



Draft North Coast Regional Water Strategy

What we heard

Public consultation: May-June 2022

Publication date: November 2022

Find out more: water.dpie.nsw.gov.au/plans-and-programs/regional-water-strategies

First published: November 2022

Department reference number: PUB22/1051

Cover image: Image courtesy of Destination NSW. Scenic aerial overlooking the Bellingen River, Fernmount.

Acknowledgments: The NSW Government acknowledges First Nations people as its first Australian people and the traditional owners and custodians of the country's lands and water. First Nations people have lived in NSW for over 60,000 years and have formed significant spiritual, cultural and economic connections with its lands and waters.

Today, they practice the oldest living culture on earth.

The NSW Government acknowledges the First Nations people/Traditional Owners from the North Coast region as having an intrinsic connection with the lands and waters of the North Coast Regional Water Strategy area. The landscape and its waters provide the First Nations people with essential links to their history and help them to maintain and practice their traditional culture and lifestyle.

We recognise the Traditional Owners were the first managers of Country and incorporating their culture and knowledge into management of water in the region is a significant step toward closing the gap.

Under this regional water strategy, we seek to establish meaningful and collaborative relationships with First Nations people. We will seek to shift our focus to a Country-centred approach, respecting, recognising and empowering cultural and traditional Aboriginal knowledge in water management processes at a strategic level.

We show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places where First Nations people are included socially, culturally and economically.

As we refine and implement this regional water strategy, we commit to helping support the health and wellbeing of waterways and Country by valuing, respecting and being guided by First Nations people/Traditional Owners, who know that if we care for Country, it will care for us.

We acknowledge that further work is required under this regional water strategy to inform how we care for Country and ensure First Nations people/Traditional Owners hold a strong voice in shaping the future for Indigenous/Aboriginal and non-Aboriginal communities.

Copyright and Disclaimer: © State of New South Wales through Department of Planning and Environment 2022. Information contained in this publication is based on knowledge and understanding at the time of writing (November 2022), and is subject to change. For more information, please visit dpie.nsw.gov.au/copyright

Contents

Introduction	4
<hr/>	
Consultation	6
<hr/>	
How we engaged	6
Summary of key themes raised	9
About this report	11
Feedback by theme	13
<hr/>	
Theme 1: Use a holistic and integrated approach to support water quality, healthy rivers and ecosystems	13
Theme 2: Understand, plan and prepare for climate change	15
Theme 3: Support inclusion of Aboriginal people's interests and expertise in water management, and the achievement of cultural outcomes including access to water	16
Theme 4: Promote water conservation, reuse and recycling	18
Theme 5: Manage increasing demand from different users in a sustainable and equitable way	19
Theme 6: Address challenges and explore opportunities of existing and new infrastructure	21
Theme 7: Improve data adequacy, collection and sharing to achieve an evidence-based approach to improved planning, management responses, compliance and enforcement	22
Theme 8: Implement, review and update the strategy	23
Feedback on challenges, priorities and actions	25
<hr/>	
Feedback on challenges, priorities and actions	25
Feedback on options not shortlisted	30
Suggested additional actions	30
Qualitative research	32
<hr/>	
Response to feedback	38
<hr/>	

Introduction

The NSW Government is taking action to improve the security, reliability, quality and resilience of the state's water resources for current and future generations.

As part of this program of investment and reform, the NSW Department of Planning and Environment (the department) has prepared a number of regional water strategies across NSW.

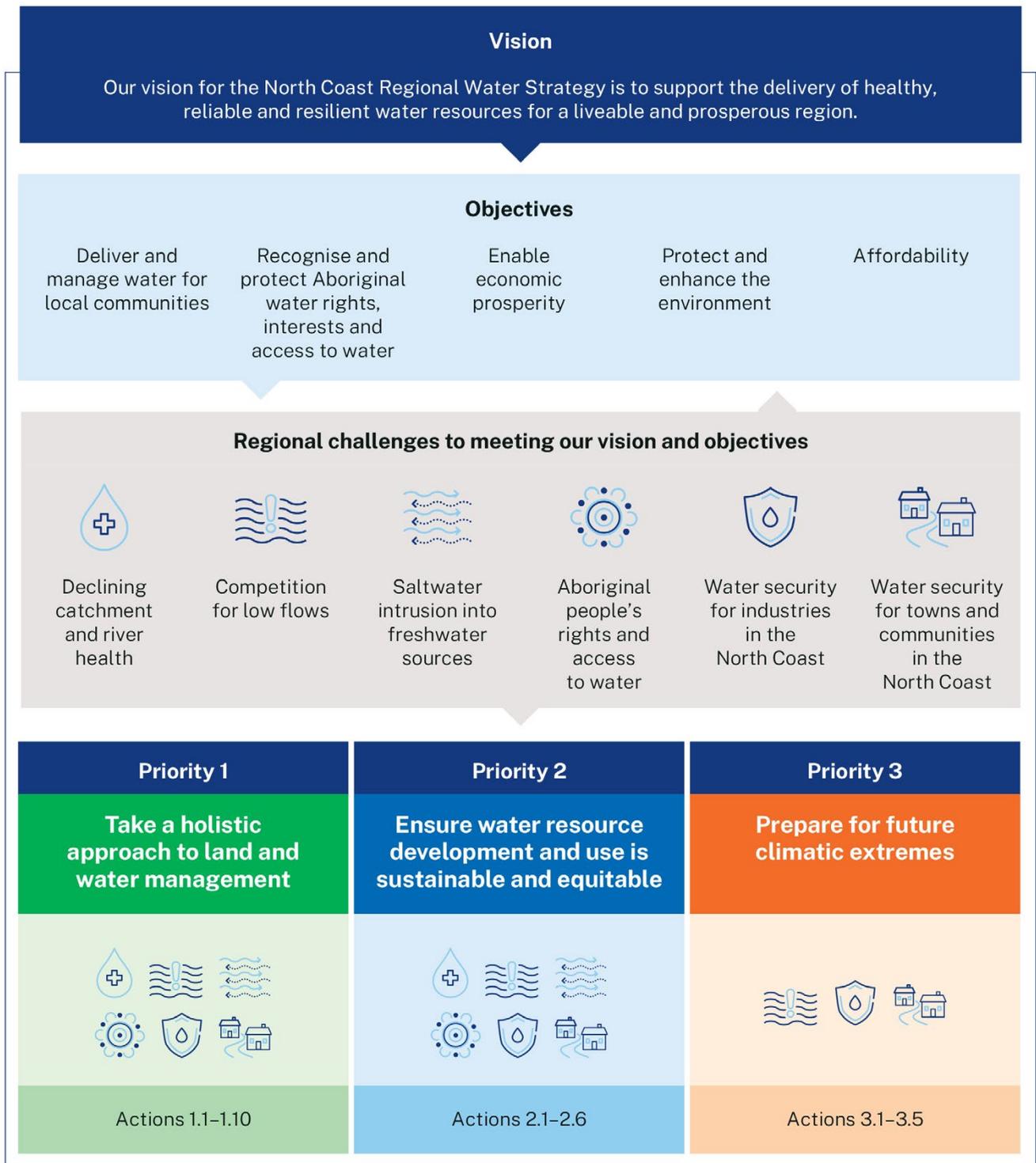
Figure 1 Map of NSW regional water strategy regions



The regional water strategies adopt a long-term approach to strengthening and building the reliability and quality of the state's water resources for the next 20 years. They combine climate evidence and economic and ecological analysis, with input from water service providers, local councils, communities, Aboriginal people, and other stakeholders.

They consider how much water a region will need to meet future demand, the challenges and choices involved in meeting those needs, and the actions that need to be taken to manage water availability and security risks.

