

# Regional Water Strategy

Far North Coast – Implementation Plan

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# Acknowledging First Nations people

The NSW Government acknowledges First Nations people as the 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 practise the oldest living culture on earth.

The NSW Government acknowledges the Bundjalung and Githabul people as having an intrinsic connection with the lands and waters of the Far 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 practise their traditional culture and lifestyle.

We recognise the First Nations people/Traditional Owners as the first managers of Country. Incorporating their culture and knowledge into management of water in the region is a significant step towards 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 and present 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 the 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 First Nations communities.

Artwork by Nikita Ridgeway.

# About this Implementation Plan

The Far North Coast Regional Water Strategy charts the NSW Government's long-term vision and direction for delivering sustainable and resilient water services for the next 20 years. It sets out clear and accountable actions for the NSW Government, local water utilities and industries to tackle the challenges facing the Far North Coast region. The strategy sets out the actions and responsibilities to achieve this vision.

The Far North Coast Regional Water Strategy has a 20-year timeframe, and the prioritisation and implementation of actions recognises this. We have already started work on many of the strategy's actions. Across the strategy's 20 years, the delivery of actions will span short, medium and longer-term time horizons.

For actions that have not commenced, we intend to implement some in the short term, and others in the medium- to long-term. This recognises that although all actions are important, not all can be implemented immediately.

The Far North Coast Regional Water Strategy has been designed to be adaptive. This means we will update the strategy and our implementation approach to respond to changing priorities. We will review and update the Far North Coast Regional Water Strategy at least every 5 years.

## Prioritisation

This implementation plan prioritises the actions for delivery over the next 20 years. It identifies work that can begin immediately. It also clarifies the dependencies of actions on each other.

We have prioritised actions based on:

- results of our analyses
- discussions with local councils and other government agencies
- community feedback
- available funding and future funding opportunities.

## Responsibilities

The implementation plan outlines responsibilities for delivery. This will allow us to better monitor the progress of actions, assess the effectiveness of the strategy, and identify areas for improvement.

## Key implementation partners

To effectively implement the actions, we will work with a diverse group of partners that includes the following state government agencies, local government authorities, community groups and industry groups:

- Department of Planning and Environment–Water (DPE–Water)
- Department of Planning and Environment–Environment and Heritage (DPE–Environment and Heritage)
- Department of Primary Industries–Agriculture (DPI–Agriculture)
- Department of Primary Industries–Fisheries (DPI–Fisheries)
- Department of Regional NSW
- Destination NSW
- First Nations/Aboriginal peak groups and communities
- Local councils and local water utilities
- Local Land Services
- National Emergency Management Agency
- Natural Resources Access Regulator
- NSW Environment Protection Authority (EPA)
- Marine Estate Management Authority
- Regional Development Australia
- Water Infrastructure NSW
- WaterNSW.



## Monitoring, evaluation and progress reporting

An integrated monitoring and reporting framework has been developed for the various NSW water strategies. We will apply this framework to the Far North Coast Regional Water Strategy and regularly report on the progress of implementation. This will provide transparency and accountability for delivering the Far North Coast Regional Water Strategy to the NSW community.

## Reading the Implementation Plan

The Far North Coast Regional Water Strategy is the result of significant analysis and community engagement and builds on a range of existing commitments and work already underway. This work and community feedback is the rationale for how implementation of the actions has been prioritised and is recorded under the heading **'Our starting point'**.

There is some work that can commence very soon. Programs planned to start in the next 12 months are recorded under the heading **'What we will do next'**.

There is also some work that will take more time or rely on other actions to be completed first before they can begin. Programs which have a commencement time longer than 12 months are recorded under the heading **'What we will do later'**. These programmes may also be subject to funding approval.

There may be some instances where a column is blank. This is because we cannot begin implementing every action at once. The monitoring framework will help the NSW Government and the community assess the progress of implementing the strategy in full.

