

Department of Planning and Environment

dpie.nsw.gov.au



Far North Coast Regional Water Strategy

Progress Report

June 2022





Acknowledgement of Country

The Department of Planning and Environment acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land and 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 in which Aboriginal people are included socially, culturally and economically.

Published by NSW Department of Planning and Environment

dpie.nsw.gov.au

Far North Coast Regional Water Strategy

First published: June 2022

Department reference number: PUB22/511

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, June 2022, and is subject to change. For more information, please visit dpie.nsw.gov.au/copyright

TMP-MC-R-WC-V1.2

Contents

Setting the scene.....	4
The Far North Coast region	4
What is the purpose of the progress report?	4
What could a more variable climate mean?	6
What should we focus on first?	8
Addressing the challenges.....	10
Priority 1: Take a holistic approach to land and water management	10
Priority 2: Ensure water resource development and use is sustainable and equitable.....	10
Priority 3: Prepare for future climatic extremes	11
Changing our engagement approach	12
Initial feedback from local councils.....	12
Next steps	12
Attachment 1: Far North Coast Regional Water Strategy – shortlist of proposed actions	14
Support local councils and water users to manage risks.....	19
Optimise use of existing water supplies	19
Investigate alternative water supplies.....	19

Setting the scene

The Far North Coast region

The NSW Government is committed to ensuring the North Coast region has healthy, reliable and resilient water resources so it remains a place where people want to live, work and play, both now and for future generations. This means ensuring that we make the best use of existing water resources and prepare for the future uncertainty presented by a more variable and changing climate.

The Far North Coast region lies within the traditional lands of the Bundjalung and Githabul nations. It is nested within the NSW North Coast planning region and borders Queensland in the north. The region is bound by escarpments and ranges to the north, south and west and the ocean to the east. Water is a significant part of the landscape, with many interconnected rivers, creeks, groundwater aquifers, wetlands and estuaries.

Like all regions across Australia, the Far North Coast faces a more variable and changing climate. We need to prepare now for the transition to a scenario where we do more with less water, make smarter decisions about our water use and management armed with better knowledge and information, and protect our most critical water needs.

What is the purpose of the progress report?

The NSW Government is developing 12 regional water strategies that bring together the best and latest climate evidence with a wide range of tools and solutions to plan and manage each region's water needs over the next 20 – 40 years.

The Far North Coast regional water strategy provides an opportunity to set the region up so it is prepared for a changing climate. This will help keep the Far North Coast an attractive place to live, work and visit.

The draft Far North Coast Regional Water Strategy, including a long list of options, was released in October 2020. Since public consultation on the Far North Coast regional water strategy we have:

- taken on board what we heard
- completed additional analyses
- prioritised the key challenges in the region to be tackled first; and
- shortlisted the actions to help meet these challenges.

This progress report presents an overview of this work. We are consulting with local governments on the proposed actions, and thus we have not yet committed to decisions regarding a final list.

The NSW Government recognises the considerable impact that the February/March 2022 floods have had on the communities in the Far North Coast region. We are publishing this progress report

to demonstrate progress, but we understand that releasing the extent of the work for public comment is not in the communities' best interests.

Stakeholders in the Far North Coast have a strong interest in regional water management issues. We are therefore releasing this progress report to ensure transparency and to give the community confidence that we are progressing this important work.

This progress report will also provide context to the Commonwealth Scientific and Industrial Research Organisation's (CSIRO) independent review of the Far North Coast regional water strategy. The review and the Department of Planning and Environment's (the department's) response to CSIRO's recommendations are being published concurrently with this progress report.

What are the challenges and priorities of the regional water strategy?