Figure 2 North Coast Regional Water Strategy: overview of strategy vision, objectives, water security challenges and priorities



Public consultation phase 1 (March 2021)

The [draft strategy](#) was placed on public exhibition from March to May 2021. It included a detailed analysis of all of the challenges and opportunities in the region, as well as a long list of options with the potential to address the challenges and opportunities.

The feedback received during public consultation phase 1, and the department’s response to this feedback, is published in the [North Coast Region Draft Regional Water Strategy What We Heard \(2021\)](#) report.

Following the first round of consultation and further technical analysis, the long list of options was distilled into 3 priority areas and 22 proposed shortlisted actions designed to address water security priorities and challenges specific to the North Coast region.

Public consultation phase 2 (May 2022)

A second draft of the strategy—comprising an [Executive Summary](#) and [Consultation Paper](#)—was placed on public exhibition from 23 May to 19 June 2022.

During public consultation phase 2, the department engaged with:

- Aboriginal communities
- Local councils
- Landholders and other individuals
- Business and industry groups
- Peak organisations
- Community members and organisations.

A timeline of engagement activities is shown below:

Figure 4 Public consultation phase 2 timeline of activities



Figure 5 Public consultation phase 2 engagement at a glance

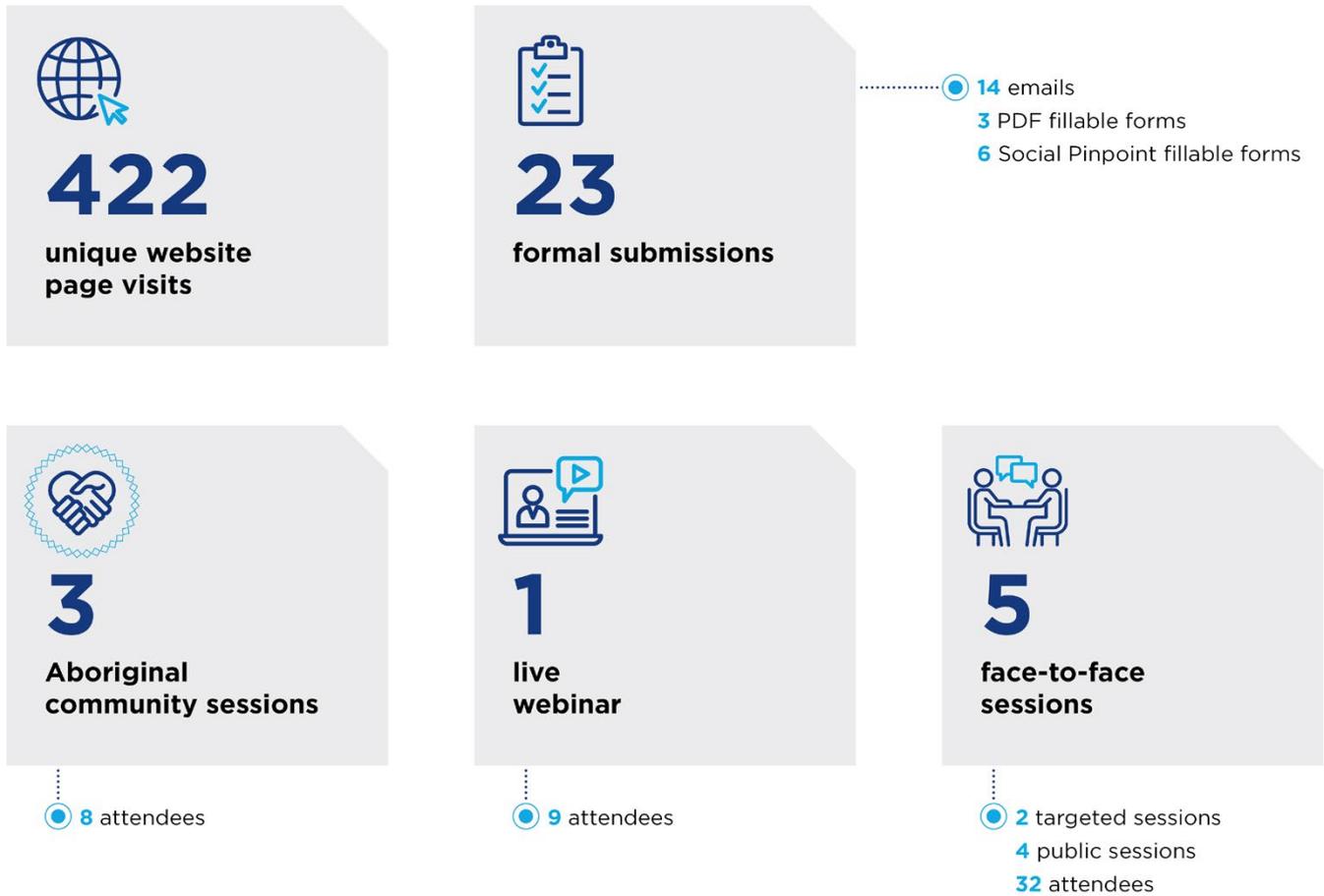
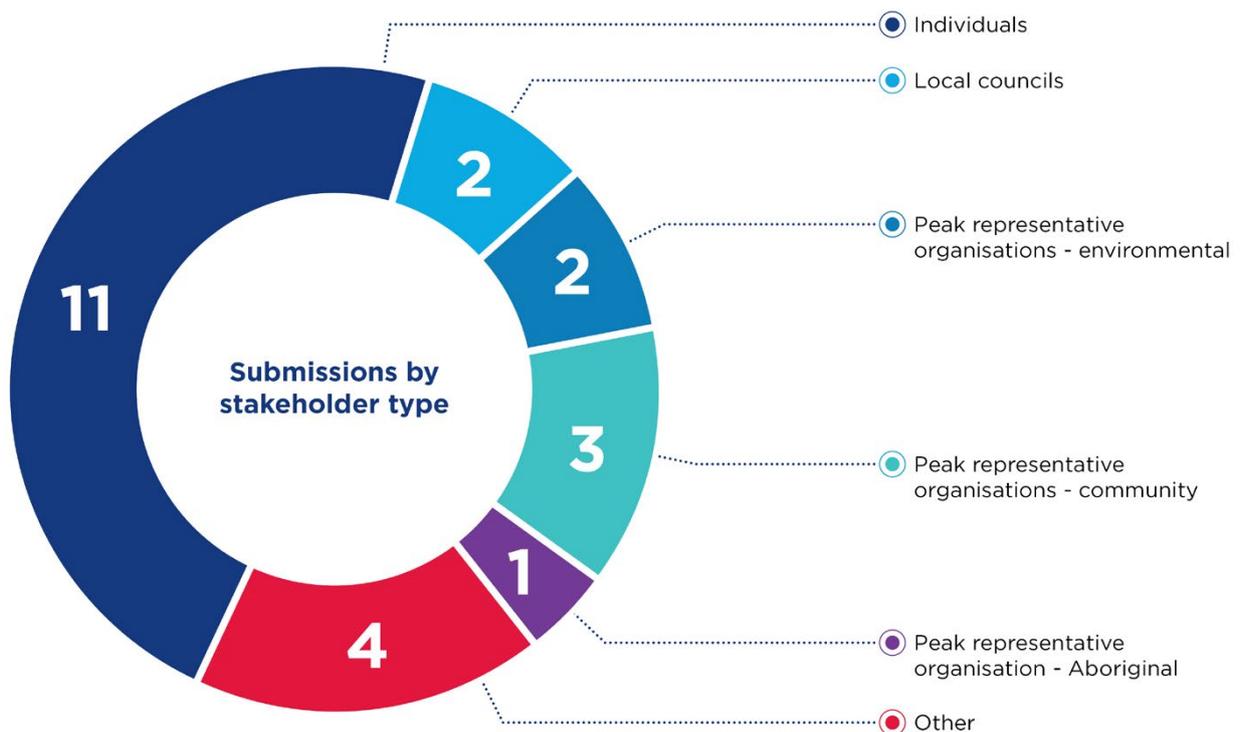


Figure 6 Public consultation phase 2 overview of submissions by stakeholder type



Summary of key themes raised

The department received a range of general feedback on the draft strategy. Stakeholders raised broadly consistent themes across public consultation phases 1 and 2, with the exception of an additional theme relating to how the strategy would be finalised, implemented and monitored.