The NSW Government agency or partner identified as responsible for delivering each program in the strategy is listed as **'Lead'** under each sub-action.

Agencies or partners that play a supporting role in delivering the program are listed as **'Supported by'** under each sub-action.



Image courtesy of Destination NSW. Koonyum Retreat, Mullumbimby.

# Priority 1

## Take a holistic approach to land and water management

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 1.1:</b> <b>Foster ongoing collaboration with local Aboriginal people in water management</b>	<p>The Department of Planning and Environment–Water is developing the NSW Aboriginal Water Strategy and an engagement framework that describes when and how we engage with First Nations and Aboriginal people and peak organisations in an inclusive and culturally appropriate way, with continued consultation with peak bodies and Aboriginal Community Controlled Organisations.</p>	<p>Finalise the Aboriginal water engagement framework.</p> <p>Set up a program and function to enable the Department of Planning and Environment–Water to fund existing and new local Aboriginal organisations to increase their capacity to be involved in water-related matters (consistent with the Department of Planning and Environment–Water’s <i>Interim Aboriginal community engagement fee guideline</i>).</p>	<p>Incorporate immediate actions from the engagement framework into business-as-usual activities.</p> <p>Finalise and implement the NSW Aboriginal Water Strategy.</p>	DPE–Water	<p>First Nations/ Aboriginal peak groups and communities</p>
<b>Action 1.2:</b> <b>Support place-based initiatives to deliver cultural outcomes for Aboriginal people</b>	<p>The Department of Planning and Environment–Water is developing the NSW Aboriginal Water Strategy (see Action 1.1).</p>	<p>Finalise the Aboriginal water engagement framework.</p>	<p>Co-design at least one project with Aboriginal people in the Far North Coast region that delivers cultural outcomes from improved access to water.</p>	DPE–Water	<p>First Nations/ Aboriginal peak groups and communities</p> <p>Local Land Services</p>



Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 1.2:</b> <b>Support place-based initiatives to deliver cultural outcomes for Aboriginal people (continued)</b>	<p>The Department of Primary Industries–Fisheries has developed a trial Aboriginal Cultural Fishing Local Management Plan in the Tweed catchment.</p>	<p>Finalise the Aboriginal Cultural Fishing Local Management Plan pilot in the Tweed catchment.</p>		DPI–Fisheries	<p>First Nations/ Aboriginal peak groups and communities</p> <p>Marine Estate Management Strategy (funding)</p>
<b>Action 1.3:</b> <b>Support whole-of-catchment governance</b>	<p>The NSW Government is developing and trialling a new governance framework for the Richmond River catchment to:</p> <ul style="list-style-type: none"> <li>• coordinate management</li> <li>• reduce diffuse source pollution</li> <li>• improve waterway health</li> <li>• contribute to the development of the Richmond River Estuary Coastal Management Program.</li> </ul> <p>Funded through the Marine Estate Management Strategy, the project supports a collaborative partnership forum that includes a wide range of stakeholders and organisations in the Richmond River catchment. The collaborative partnership regularly brings these stakeholders together to improve communication and coordination of natural resource management activities across the catchment.</p>	<p>Continue to support the Richmond River Collaborative Partnership and projects that improve the management of diffuse source water pollution in the Richmond River catchment.</p>	<p>Further action will be guided by:</p> <ul style="list-style-type: none"> <li>• learnings from the Richmond River pilot programme</li> <li>• the availability of future funding and resources.</li> </ul>	<p>DPE–Environment and Heritage</p> <p>DPE–Water</p>	<p>Marine Estate Management Strategy (funding)</p>

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 1.3:</b> <b>Support whole-of-catchment governance (continued)</b>	<p>The NSW Government is seeking to adopt a more intense, statewide focus on improving water quality. Through the NSW Water Strategy, the department is reviewing water quality governance in NSW to develop a water quality roadmap. The objectives of the water quality roadmap are to:</p> <ul style="list-style-type: none"> <li>• better understand current surface water and groundwater water quality management and monitoring arrangements at different levels of government, and the governance frameworks that support these</li> <li>• consider options to improve the clarity of roles, accountabilities and frameworks for monitoring, assessing and addressing surface water and groundwater water quality risks.</li> </ul>		<p>Further action will be guided by the outcomes of the water quality roadmap.</p>	DPE-Water	



Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 1.4: Deliver a river rehabilitation program</b>	Local Land Services provides advisory and extension services to landholders on best practice land management and is currently delivering the North Coast Local Land Services Natural Resources Management Plan which defines these services.	Continue to deliver Local Land Services best practice advisory and extension services.  Local Land Services will continue to implement the Riverbank Rehabilitation Project.	Continue to identify opportunities that respond to future natural disasters and flood events that align with river rehabilitation priorities.  Explore new funding opportunities to develop novel partnerships that allow Local Land Services to spread the breadth and impact of river restoration services and on-ground works.	Local Land Services	DPI–Fisheries  DPE–Water (support with River Styles framework and prioritisation)  Local councils
	Local Land Services is addressing flood damage and other erosion that occurred in Far North Coast catchments.	Provide advisory services that support participation in the blue carbon market.	Explore opportunities for funding to implement the Northern Rivers Watershed Initiative.		

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 1.5: Support landholder adoption of best practice land management</b>	<p>Local Land Services provides advisory and extension services to landholders on best practice land management and is currently delivering the North Coast Local Land Services Natural Resources Management Plan which defines these services.</p> <p>Local Land Services will work with the horticulture and livestock industries to address the impacts of farm sediment, pesticide and nutrient runoff.</p>	<p>Provide grants and farm property management advice to farmers to help reduce sediment and nutrient runoff through the Clean Coastal Catchments program.</p>	<p>Explore new funding opportunities to develop novel partnerships that allow Local Land Services to spread the breadth and impact of services and on-ground works.</p>	<p>North Coast Local Land Services</p>	<p>Marine Estate Management Strategy (Clean Coastal Catchments funding)</p>
	<p>The Department of Primary Industries is working with growers to identify farm practices that will improve management of fertiliser and erosion to reduce losses of nutrients and sediment from farms. They are conducting research trials to establish locally relevant best management practices for fertiliser, erosion and water management. This complements monitoring at research sites to understand how water, sediment and nutrients move off farmed areas and into the wider landscape.</p>	<p>Continue to undertake research into berry nutrition that will underpin locally relevant best management practices.</p> <p>Identify barriers to adoption of best management practices in berry farming systems.</p> <p>Research nutrient composition of compost and macadamia uptake pathways to improve fertiliser recommendations for macadamias.</p>	<p>Finalise locally relevant best management practices for fertiliser, erosion and water management.</p>	<p>DPI–Agriculture</p>	

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 1.5: Support landholder adoption of best practice land management (continued)</b>	<p>Department of Primary Industries–Agriculture will complete Stage 1 of the vulnerability assessment program for horticulture industries including blueberries and macadamias. Output of the program will include publishing:</p> <ul style="list-style-type: none"> <li>• an impact assessment looking at how current production might vary under future climate conditions in 2050</li> <li>• an adaptation assessment looking at what how we might be able to respond to negative impacts and provide direction for industry research and development, such as developing varieties more suited to a drier climate.</li> </ul>	Continue the vulnerability assessment for the dairy industry.		DPI–Agriculture	
	<p>The NSW Government is delivering the coastal management framework to support councils manage the coastal zone.</p> <p>The NSW Government has conducted an Estuary Inflow Risk Assessment for the NSW coast. This work can be an important input to developing coastal management plans.</p>	Support councils to collaborate with relevant agencies to provide guidance on the holistic management of estuary health through coastal management programs. This will set the long-term strategy for the coordinated management of the coastal zone.	Support councils to implement certified coastal management programs.	DPE–Environment and Heritage	Coastal management program Local councils DPE–Water



