Water Strategy.

The department engaged with First Nations / Aboriginal people in the North Coast prior to, and during, the public exhibition period. The department remains committed to engaging with Aboriginal people in the region as we progress through the options assessment process and the development of the final North Coast Regional Water Strategy and the State Aboriginal Water Strategy.

Unlike many other challenges in the region, the fundamental water rights of Aboriginal people are still a major gap in water management across the state. This is a state-wide issue and addressing these fundamental issues first will set up the framework for then addressing region-specific issues. These state-wide issues will be progressed through a State Aboriginal Water Strategy, consistent with action 2.2 in the NSW Water Strategy. The final North Coast Regional Water Strategy will focus on region-specific opportunities.

Environmental health

The feedback on the draft North Coast Regional Water Strategy highlighted the many views on environmental health as well as the actions that should be taken to address existing and emerging risks. The need to protect and maintain healthy rivers and ecosystems was a key priority in feedback received. When developing the final North Coast Regional Water Strategy, we have considered these ideas that were raised by stakeholders during public exhibition.

Integrating land-use and water management

There is an important link between land use and water management. How land is used determines water management needs – whether water is servicing urban developments or being provided to other uses (including industry, environmental, cultural or recreational needs). Future water reliability and security in a changing climate will be critical to land use and urban development planning decisions and industry development initiatives in regional NSW. In particular, there is an opportunity to consider water availability and impacts much earlier and more strategically through the planning system. We will use the evidence in the regional water strategies to inform the next generation of regional plans, including the North Coast Regional Plan.

We acknowledge that the boundaries of these plans and strategies do not always align with the North Coast Regional Water Strategy boundaries, which is why the NSW Water Strategy has committed to better integrate land use planning, development approvals and water management (NSW Water Strategy Action 4.4). In addition, the NSW Water Strategy also commits to adopting a more intense, state-wide focus on improving water quality (NSW Water Strategy Action 3.5) to define clear roles, accountabilities and frameworks for monitoring, assessing and addressing water quality risks across the state.

The Department of Primary Industries – Agriculture is undertaking a three-year program to identify and map important agricultural land. Knowing where this land is situated and understanding its location, value and contribution will assist in making decisions about current and future land uses and their water needs. A comprehensive and consistent approach to collecting water statistics information will greatly help this process.

Next steps

Stakeholder feedback during the public exhibition has helped us refine the key challenges that the strategy needs to focus on improving, and which of the 36 options listed in the draft strategy should be shortlisted to help address these challenges. Feedback has also led to the development of a range of new options.

The next steps will be to seek stakeholder views on the shortlisted actions before the North Coast Regional Water Strategy is finalised. Ongoing community engagement

is important to ensure we are identifying the right solutions for the North Coast region that meet the vision and needs of communities, the environment and industries.

A final package of actions will be presented as part of the final North Coast Regional Water Strategy and associated implementation plan, which is scheduled to be released in 2022.

More information:

www.dpie.nsw.gov/regional-water-strategies



*Fishing on the Nambucca River
Image: Seen Australia*