Table 1: Summary of feedback by theme

Theme	Public consultation phase 1	Public consultation phase 2
	<p>Water quality, river health and ecosystems</p> <p>The need to protect and maintain healthy rivers and ecosystems was identified as the most important priority for the region. Related to this was the imperative to achieve better environmental outcomes through sustainable management and planning.</p>	<p>Use a holistic and integrated approach to support water quality, healthy rivers and ecosystems</p> <p>River and system health continued to be identified as a key consideration, as was taking a more integrated and holistic approach to align local, regional and state plans and strategies to achieve a consistent catchment-level approach.</p>
	<p>Aboriginal people's water rights, interests and access to water</p> <p>Improving the recognition of Aboriginal people's water rights, interests and access to water was supported. Given their understanding and connection with the environment, many stakeholders felt that local Aboriginal people had a valuable role to play in the development and implementation of the strategy and long-term water management.</p>	<p>Support inclusion of Aboriginal people's interests and expertise in water management, and achieve cultural outcomes including access to water</p> <p>There was widespread support for actions in the strategy aimed at increasing Aboriginal involvement in land and water management and for delivering program, cultural and employment outcomes for Aboriginal people.</p>
	<p>Climate change</p> <p>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.</p>	<p>Understand, plan and prepare for climate change</p> <p>While there were mixed views about climate change and the specifics of the modelling used to inform the strategy, there was support for achieving a better understanding of the likely impacts, including publicising modelling assumptions, and planning and preparing for climate impacts.</p>
	<p>Water conservation, reuse and recycling</p> <p>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.</p>	<p>Promote water conservation, reuse and recycling</p> <p>There was continued broad support for treating water as a scarce resource requiring efficiency of use and exploring options for reuse, with some environmental and other concerns and challenges raised about recycling.</p>

Theme	Public consultation phase 1	Public consultation phase 2
	<p>New and existing infrastructure</p> <p>Stakeholders explored the opportunities and challenges presented by the water infrastructure options proposed in the strategy. 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 re-use or promoted sustainable water management were supported.</p>	<p>Address challenges and explore opportunities of new and existing infrastructure</p> <p>The issue of infrastructure generated mixed views, with both support and opposition for dam-related infrastructure. There was more consistent support for on-farm dams as an alternative to catchment dams. There was also debate about whether infrastructure should be included in the strategy given responsibility for this generally lies with local councils or other state and federal agencies.</p>
	<p>Managing increasing demand from different users</p> <p>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 current water supply under greater pressure.</p>	<p>Manage increasing demand from different users in a sustainable and equitable way</p> <p>There was support for water security, balanced with the understanding that water is a scarce resource that needs to be used efficiently, and that competing demands should be managed in a way that is equitable and ecologically sustainable.</p>
	<p>Data collection and sharing for improved compliance and enforcement</p> <p>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 industries such as agriculture and horticulture.</p>	<p>Improve data adequacy, collection and sharing to achieve an evidence-based approach to improved planning, management responses and compliance</p> <p>There was strong support for actions that improve data development and availability and a desire to see those actions resourced adequately so that stronger data can help improve water planning and management.</p>
	<p>Implement, review and update the strategy was not raised as a key theme in public consultation phase 1</p>	<p>Implement, review and update the strategy</p> <p>There were issues raised about how the final strategy would be implemented, with support for it to be delivered, updated and evaluated based on the further development of data and evidence, monitoring and measurement, and effective consultation.</p>

The following sections summarise the feedback received for each of these themes, as well as for the priorities and proposed shortlisted actions identified in the draft strategy and consultation paper.

About this report

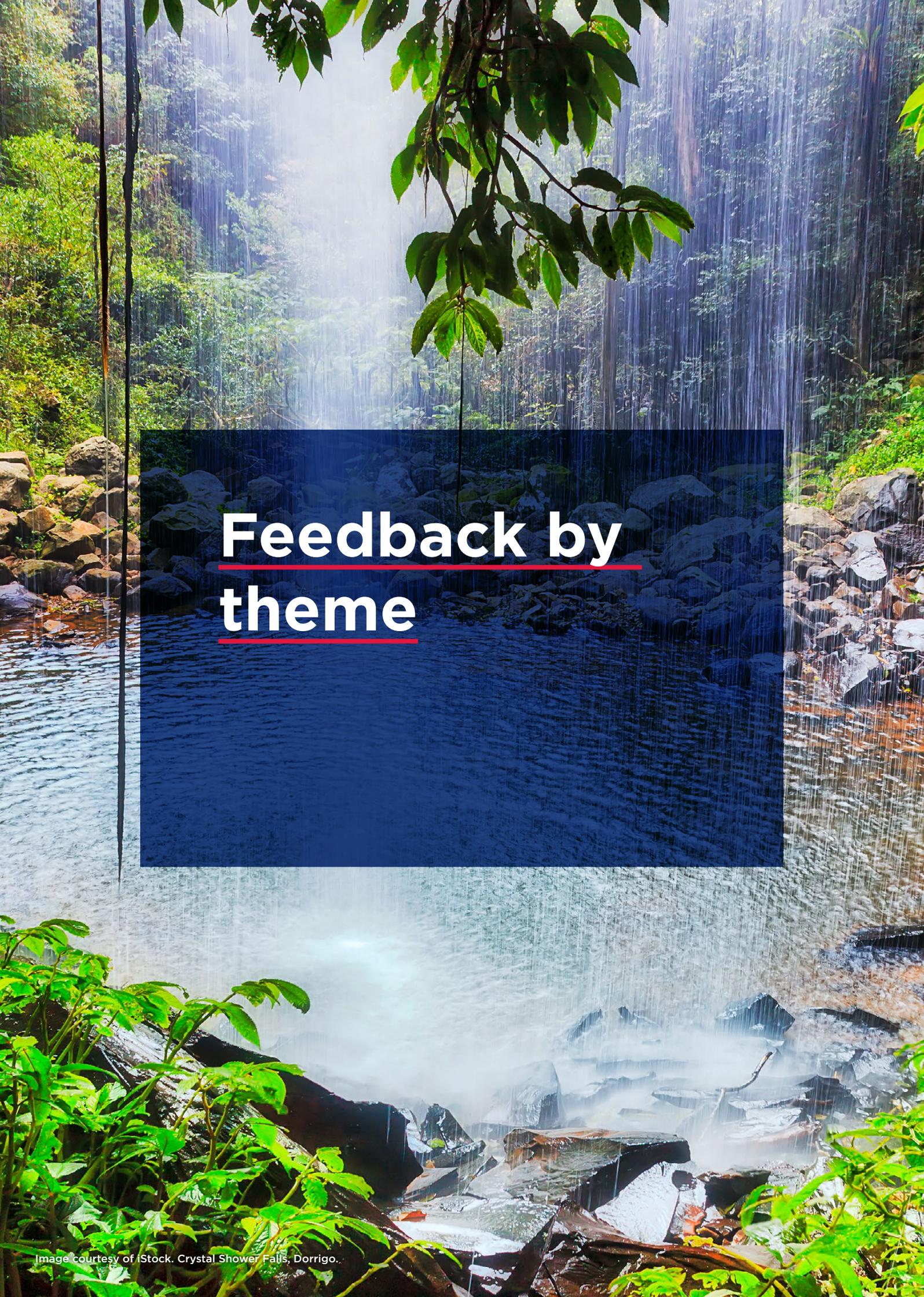
This report summarises feedback received during public consultation phase 2. The department received 23 formal submissions and around 50 people participated in engagement sessions about the strategy.