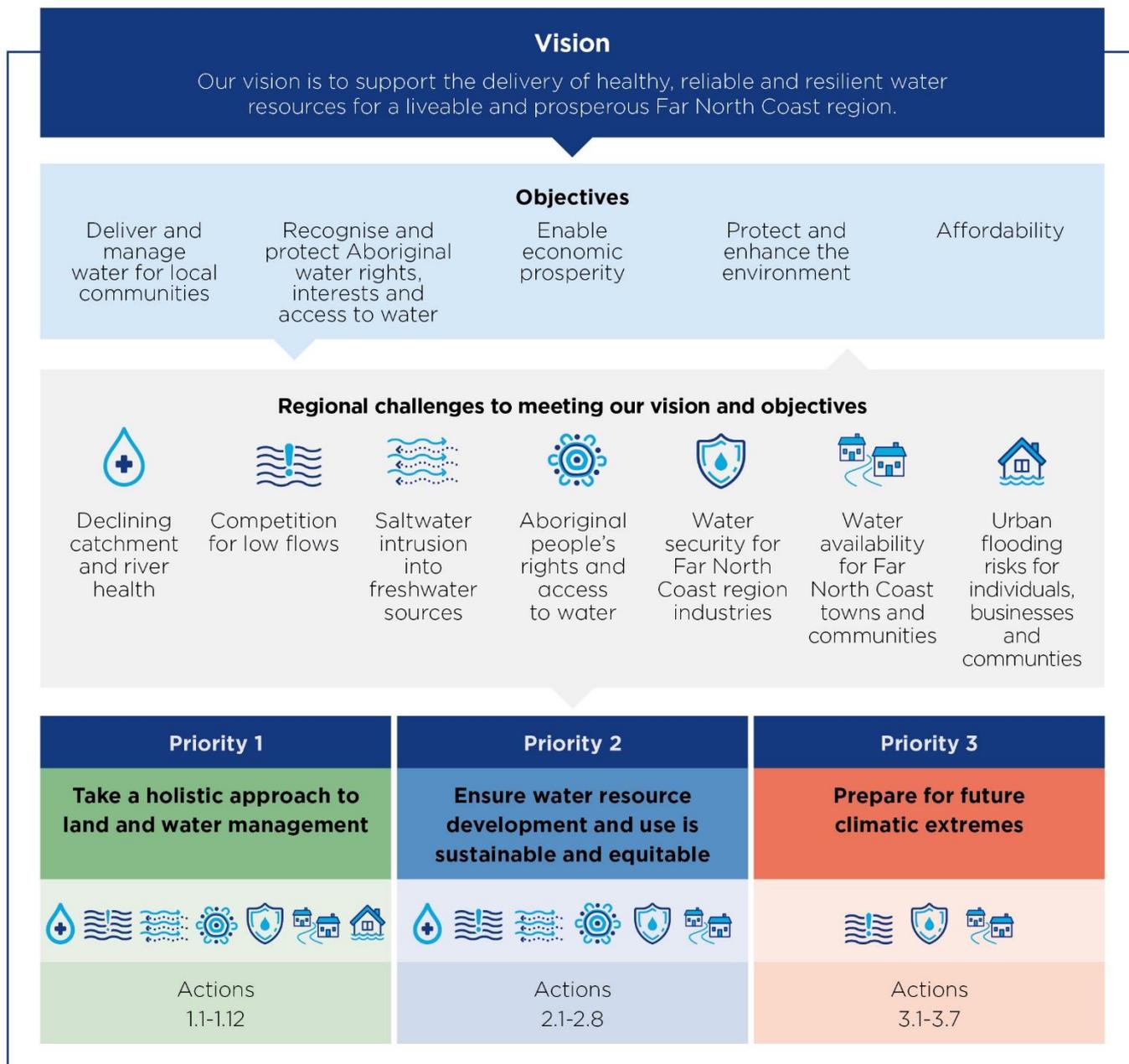


Figure 1 Water security challenges and proposed priorities for the Far North Coast region

What could a more variable climate mean?