Feedback from formal submissions and fillable forms, as well as in-person feedback provided at public information sessions, is summarised in the following sections:

- [Feedback by theme](#)
- [Feedback on challenges, priorities and actions](#)
- [Feedback on options not shortlisted](#)
- [Suggested additional actions.](#)

In June this year, the department also commissioned market research to obtain a cross-section of North Coast resident views on key actions outlined in the draft strategy. This feedback is reported separately in the [Qualitative research](#) section.

Finally, the department has provided a [Response to feedback](#) which explains how the feedback received has been incorporated into the final [North Coast Regional Water Strategy and implementation plan](#). This is outlined in full at the conclusion of this report.



Feedback by theme

Feedback by theme



Theme 1: Use a holistic and integrated approach to support water quality, healthy rivers and ecosystems

River and system health was identified as one of the most important foundations for the draft strategy, with clear support for *Priority 1: Take a holistic approach to land and water management*.

There was a strong desire for a more holistic and integrated approach to align local, regional and state plans and strategies, and achieve consistency in outcomes from a catchment perspective.

Support

Healthy rivers and ecosystems

Strong support for a more holistic and evidence-based approach to understanding and ensuring healthy rivers and ecosystems. This was regarded as a fundamental issue.

Support to increase and deepen understanding about why the health of some rivers has been improving while the health of others has been deteriorating.

Support for ensuring water quality and catchment health is protected, to contribute to both positive environmental and economic outcomes.

Support for programs like the River Recovery Program, with particular support for a whole-of-catchment approach and for extending and supporting Indigenous Ranger Programs.

Concern

Integrated approach

Concern about a perceived lack of a holistic and integrated approach between:

- broader land management and water management, including specific concerns about riparian corridors and removal of vegetation
- local, regional and state-level strategies and plans.

Suggestions to achieve a more holistic approach to land and water management varied between co-management water models with traditional owners, adopting more ecologically sustainable land practices, and leveraging recent research into water absorption and soil carbon.

Examples of strategies that should be integrated/aligned included adjoining Regional Water Strategies and Catchment Management Plans.

It was also noted that local, regional and state strategies need to ‘talk to’ each other and jointly aim to produce consistent and aligned results for catchments and places.

Support

Water extraction

Support for improved and evidence-based management of water extraction from ground and surface water.

This included acknowledging the interconnectedness between ground and surface water, reducing low-flow extraction, and significantly improving data and systems to inform groundwater extraction.

Water diversion options

Support for the strategy not shortlisting a previous option to divert water from the Clarence River.

Support for improved weed control, reforestation, planting more water-efficient native trees, and managing fertilizer use such as through greater education at ‘point of sale’.

Concern

Contributors to river health

Concern about an inadequate focus on all the contributors to poor or improving river health beyond farming practices, such as development pressures, legacy mine issues and recreational use.

Concern about the lack of acknowledgement of improvements to farming practices that have had a positive impact on river health.



Theme 2: Understand, plan and prepare for climate change

While there were mixed views about climate change science and the specifics of the modelling used to inform the strategy, there was support for achieving a better understanding of the likely impacts, including by making modelling assumptions public.

There was also support for planning and preparing for climate impacts and extremes, with the potential to review the name of *Priority 3 – Prepare for future climatic extremes* to *Understand and Prepare*.

Support

Climate science and modelling

Support for increasing understanding about the modelling that guides policy and priorities, including through making modelling assumptions public.

Support for the current approach, which uses the concept of ‘plausible eventualities’ to guide application of the modelling.

Sea level rise

Support to assess and mitigate risks associated with sea-level rise where possible, with general agreement that salinity poses a threat.

Secure and affordable town water

Support for local councils to provide a secure and affordable town water supply as a priority.

BASIX

Support for reviewing and strengthening BASIX minimum supply requirements.

Concern

Climate science and modelling

Some skepticism about the science and the assumptions on which the modelling is based, including the likely frequency of extreme events and reasons for them.

Interconnections

Concern that the strategy should address or connect to broader drought response planning and the impacts of flood events, not operate in isolation.



Theme 3: Support inclusion of Aboriginal people’s interests and expertise in water management, and the achievement of cultural outcomes including access to water

There was support across both targeted and public consultations and written submissions for proposed shortlisted actions that increase Aboriginal people’s involvement in land and water management, including strengthening programs and improving employment opportunities and cultural outcomes.

Support

Expertise and involvement

Support for recognising Aboriginal people’s connections, deep expertise and holistic, long-term approach to water planning and management.

Suggestion to establish and resource programs to enable Aboriginal people, including native title holders, to actively participate in the management of rivers and water sources.

Support for Aboriginal involvement in water planning and management and for prioritising ongoing collaboration with local Aboriginal people in water management.

Support for initiatives such as fire cadet programs that exist in other regions, ranger programs, green team bush regeneration and land management.

Cultural outcomes

Support for achieving cultural outcomes, including greater access to water.

Suggestion to consult about the appropriateness of granting licences in cultural areas.

Requests for access to creeks and waterholes on freehold and state land, such as via Crown roads and for determination of claims over Travelling Stock Routes, which are often next to waterways.

Concern

Maintaining cultural knowledge, including through funded programs

Concerns about the potential for loss of knowledge unless initiatives such as funded programs continue to support knowledge maintenance.

Funding application and reporting processes are also a concern and should be more streamlined.

Streamlined funding could include establishing a longer-term funding source, for example, a percentage of water licence revenue or seed funding which could enable programmes to be self-sustaining.

Climate change impacts

Concern about the impacts of climate change on water sources, cultural sites and the ability of Aboriginal people to exercise native title rights and interests. Sustainable water management practices, including those related to water allocations, are needed to address these impacts.

Support

Funding and employment programs

Support for maintaining and extending programs, such as the River Ranger Program to foster and benefit from cultural knowledge and support employment.

Support for water quality testing and reporting, including reporting issues that require investigation to the Natural Resources Access Regulator.

A holistic approach would also involve rangers accessing, monitoring and protecting cultural sites.

Support for greater collaboration and community input to funded and employment programs. There are large employment gaps, particularly for young people.

Aboriginal business opportunities

Support for Aboriginal business opportunities, some of which require access to water.

Suggestions included exploring options for increased use of cultural water for oyster or fresh-water mussel farming and requests for business and marketing assistance.

Concern

Consultation processes

Concern that consultation on a range of water-related documents needs to happen at the right time, often earlier than it currently does, and should be adequate and appropriate.

Concern that there is often inadequate feedback about how consultation influenced the plans. People want to know they have been heard.

Positive experiences include recent co-design processes such as the Aboriginal Cultural Fishing Local Management Plan.

Rebuilding connections with the community post-COVID to ensure the appropriate inputs is important.

Cultural water

Rules around the use of cultural water are sometimes prohibitive to realising business opportunities and don't address cultural and/or business needs.



Theme 4: Promote water conservation, reuse and recycling

There was broad support for treating water as a scarce resource requiring efficiency of use and options for reuse to be explored, with some environmental and other challenges raised regarding recycling.

Support

Water efficiency, conservation, reuse and recycling

Support for these strategies, including a view that water should be treated as a scarce resource and commentary that this is a 'no brainer'.

Investigation of alternative water sources

Support for investigations into alternative water sources such as wastewater, stormwater and desalination as well as onsite reuse.

Increasing specific usages for recycled water

Support for this approach for uses such as intensive agriculture, while also being mindful of balancing this with ensuring efficiency of water use.

Mixed views about whether water-intensive uses are suitable in locations where they replace less water-intensive agriculture or industry.

Concern

Water recycling

Some concern about water recycling, including the high nutrient content of water with the potential to create various downstream impacts.



Theme 5: Manage increasing demand from different users in a sustainable and equitable way

There was support for water security, provided it is balanced with the understanding that water is a scarce resource to be used efficiently.

Competing demands should be managed in a way that is both equitable and sustainable. This involves balancing environmental, economic and cultural considerations.

Improving the management of groundwater extraction was considered to be a major issue.

Support

Secure town water supply

Strong support for local councils to achieve a secure supply, while continuing to support education and water efficiency.

Water security for industry

Support for greater water security for industry to support jobs and communities, particularly those industries that do not involve an escalation in the intensity of water use.

High flow licences

In principle support was expressed while noting that the costs and land requirements of creating storage capacity may lead to low uptake without accompanying incentives, except for large or intensive horticulture. This may create equity concerns.

Concern

Balancing economic, cultural and environmental issues when managing demand

While balance is supported, there was some concern that economic considerations can sometimes dominate other considerations rather than work in tandem with them to achieve a balanced outcome.

Water security for industry

Concern that recommending more water-intensive industries does not recognise water as a scarce resource that cannot always be secured.

Intensive horticulture

Strong concern expressed, including around ecological issues (particularly when intensive uses replace less-intensive uses) and the management of downstream impacts.

Concern also about the need to improve compliance for fast-growing and intensive industries, including improving water management, planning and governance issues.

Support

Regulatory complexities could also reduce take-up.

Support for government to provide technical, regulatory and potentially financial support to encourage high-flow licences, particularly for smaller operators.

Concern

Harvestable rights

Concern and some support about recent changes to harvestable rights, with broad support for a review into, and management of, impacts.

Concerns include both the perceived environmental impacts of the recent increase from 10% to 30% and uncertainty for those who take up the increase and how this may be impacted by a review that may unwind the increase.

Low flows

Recognition of the competition for, and impacts of, low-flow water extraction with support to reduce low flows and support for more climate-resilient supplies of water.

Governance

Support for water governance issues to be resolved to help better manage competing demands.



Theme 6: Address challenges and explore opportunities of existing and new infrastructure

There were mixed views about the role of infrastructure in addressing regional water challenges. There were mixed views about raising dam walls or building new dams, but broad support for using on-farm dam storage as an alternative to catchment dams.

There was debate about whether infrastructure should be included in the strategy, given that responsibility for infrastructure usually lies with local government or other state agencies. An integrated approach with other strategies was recommended, particularly if infrastructure is not referenced in the final strategy.

Support

Water efficiency

Support for considering water efficiency and management measures either before or in conjunction with infrastructure works.

On-farm dams

Support for investigating on-farm dams as an alternative to catchment style dams.

Concern

Contribution of existing infrastructure

Concern that dam floors could be better managed to increase water availability.

Mixed views on the potential to raise walls on existing dams (e.g. Malpas, Guyra), while noting that raising the walls of Malpas Dam was not shortlisted in the draft strategy and that planning for the dam is the responsibility of the local council.

Concern with some support about considering new catchment infrastructure, including several suggestions for locations for new dams.

Oven Mountain State Significant Development

Concern about the potential impact on the national park associated with this development.

Concern regarding the streamlined consultation and approval processes for State Significant Developments which means that some parts of the community feel left out of the consultation process.



Theme 7: Improve data adequacy, collection and sharing to achieve an evidence-based approach to improved planning, management responses, compliance and enforcement

There was strong support for actions aimed at improving data development, capture and availability and a desire for these actions to be adequately resourced so that stronger data can help improve water planning and management over time.

Support

Improving data development and collection

Strong support for actions across each of the three priorities that improve data development and use.

Support for collection and understanding of baseline data to improve understanding of water sources, the environmental water needs across and within catchments and likely climate change impacts.

Support for improved use of data to develop a whole-of-catchment approach and program to improve river health.

Support for using available knowledge including contemporary university studies supplying contextual data.

Measuring and monitoring

Support for developing a strong measurement approach for the draft strategy and broader water management, supported by good data.

Important that monitoring and compliance regimes are adequately resourced.

Concern

Lack of data to drive strategy

The lack of data on which to base the draft strategy was viewed as a significant gap that should be overcome as soon as feasible in the short and long-term interests of water planning and holistic water and land management.

Groundwater extraction

Concern at a perceived lack of adequate data and information to support a program of sustainable groundwater extraction, with attendant support for actions aimed at improving data availability and information and for developing a data-driven approach to extraction.



Theme 8: Implement, review and update the strategy

A number of issues were raised about how the final strategy would be implemented, with support for it to be delivered, updated and evaluated in a transparent way based on the further development of data and evidence, monitoring and measurement, and effective consultation.

Support

Measurement

Support for a commitment to good measurement and public reporting of progress against actions.

Priority setting

Support for ongoing priority setting to be informed by the development of data and consultation, with information to be provided transparently to the public if priorities change.

Consultation

Support for ongoing consultation and feedback mechanisms similar to that provided by catchment management committees.

Helping the community to navigate consultation document and processes in a timely way, and providing feedback on how inputs were considered, is appreciated and contributes to quality consultation.

Concern

Generic actions

Some concern that actions in the draft strategy are too generic and that measuring success may therefore be difficult. This could be considered again as the strategy is updated and more data is available.

Funding and resourcing

Some concerns about ‘matched funding’ requirements that limit opportunities to take up funding support.

Support for funding programs, e.g. targeted Aboriginal programs and local council water efficiency programs, that do not require matched funding.

Governance

Several elements of governance were raised, including the importance of overcoming ‘siloed’ approaches that reduce the ability to take a whole-of-catchment approach by government decision-makers.

Improved governance can also clarify areas of responsibility and support more effective monitoring, compliance and regulation, which can be a concern.

Concern was raised about the impact of poor governance on catchment health.

A photograph of a misty forest path. The path is paved and leads into a dense forest. The trees are tall and thin, with a thick canopy. The ground is covered in ferns and other green plants. The overall atmosphere is serene and natural.

Feedback on challenges, priorities and actions

Feedback on challenges, priorities and actions

The strategy identifies 6 water-related challenges specific to the North Coast region. To address these challenges, it proposes the following 3 priority areas:

1. Take a holistic approach to land and water management
2. Ensure water resources development and use is sustainable and equitable
3. Prepare for future climatic extremes

Challenges

There was broad support for the 6 key water-related challenges identified in the strategy. While rising sea levels were acknowledged as a concern, the likelihood of the projected increases identified in the strategy occurring was questioned.

Shortlisted actions

This section summarises the feedback that was received during public consultation phase 2 about these priorities and actions. It has been collated from submissions, survey-style fillable forms and engagement session inputs.

However, it should be noted that indications of support for specific priority areas and actions reflect the sentiment of those who explicitly referenced this in their feedback. It does not indicate general support from all who made a submission, completed a fillable form or provided input at engagement sessions.

Priority 1: Take a holistic approach to land and water management

The actions shortlisted under this priority will:

- Incorporate Aboriginal knowledge and culture into land and water management
- Undertake whole-of-catchment-planning, decision-making and project delivery
- Support local landholders to adopt best practice land use and water management
- Improve our understanding and management of the region's resources.

There was support for this priority area from those who provided feedback about one or more of the proposed actions.

Actions nominated by respondents as a priority for implementation are denoted as such in the table below.