The region has a variable climate with many years of low flows interspersed by high flow events. We don't know for certain what the future climate will be like. It may be similar to what we have experienced in the past, or it might be drier than what we have seen in our lifetimes. It could be more variable with extremes of wet and dry and severe droughts that are more pronounced or more frequent than in the past.

We need to plan for this uncertainty and fully understand the future risks we face.

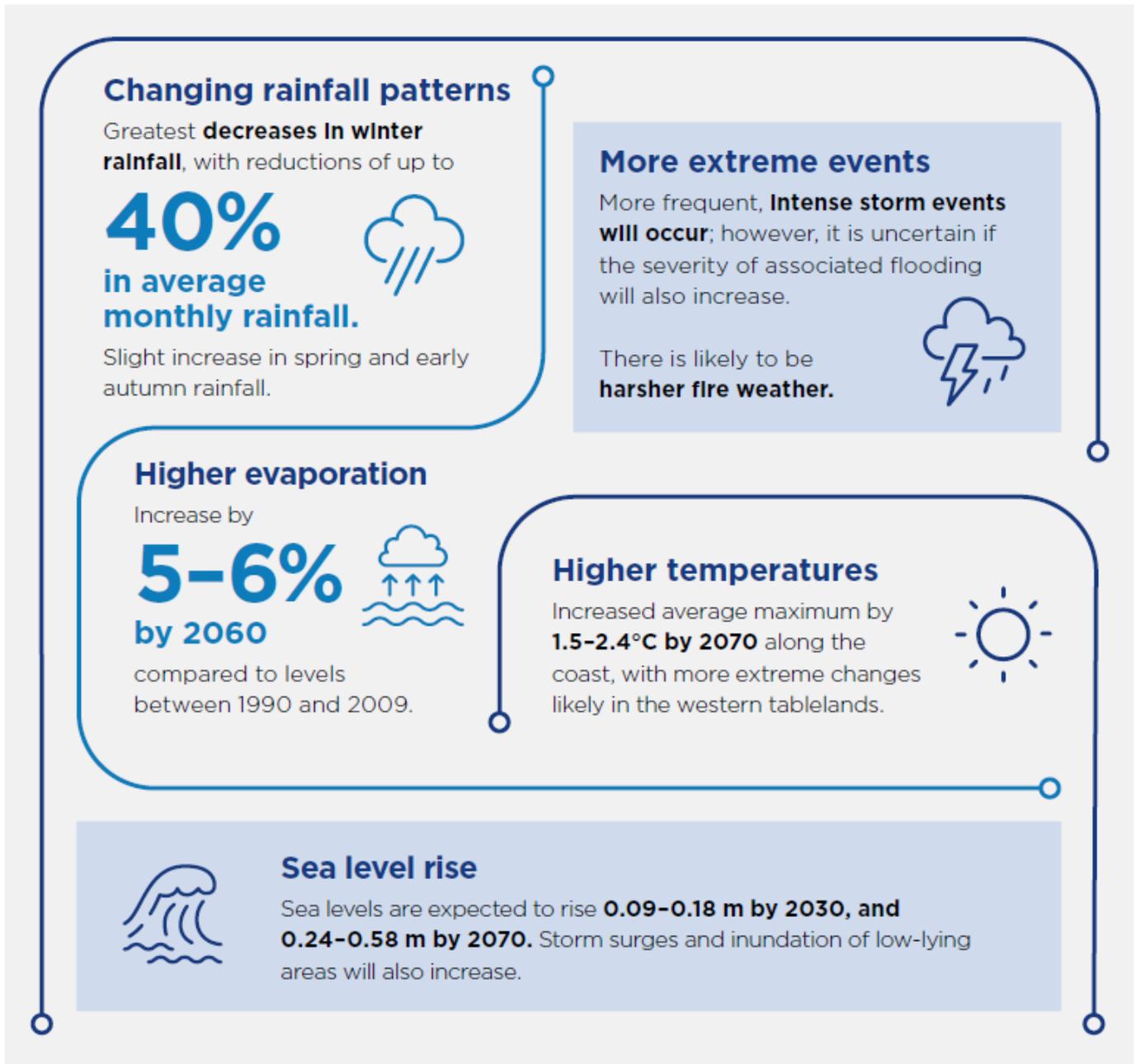


Figure 2 What the future climate could be like in the Far North Coast

What should we focus on first?

The draft Far North Coast Regional Water Strategy identified current and future water-related challenges and opportunities. Following feedback from public consultation and further technical analysis, we have identified the following seven key challenges that we propose should be the initial focus for the region. Other regional water challenges described in the draft Far North Coast regional water strategy are important and will be revisited in future reviews, which are expected to occur every three to four years.¹

Declining catchment and river health

Poor catchment and riparian management, combined with changes in catchment and river hydrology, are affecting river health, hydrologic connectivity and water quality.

Competition for low flows

Competition for water during low-flow periods is restricting access for landholders and industries and placing many of the region's waterways under stress.

Saltwater intrusion into freshwater sources

Sea level rise and changes in catchment hydrology are projected to impact freshwater coastal waterways and aquifers. We need to better understand the magnitude of this threat and how best to manage it.

Aboriginal people's rights and access to water

Historical dispossession of land, effects of colonisation and government water management processes continue to impact Aboriginal people's access to water and their ability to care for Country.

Water security for Far North Coast region industries

The viability and growth of regional industries is constrained by the uncertainty of future access to secure water supplies.

Water security for Far North Coast towns and communities

The reliability of town water supply sources is likely to be reduced with population growth and projected climate change.

¹ Challenges in the draft Far North Coast Regional Water Strategy that are not included in this document will be revisited in future reviews of the strategy, which are expected to be undertaken every 3–4 years.

Urban flooding is a persistent risk to individuals, businesses and communities

The complex nature of flood mitigation governance arrangements may be limiting the capacities of local councils to manage future flood risks.

Addressing the challenges

We need to prepare now for a future where water sources and services may come under even greater stress. We need to use the knowledge we have gained during the drought to find smarter, better ways of managing our water resources so that Far North Coast communities can thrive.

Importantly, there are limits on how much water can be sustainably taken from rivers and groundwater sources without causing short and long-term impacts, such as other water users being deprived of reasonable access to water and permanent damage to ecosystems. Surface water resources in the Far North Coast are fully committed and there is a risk of reduced water availability in the long term. This means that any new infrastructure or policy change that results in additional water or improved security being provided to one water user or group of users will lead to some water being taken off another user.

Getting the balance right means recognising these limits and trade-offs and understanding the stresses on the region's water resources and natural environment. While we may have to make some difficult choices, there are also opportunities to improve water governance for Aboriginal people; improve water use efficiency and use water more effectively; restore river, wetland and floodplain habitats and develop less climate dependent water sources that can improve water supply without adding to the pressures on finite resources.

There is no single action, or region-wide infrastructure solution, that we can take to address the challenges ahead. We have identified three regional priorities to meet the seven key challenges for the region. Each regional priority has a suite of supporting actions that complement each other.

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

To continue to protect and enhance the region's waterways, groundwater systems and the ecosystems they support, we need to ensure our management systems and decision-making processes use a holistic, whole-of-catchment approach. To achieve this, we propose 12 actions to:

- incorporate Aboriginal knowledge and culture into land and water management
- undertake whole-of-catchment planning, decision making and project delivery
- support landholders to adopt best practice land use and water management
- improve our understanding and management of the region's water resources.

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

Sustainable water management means that we meet the water needs of the present without compromising the ability of future generations to do the same. To ensure that water management is sustainable and equitable across the region, we propose 8 actions to:

- reduce the impact of water infrastructure on ecosystem health and aquatic systems
- better manage competing demands for water.