Actions	Comments
Incorporate Aboriginal knowledge and culture into land and water management	
1.1 Develop ongoing collaboration with local Aboriginal people in water management	Support expressed at both public engagement sessions and targeted sessions.
1.2 Support place-based initiatives to deliver cultural outcomes for Aboriginal people	Support expressed at both public engagement sessions and targeted sessions. Suggested in engagement as an action that should be implemented first.
Undertake whole-of-catchment planning, decision making and project delivery	
1.3 Support improved governance	Support expressed for a range of governance improvements, including increasing integration of relevant strategies at the local, regional and state level, improving catchment planning and management, and improving compliance.
	Suggested in engagement as an action that should be implemented first.
1.4 Deliver a river recovery program	Support expressed for programs and actions that support river health. Suggested by one submission as an action that should be implemented first.
Support local landholders to adopt best practice land use and water management	
1.5 Support landholder adoption of best practice land management	Support expressed, with a request to acknowledge work already undertaken and its positive impacts.
Improve our understanding and management of the region’s water resources	
1.6 Assess the vulnerability of surface water supplies to sea level rise and saltwater intrusion	Recognition and support that this is a threat and support for actions that improve required data.
1.7 Identify environmental water needs to support healthy coastal waterways	Support expressed and noted that it is important to consider that activity in the upper catchment impacts the health of the lower catchment.

Actions	Comments
1.8 Characterise and plan for climate change and land use impacts on coastal groundwater sources	<p>Significant concern about groundwater management and support for action to understand and improve it, including data collection about extraction.</p> <p>Suggested in engagement as an action that should be implemented first.</p>
1.9 Protect ecosystems that depend on coastal groundwater	<p>Support expressed as part of a holistic approach.</p>
1.10 Improve monitoring of water extraction	<p>Significant support for this action.</p> <p>Suggested in engagement as an action that should be implemented first.</p>

Priority 2: Ensure water resource development and use is sustainable and equitable

The actions shortlisted under this priority will:

- Reduce the impact of water infrastructure on native fish populations
- Better manage competing demands for water.

There was support for this priority area from those who provided feedback about one or more of the proposed actions.

Actions nominated by respondents as a priority for implementation are denoted as such in the table below.

Actions	Comments
Reduce the impact of water infrastructure on native fish populations	
2.1 Improve fish passage	<p>Support expressed for the health of rivers and waterways and reducing the impact of water infrastructure on the native fish population.</p> <p>Two submissions mentioned the Nymboida Weir. One called for a fish ladder on the Nymboida Weir and the other noted that the Nymboida Weir is where local drinking water is extracted from and it is important that access to drinking water is not compromised.</p>
2.2 Implement fish-friendly water extraction	<p>Support expressed for the health of rivers and waterways, and concern about the need for more evidence-based water extraction.</p>
Better manage competing demands for water	
2.3 Establish sustainable extraction limits for surface water and groundwater sources	<p>Significant support expressed during engagement.</p> <p>Suggested in engagement as an action that should be implemented first.</p>
2.4 Implement daily extraction limits	<p>Managing extraction from a stronger evidence base was strongly supported, although there was minimal discussion about this specific action.</p>
2.5 Reduce the take of low flows	<p>Support expressed for this action.</p>
2.6 Support Aboriginal business opportunities	<p>Support expressed and various suggestions raised e.g. for providing land and water management contracting opportunities.</p>
2.7 Address catchment-based impacts of increased harvestable rights limits	<p>While there were mixed views on the recent increase to 30%, support was expressed for following up the recent increase with a review, with some concern about implications.</p> <p>Suggested by submissions and in engagement as an action that should be implemented first.</p>

Priority 3: Prepare for future climatic extremes

The actions shortlisted under this priority will:

- Support water users to manage risk
- Optimise use of existing water supplies.

There was support for this priority area from those who provided feedback about one or more of the proposed actions.

Actions nominated by respondents as a priority for implementation are denoted as such in the table below.

Actions	Comments
Support local councils and water users to manage risks	
3.1 Support local councils to provide a secure and affordable water supply for towns	Significant support in engagement discussions. Suggested by submissions and in engagement as an action that should be implemented first.
3.2 Provide better information about water access, availability and climate risks	Support was expressed, with some comments in submissions suggesting a water trading website and more information.
Optimise use of existing water supplies	
3.3 Review water markets	Concern about included lack of experience in North Coast water markets, inequality and limited improvement to river health.
3.4 Investigate increased on-farm storage	Some discussion and support for investigation. Concerns included the impact on ecosystems, limits to stream and river flows, monitoring and compliance.
Investigate alternative water supplies	
3.5 Increase use of recycled water for intensive horticulture	Some support with general concern about the water needs of intensive horticulture and the potential downstream nitrogen impacts of using increased amounts of recycled water.

Feedback on options not shortlisted

Some respondents provided feedback on options that had not been shortlisted from the original long list.

It was noted in the draft strategy that some options had not been shortlisted as proposed actions as they would be addressed via other strategies and plans, such as the NSW Water Strategy, or by local councils through their local water utility strategic planning.

Options	Feedback
<p>Option 7 and 8 (Border Rivers Regional Water Strategy) Diversion of water from the Clarence River</p>	Support for not progressing this option to the shortlisted actions.
<p>Option 37 Cancelling mining licences or leases within the Clarence River catchment</p>	Recommended to be progressed to the shortlisted actions.
<p>Option 38 New dam above the Gorge on the Clarence River</p>	Recommended to be progressed to the shortlisted actions.
<p>Option 40 Review BASIX requirements</p>	Support for reviewing and strengthening BASIX minimum supply requirements.

Suggested additional actions

Some respondents nominated additional actions for consideration as part of the feedback process:

Actions	Feedback
Infrastructure	<p>Mixed views/opposed views in submissions and broader engagement.</p> <p>Suggested action to raise the Malpas and Guyra dam walls.</p> <p>Suggested action to build two dams for Port Macquarie.</p> <p>Suggested action to build new dams on the Clarence River .</p>



Qualitative research

Image courtesy of iStock.
Macleay River entrance, NSW.

Qualitative research

In June 2022, the department commissioned market research with 22 North Coast residents to obtain a cross-section of views on key actions outlined in the strategy. This qualitative research comprised 2 online group discussions with participants aged between 25 and 44, and 2 online group discussions with participants aged between 45 and 65.

Research participants also met the following criteria:

- Permanent residents or residents who had lived in the region part-time for over 10 years
- Approximately even mix of females and males per group
- Good mix of ages within the age ranges specified
- Participants from culturally and linguistically diverse and Aboriginal and Torres Strait Islander backgrounds
- A shared interest in North Coast regional water management issues
- Did not include people who had already participated in previous stakeholder consultation.

The market research focused on a subset of the shortlisted actions in the Draft North Coast Regional Water Strategy: Consultation Paper.

A summary of participant feedback is provided below.

North Coast region qualitative research outcomes

Key themes raised	Potential implications for the strategy
<p>Action 1.1: Develop ongoing arrangements for participation of local Aboriginal people in water management</p>	
<p>Residents have a good understanding of the proposed action, but some terminology is unfamiliar (i.e. ‘culturally appropriate’).</p> <p>The proposed action resonates well with residents in that they:</p> <ul style="list-style-type: none"> • agree that past governance models for Aboriginal communities (in relation to many issues beyond water) have not been very successful • respect the knowledge that Aboriginal people hold as traditional custodians • believe that Aboriginal knowledge around water is invaluable and should be integrated into water management. <p>However, many believe the action lacks substance due to its focus on ‘identification’ and ‘development’</p>	<p>Consider how the meaning of the term ‘culturally appropriate’ can be made clearer for residents.</p> <p>Consider whether the credibility of the action could be strengthened by outlining a concrete process for how the Aboriginal community will be involved in the development of the water programs, and in consultation methods and processes.</p>

Key themes raised

Potential implications for the strategy

Action 1.4: Deliver a river recovery program

Residents have a good understanding of the proposed action but references to landholder incentives raises questions amongst those living on the land.