Priority 3: Prepare for future climatic extremes

We need to prepare for future climate changes — particularly extended drier periods — to help build a stronger and more resilient region. To ensure the region and its community are well prepared for these challenges, we propose 7 actions to:

- support councils and water users to manage risks
- optimise use of existing water supplies
- investigate alternative water supplies.

These priorities and actions can improve the Far North Coast region's readiness to adapt to a more variable climate and support the difficult decisions we need to make to deliver healthy, reliable and resilient water resources for the region's future.

These actions can help us position the Far North Coast region for a future where well managed, sustainable water resources are available for thriving people, industries, places and ecosystems. They can enable us to better understand the vulnerabilities of the region, put in place measures to improve the region's resilience and use our existing water resources more effectively.

Implementing some of the actions will involve difficult decisions and may impact the amount of water available to existing water users. Many of the shortlisted actions will need more detailed analysis and engagement. By starting to consider the benefits and implications of implementing the actions now, we will in a better-informed position to make difficult decisions, should the need arise.

Changing our engagement approach

Initial feedback from local governments

A critical feature of the final Far North Coast regional water strategy is making sure we identify clearly what actions and investments are needed now and those that will or may be needed further into the future. The strategy considers a 20-year timeframe, aiming to chart a progressive journey that enables us to meet existing challenges, identify and prepare for foreseeable coming challenges and lay the groundwork for adapting to future uncertainties and changed circumstances.

Local governments are responsible for planning and implementing water security measures for regional towns. As such, they are foundational stakeholders in the regional water strategy process. During our consultation with local councils, we have heard that:

- our approach to town water supplies in the Far North Coast is unclear
- they need time to understand how our assessment of water security risk for the region differs from their own assessments
- ensuring clear pathways to implementation and funding is critical.

We have also heard that current initiatives relating to flooding in the region are confusing. There is a lot of work happening across many tiers of government to address flood risks in the Far North Coast region. We need to better understand how the Far North Coast regional water strategy can support and be informed by this important work.

Next steps

The NSW Government is intending to publicly exhibit the draft Far North Coast regional water strategy consultation paper later in 2022. However, the timing, content and process for this public exhibition will depend on the community's capacity to engage meaningfully and on the feedback we receive from local governments in the interim.

Your voice is important. We will not finalise the strategy without a formal public exhibition to gauge community views and receive feedback. In the meantime, we will continue to consult with local and state government agencies to ensure the best outcomes for the region.



Figure 3 Regional water strategy delivery timeline

Attachment 1: Far North Coast Regional Water Strategy – shortlist of proposed actions



Actions not shown on the map are not location specific.

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

- Action 1.1: Develop ongoing collaboration with local Aboriginal people in water management
- Action 1.2: Support place-based initiatives to deliver cultural outcomes for Aboriginal people
- Action 1.3: Support improved governance
- Action 1.4: Deliver a river recovery program
- Action 1.5: Support landholder adoption of best practice land management
- Action 1.6: Assess the vulnerability of surface water supplies to sea level rise and saltwater intrusion
- Action 1.7: Identify environmental water needs to support healthy coastal waterways
- Action 1.8: Characterise and plan for climate change and land use impacts on coastal groundwater sources
- Action 1.9: Protect ecosystems that depend on coastal groundwater
- Action 1.10: Improve monitoring of water extraction
- Action 1.11: Improve catchment-scale flood modelling in the Richmond River catchment
- Action 1.12: Planning for land use pressures on coastal groundwater resources

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

- Action 2.1: Improve fish passage
- Action 2.2: Implement fish-friendly water extraction
- Action 2.3: Address cold water pollution
- Action 2.4: Establish sustainable extraction limits for surface water and groundwater sources
- Action 2.5: Implement daily extraction limits
- Action 2.6: Reduce the take of low flows
- Action 2.7: Support Aboriginal business opportunities
- Action 2.8: Address catchment-based impacts of increased harvestable rights

Priority 3: Prepare for future climatic extremes

- Action 3.1: Provide better information about water availability and climate risks
- Action 3.2: Review water markets
- Action 3.3: Investigate increased on-farm water storage
- Action 3.4: Support adaptive development of the regional water supply system
- Action 3.5: Undertake managed aquifer recharge investigations
- Action 3.6: Protect coastal groundwater resources for town water supplies and rural water users
- Action 3.7: Develop a recycled water plan for the Far North Coast

Figure 4 Summary of the Far North Coast proposed actions

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

Proposed action	Description	Challenges addressed
Incorporate Aboriginal knowledge and culture into land and water management		
Action 1.1 Develop ongoing collaboration with local Aboriginal people in water management	Fund existing or new Aboriginal groups to participate in water management processes. These groups will help facilitate culturally appropriate: <ul style="list-style-type: none"> • water knowledge programs • engagement and consultation. 	Aboriginal River health
Action 1.2 Support place-based initiatives to deliver cultural outcomes for Aboriginal people	Fund and support Aboriginal organisations and communities to develop tailored projects for their communities. This action would aim to move away from central decision making and develop a flexible program that can be adapted and is driven by the principle of self-determination and co-design.	Aboriginal River health
Undertake whole-of-catchment planning, decision-making and project delivery		
Action 1.3 Support improved governance	Develop a new governance approach that recognises stakeholder roles and responsibilities and supports whole-of-catchment planning, coordination, decision-making, and project delivery.	River health Aboriginal
Action 1.4 Deliver a river recovery program	Deliver a whole-of-catchment program that prioritises and guides works to improve the health of the region's rivers and the ecosystems they support, including native and threatened aquatic species.	River health Aboriginal Ind. water sec Town water avail Flooding
Support local landholders to adopt best practice land use and water management		
Action 1.5 Support landholder adoption of best practice land management	Build on existing programs to support private landholders to adopt best practice farm management. This will help improve the health of priority waterways by reducing the discharge of sediment and nutrients from agricultural land	River health Ind. Water sec
Improve our understanding and management of the region's water resources		
Action 1.6 Assess the vulnerability of surface water supplies	Improve our understanding of the risks of saltwater intrusion from sea level rise and changes in catchment hydrology and extraction to local council water supplies and	Sea level Ind. Water sec Town water avail

to sea level rise and saltwater intrusion	industries by developing an integrated catchment model for high priority sites.	
Action 1.7 Identify environmental water needs to support healthy coastal waterways	Define objectives and the amount and quality of water necessary to sustain key, priority surface and groundwater aquatic ecosystems across the region.	River health Aboriginal
Action 1.8 Characterise and plan for climate change and land use impacts on coastal groundwater sources	Increase investment in accurately determining the availability and vulnerability of groundwater sources from climate change. Ensure the NSW Government and the community have the necessary information to inform management frameworks, including considering protecting water resources in land use planning decisions.	Sea level Ind. water sec Town water avail
Action 1.9 Protect ecosystems that depend on coastal groundwater	Better understand groundwater dependent ecosystems and incorporate knowledge and monitoring programs into current and future water quality and water sharing plans.	Low flows Sea level
Action 1.10 Improve monitoring of water extraction	Expand on recent NSW Government metering reforms by investigating opportunities to further improve how we monitor water extraction, particularly in managing competition during low-flow periods and assessing the impact of extraction limits on water sharing plan objectives.	Low flows Sea level
Action 1.11 Improve catchment-scale flood modelling in the Richmond River catchment	Audit the existing Richmond River catchment model to understand its limitations and make required improvements.	Flooding
Action 1.12 Planning for land use pressures on coastal groundwater resources	Integrate land use planning considerations into the assessments of impacts on aquifer recharge and storage.	River health Industry water security Town water security