Regardless, residents believe that the proposed action is very important and can see how they could benefit as:

- Residents typically agree that the health of the region's rivers is a cornerstone for many of the other benefits they enjoy
- Residents in some areas have experienced the downsides of poor river/water health
- Residents hope that 'whole-of-catchment' means that efforts will be 'cross-border'.

However, some residents remain sceptical:

- Older residents are typically more sceptical about the NSW Government's ability to deliver this program
- Residents living near water bodies in poor health (e.g. Lake Cathie) are sceptical.

Consider how examples or more information can be provided about 'landholder incentives'.

Consider whether the whole-of-catchment program can mention cross-border co-operation.

Consider whether the strategy can include reference to plans to improve the health of Lake Cathie.

Action 1.6: Assess the vulnerability of surface water supplies to sea level rise and saltwater intrusion

Residents understand what is being assessed, but few understand how these factors act as threats to surface water on a region-wide scale.

The action most resonates with residents when they think of water bodies located close to the coast.

But they find it harder to recognise the relevance of this assessment for rivers, and lakes located further inland.

The strong focus on 'assessment' and 'development' can impact the credibility of this action. For example, the reference to 'assessment', raised concern that action to address salinity and other water quality issues will be slow.

Consider how the action might include information to help residents understand and recognise the scale of the threat posed by sea level rise and saltwater intrusion.

Consider whether a timeframe can be attached to the development of the framework and the assessment to allay residents' fears that action will be slow.

Key themes raised

Potential implications for the strategy

Action 1.8: Characterise and plan for climate change and land use impacts on coastal groundwater sources

Residents have a high-level understanding of the proposed action.

In its simplest form, it is understood as a proposal to use advanced technology to map the existing groundwater across the North Coast, and to develop a theoretical model to help estimate how groundwater may be impacted by future climate change and land use scenarios.

The action resonates well because residents recognise the importance of groundwater and believe that data can help to inform better decision making.

Most find the action credible, but some residents remain suspicious of how the data will be used, and who will benefit from it.

Consider whether the action can provide reassurance about how the data will be used.

It would ideally clarify that the data will be used by government and other public sector agencies and organisations to inform decisions that ensure the region’s groundwater resource is used sustainably.

Action 2.3 – Establish sustainable extraction limits for surface water and groundwater sources

There is mixed understanding of this action, with some residents making incorrect assumptions about long-term average annual extraction limits (LTAAELs).

For example, some assume that LTAAELs will control the amount of water that landholders can extract from private dams on their properties (rather than the amount of water that can be extracted from surface or groundwater sources into storage).

While residents only have a broad understanding of the action, its underlying intent resonates well with many.

However, residents that incorrectly assume that LTAAELs will control the amount of water that landholders can extract from private dams on their properties can dismiss the idea because LTAAELs can seem unfair.

Most residents take the action at face value, but a smaller proportion approach it with suspicion due to poor understanding and existing negative beliefs around water sharing, particularly in relation to politics.

Consider how the language used to explain this action can be made as clear as possible. Plain and practical language is important.

Consider how a clear explanation of how LTAAELs work can be provided to avoid misunderstandings and improve the relevance and credibility of the proposed action.

Key themes raised

Potential implications for the strategy

Action 2.5 – Reduce the take of low flows

Most urban residents find the action difficult to understand due to its technical nature. And while the underlying intent of the action resonates with many residents, they believe it is most relevant to landholders.

Landholders are interested in high-flow conversions because they can see the upsides (e.g. increased water extraction) and downsides (e.g. cost of storage and irrigation infrastructure).

They are interested in the proposal to investigate low-flow bypasses, but primarily due to concerns with bypasses which allow some run-off to flow through the dam.

Consider how the language and diagrams used to explain this action can be made as clear as possible.

Consider how the benefit of this proposed action can be made more explicit for coastal/urban residents, e.g. benefits for downstream river health.

Consider how the credibility of low-flow bypasses can be improved, e.g. by using a case study or evidence to show that they do improve downstream water flow without negatively impacting landholder water security.

Action 2.6: Address catchment-based impacts of increased harvestable rights

The proposed action is broadly understood, and the underlying intent of the action resonates with many residents.

However, few understand how the maximum 30% harvestable rights limit is measured. This leads to questions about the NSW Government's ability to accurately measure landholders' adherence to the limit, which can drive doubts about the effectiveness of the assessment.

Landholders specifically hold concerns about what the assessment means for them, especially if the assessment determines that a limit <30% is more appropriate.

Landholders are particularly concerned that an inaccurate assessment may result in the need to reduce/remove infrastructure at great expense.

Consider how the language and diagrams used to explain this action can be made as clear as possible.

Consider how an accurate measurement of the harvestable rights limit can be explained in the proposed action to improve overall credibility.

Key themes raised

Potential implications for the strategy

Action 3.1: Support local councils to provide a secure and affordable water supply for towns

Residents only have a broad understanding of this action because:

- awareness and knowledge of the Safe and Secure Water Program and the Town Water Risk Reduction Program is very poor
- few understand what terms like ‘integrated water cycle management planning’ means
- the program information included in the action is currently broad.

While residents’ understanding of the action is broad, its underlying intent resonates because residents believe:

- More needs to be done to deliver safe and secure water supplies and sewerage services on the North Coast
- Councils don’t have adequate budgets to provide the water and sewerage services that communities need.

However, credibility is impacted by residents’ relationship to the local council and by the level of information included in the action:

- Many residents are critical of their local council and its ability to effectively plan and deliver safe and secure water supplies and sewerage services
- Some residents also feel sceptical about the water programs themselves due to the low level of detail provided and the ongoing water and sewerage problems in their communities.

Consider how the explanation of the Safe and Secure Water Program and the Town Water Risk Reduction Program can be improved to aid understanding of the action.

Wherever possible, use plain, practical language.

Action 3.5: Increase the use of recycled water for intensive horticulture

This action was well understood because the concept of recycled water is familiar to many residents.

The proposed action resonates strongly with many residents because they believe that climate change will make the use of recycled water essential in future.

The action has good credibility overall, but some residents are uncomfortable with the idea of using recycled wastewater on food crops.

If the intention is to use recycled grey water for intensive horticulture it may be good to state this, given some residents have concerns about the use of recycled wastewater.

If the intention is to use a mix of grey and wastewater, then consider how concerns about using recycled wastewater on food crops can be addressed.

Response to feedback

Response to feedback

The NSW Government has developed the regional water strategies over several years. It has consulted with a range of stakeholders at many points during this process. This has helped us to identify and design the actions that best meet the needs of the North Coast’s environment, Aboriginal people, communities and industries.

Throughout the consultation process, some issues that have been identified are relevant at a state level. Many of these state-wide issues have therefore been addressed as priority focus areas for the NSW Water Strategy. Other state-wide issues are being addressed by the NSW Groundwater Strategy and the Aboriginal Water Strategy.

Recent consultation on the North Coast Regional Water Strategy has highlighted some remaining areas of community concern. These are described in more detail in the earlier sections of this report. The sections below outline our response to these concerns.

The community concerns fall into 8 main themes:

- Using a holistic and integrated approach to support water quality, healthy rivers and ecosystems
- Understand, plan and prepare for climate change
- Support inclusion of Aboriginal people’s interests and expertise in water management and achieve cultural outcomes, including access to water
- Promote water conservation, reuse and recycling
- Manage increasing demand from different users in a sustainable and equitable way
- Address challenges and explore opportunities of new and existing infrastructure
- Improve data adequacy, collection and sharing
- Implement, review and update the strategy.