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

Proposed action	Description	Challenges addressed
Reduce the impact of water infrastructure on ecosystem health		
Action 2.1 Improve fish passage	Implement the NSW Fish Passage Strategy to replace or remediate six high-priority fish barriers in the Far North Coast region: Bray Park Weir, Jabour Weir, Pioneer Crossing, Eureka Road, Eden Creek Weir and Goolmangar Creek Weir.	River health Aboriginal
Action 2.2 Implement fish-friendly water extraction	Promote and implement the strategic installation of diversion screens on irrigation pumps and diversion offtakes across priority waterways and irrigation channels.	River health Aboriginal
Action 2.3 Address cold water pollution	Address cold water pollution from major storages in the Far North Coast region to restore near-natural river water temperature. This ensures native and threatened fish species have the necessary environmental cues to spawn, recruit, move and grow.	River health
Better manage competing demands for water		
Action 2.4 Establish sustainable extraction limits for surface water and groundwater sources	Review the existing long-term average annual extraction limits for surface water and groundwater sources to ensure they are sustainable; are based on best available science; and protect ecological, economic, social and cultural water needs.	River health Low flows Sea level Aboriginal Ind water sec Town water avail
Action 2.5 Implement daily extraction limits	Investigate and assess options for implementing daily extraction limits and determine an approach that would cost effectively ensure the protection of low and medium flows in streams where there is high competition for water.	River health Low flows Sea level Aboriginal Ind water sec Town water avail
Action 2.6 Reduce the take of low flows	Investigate and assess options for reducing water extraction during low flows, focusing on the effectiveness of high-flow conversions, adopting low-flow bypasses for on-farm dams, and options for landholders to store water extracted from the region's streams under basic landholder rights.	River health Low flows Sea level Aboriginal Ind water sec Town water avail

<p>Action 2.7 Support Aboriginal business opportunities</p>	<p>Support Aboriginal people develop business opportunities in the Far North Coast region by:</p> <ul style="list-style-type: none"> • identifying new business opportunities • better management of existing businesses • accessing support or grant funding. 	<p>Aboriginal River health</p>
<p>Action 2.8 Address catchment-based impacts of increased harvestable rights limits</p>	<p>Ensure that any impacts on downstream licence holders and the environment resulting from the uptake of increased harvestable rights are understood at the local scale and potential impacts from any increase are considered (and managed where necessary) in future water sharing plan arrangements.</p>	<p>Low flows River health</p>

Priority 3. Prepare for future climatic extremes

Proposed action	Description	Challenges addressed
Support local councils and water users to manage risks		
Action 3.1 Provide better information about water availability and climate risks	Improve existing platforms and products to provide information about water availability and climate change in forms that are suitable to stakeholders to allow better business planning.	Ind. Water sec Town water avail Low flows
Optimise use of existing water supplies		
Action 3.2 Review water markets	Review water markets to ensure water security, encourage trade efficiencies, and allow transparency of information.	Ind water sec Low flows
Action 3.3 Investigate increased on-farm water storage	Assess the barriers to constructing on-farm storages, and the value of on-farm storages to industry and local firefighting.	Ind water sec Low flows
Action 3.4 Support adaptive development of the regional water supply system	Design a process for adaptive regional water supply decision-making in the Far North Coast, and progress studies and provide support to develop the region's water supply.	Town water avail
Action 3.5 Undertake managed aquifer recharge investigations	Investigate possible sites for temporary storage of water in aquifers across the Far North Coast (Alstonville Basalt Plateau and North Coast Volcanics groundwater sources) to improve water storage efficiencies. Stored water could be used by towns, water users or provided to groundwater-dependent ecosystems.	Town water avail Ind. Water sec
Action 3.6 Protect coastal groundwater resources for town water supplies and rural water users	Investigate reserving water in key aquifers across the Far North Coast region for emergency supplies when surface water availability is low due to drought.	Town water avail Ind. Water sec
Investigate alternative water supplies		
Action 3.7 Develop a recycled water plan for the Far North Coast	Work collaboratively with local councils, industry and potential water users to identify the best uses of existing and potential recycled water streams around the Far North Coast region.	Town water avail Ind. Water sec