Use a holistic and integrated approach to support water quality, healthy rivers and ecosystems

Improving river health is complex. A different organisations and agencies have different roles, work become siloed which can lead to undesired outcomes. We heard during consultation that there is a need for a more integrated approach.

The North Coast Regional Water Strategy takes a whole-of-government approach. It also includes interventions for both land and in-stream values. Action 1.5 takes land-based action by supporting landholders to implement best practice land management. Action 1.4 will restore riparian zones and consider other in-stream interventions.

The department has recently received advice from the CSIRO on incorporating a systems approach to the regional water strategies. We will consider how to improve our systems approach at future regional water strategy review periods.

Understand, plan and prepare for climate change

During consultation concerns were raised about:

- our new climate evidence and modelling
- the integration of the North Coast Regional Water Strategy with other drought and flood response plans
- strengthening the BASIX framework to make new houses and major renovations more water efficient.

The new climate data and modelling that underpins the regional water strategies are an important advance on previous climate work. This new data helps us to understand the variability in the NSW climate and the risks from droughts. It could also help us better understand the magnitude and frequency of floods, but it is not yet fit for this purpose. Focusing on ‘worst-case’ climate projections helps us understand the full range of climate risks.

The regional water strategies have been developed with a whole-of-government

approach. Agencies responsible for drought planning and flood management all had input. We also worked in closely with local government agencies who are generally responsible for flood planning.

The NSW Government supports ensuring houses are as water efficient as possible. BASIX is a state-wide framework and therefore outside the scope of the North Coast Regional Water Strategy. However, Action 6.6 of the NSW Water Strategy will consider the effectiveness of BASIX in driving and sustaining water efficiency.

Support inclusion of Aboriginal people's interests and expertise in water management and achieve cultural outcomes, including access to water

Recognising and protecting Aboriginal people's water rights, interests and access to water is a high priority for the NSW Government. The NSW Government is developing the Aboriginal Water Strategy as the guiding document to set strategic direction for safeguarding these rights, interests and access. The strategy will be co-designed with Aboriginal people and it will identify and implement state-wide priorities to improve Aboriginal people's rights and access to water. The strategy will address some of the concerns we heard during consultation, including concerns about cultural water rules.

The North Coast Regional Water Strategy will support these priorities through more localised initiatives. It will also help address many of the key concerns we heard during consultation, including:

- consultation processes and timing
- maintaining cultural knowledge
- effects of climate change on cultural sites and interests.

Action 1.1 will address concerns about consultation processes. It will support communities to choose how to participate in water management. Establishing effective processes for governance, engagement and knowledge sharing is the first step to improving Aboriginal people's involvement in water management. This can only succeed when government works in partnership with local communities.

Governance models mandated by government on Aboriginal communities do not work.

Action 1.2 will support communities to address concerns about maintaining cultural knowledge. Place-based initiatives will enable Aboriginal communities to prioritise the issues and projects that are of the most importance to them.

Action 1.6 will consider the effects of sea level rise on cultural sites.

Promote water conservation, reuse and recycling

During consultation we heard concerns about the possible downstream effects of irrigating with recycled water. Recycled water is safe for use but can contain nutrients such as nitrogen and phosphorous when not treated to drinking standards. These nutrients can flow into streams and affect stream ecology and downstream river health.

Action 3.5 of the North Coast Regional Water Strategy will investigate the feasibility of increasing recycled water use for use in intensive horticulture. Importantly, the investigation will consider how the risks of using recycled water can be reduced and managed. It will draw on the experience of local councils and natural resource managers in the North Coast region and further afield.

To further address concerns about recycled water use we will continue to:

- collaborate with stakeholders to understand the benefits and risks of on-farm water recycling systems
- monitor on-farm water treatment system performance
- work with industry to improve water efficiency and to reduce the effects on off-site water quality.

Manage increasing demand from different users in a sustainable and equitable way

The concerns we heard during consultation about managing increasing demand from different users include:

- economic considerations dominate the regional water strategies
- the strategies may not recognise water as a scarce resource
- intensive horticulture may be affecting downstream water users and the environment
- changes to harvestable rights for coastal draining catchments will affect the environment but do not provide certainty to water users.

The NSW Government recognises that managing a scarce resource like water is difficult. This is one of the key drivers of the Water Management Act 2000 and our strategic direction as outlined in regional water strategies. Water is critical to the environment and to human activities and needs to be shared in a way that supports many different values. The regional water strategies address this by having 5 key objectives that support the environmental, Aboriginal, cultural, community and economic values of the region's water sources. The regional water strategies recognise the importance and interconnections of all these values.

The NSW Government also recognises that addressing tensions between water users and the environment is challenging. Changes to harvestable rights limits in coastal draining catchments can negatively affect the environment. Action 2.5 of the North Coast Regional Water Strategy will address these environmental effects. It will determine the capacity of individual water sources to sustain changes to harvestable rights limits. Action 1.5 of the strategy will support local landholders to implement best-practice land management. These actions will allow us to both protect the environment and provide benefits to water users.

Address challenges and explore opportunities of new and existing infrastructure

The 3 major concerns raised were:

- management of dam floors
- new dams and raising dam walls
- the ecological effects of and consultation issues regarding the Oven Mountain pumped hydro project.

Local councils are generally responsible for managing town water supply infrastructure. This includes managing existing infrastructure as well as identifying and planning new water sources, such as augmenting existing dams. The NSW Government supports local councils to improve water supply management through:

- the Town Water Risk Reduction Program
- the Safe and Secure Water Program
- a new town water supply framework.

Action 3.1 of the North Coast Regional Water Strategy will ensure this ongoing support is targeted and effective.

The NSW Government has identified the Oven Mountain Pumped Hydro project as critical state infrastructure that is being planned and implemented by a private consortium. Although the project is important for securing NSW's renewable energy needs, it will still need to go through the appropriate approvals processes. The project will need to demonstrate:

- appropriate consultation with Aboriginal communities
- rigorous environmental assessments
- plans to mitigate any potential environmental risks.

Visit the [Oven Mountain Pumped Hydro Project website](#) for more information.

Improve data adequacy, collection and sharing to achieve an evidence-based approach to improved planning, management responses and compliances

We heard concern about a lack of data to:

- drive and inform the regional water strategy
- support sustainable groundwater extraction.

Access to information, data and models allows better planning for wet and dry periods and decision making. The regional water strategies have been informed by the latest climate science and considerable consultation with local government and the community. Our approach to modelling and assessment is publicly available. The stochastic climate data sets developed for the regional water strategies have now been published on the SEED data hub.

The NSW Government recognises that data about our groundwater resources is lacking. The NSW Groundwater Strategy will address the major state-wide data initiatives. Action 1.8 of the North Coast Regional Water Strategy aims to characterise and protect North Coast groundwater resources from the effects of climate change.

Implement, review and update the strategy

Concerns about governance were raised during consultation. In particular, we received feedback that we need to:

- overcome siloed governance
- address the effects of governance on catchment health.

The regional water strategies have tried to overcome siloed governance by taking a whole-of-government approach to development and implementation. The Implementation Plan accompanying the North Coast Regional Water Strategy outlines the timing, responsibilities and funding sources of the strategy's actions. It prioritises and sequences the delivery of actions over the 20-year life of the strategy.

The first stage of implementation will focus on preparing for drought and setting up frameworks to improve the resilience of our catchments. It will prioritise the health and resilience of towns, the environment and outcomes for Aboriginal people.

We intend to report annually on the implementation of the regional water strategies to provide transparency and accountability. The strategies will also be reviewed and updated at least every 5 years. This will also allow them to be adaptive and to respond to changing and emerging issues. It will also allow us to improve our approach, and help us to overcome governance siloes by integrating a more system-based approach to our strategic planning.

More information:

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