# Priority 2

## Improve our understanding of the region's water resources

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<p><b>Action 2.1:</b></p> <p><b>Assess the vulnerability of surface water supplies to sea level rise and saltwater intrusion</b></p>	<p>The NSW Government has recently developed hydrodynamic estuary models for the Marine Estate Management Strategy. In the Far North Coast, a hydrodynamic model has been developed for the Richmond River estuary. The model considered the impacts of sea level rise on low-lying land and floodplain drainage.</p> <p>The Department of Planning and Environment–Water has also developed a methodology for assessing the impacts of tidal pool water extractions on salinity dynamics in the Richmond River estuary.</p> <p>The Department of Planning and Environment–Water supports local councils to prepare sea level rise (tidal inundation) studies in coastal estuaries.</p>	<p>Identify objectives, modelling methodology, model domain and assessment metrics, and commence preliminary consultation process with communities and tidal pool users.</p>	<p>Model priority estuaries drawing on the hydrologic modelling completed for the Far North Coast Regional Water Strategy and the hydrodynamic models developed for the Marine Estate Management Strategy.</p> <p>Develop an impacts assessment framework to understand the economic and social impacts that saltwater intrusion may have on water users, local water utilities infrastructure and Aboriginal cultural assets.</p> <p>Develop information products to allow the public to use the assessment outputs.</p>	DPE–Water	<p>Water users</p> <p>Local councils</p> <p>DPE–Environment and Heritage</p>

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 2.2:</b> <b>Identify environmental water needs to support healthy coastal waterways</b>	The Department of Planning and Environment–Water has an established methodology for determining environmental water needs in diverse parts of the state.	Prioritise catchments and reaches for species assessments.  Conduct environmental DNA (eDNA) species surveys in priority catchments and reaches. The eDNA references library is still evolving, and in some instances more traditional field surveys may need to be used in the interim.	Develop flow and water quality requirements for priority ecological functional groups and ecological communities.	DPE–Water	DPI–Fisheries  DPE–Environment and Heritage
		Formalise the methodology and governance arrangements needed to determine the environmental water needs of the region’s catchments.			
		Support councils to apply the NSW Water Quality Objectives using the NSW Government’s <i>Risk-based framework for considering waterway health outcomes in strategic land-use planning decisions</i> . <sup>1</sup>  Facilitate NSW and local government and community understanding of coastal waterway resilience to natural hazards by monitoring system recovery to events, engaging with stakeholders and the community and drive evidence-based decisions on matters affecting waterways impacted by natural hazards.	Establish a recognised government and industry training program to apply the risk-based framework and the Water Quality Objectives.  Establish community-facing reporting platforms to share knowledge and information.	DPE–Environment and Heritage	Local councils  DPE–Water  EPA  Australian and NSW disaster funding arrangements

1. Office of Environment and Heritage and Environment Protection Authority 2017, *Risk-based framework for considering waterway health outcomes in strategic land-use planning decisions*, [www.environment.nsw.gov.au/research-and-publications/publications-search/risk-based-framework-for-considering-waterway-health-outcomes-in-strategic-land-use-planning](http://www.environment.nsw.gov.au/research-and-publications/publications-search/risk-based-framework-for-considering-waterway-health-outcomes-in-strategic-land-use-planning)

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 2.3:</b> <b>Characterise and plan for climate change and land use impacts on coastal groundwater sources</b>	<p>To inform the NSW Groundwater Strategy, the Department of Planning and Environment–Water commissioned the CSIRO to assess the potential impacts of a drier climate on the ability of our groundwater resources to recharge.</p>	<p>Determine the specific groundwater data, analysis and information we need to improve decisions for each region of NSW, including the Far North Coast.</p> <p>Establish criteria to identify critical groundwater resources and develop spatial products and data to allow for identification and mapping.</p>	<p>To be informed by the NSW Groundwater Strategy Implementation Plan.</p>	DPE–Water	Local councils



Image courtesy of iStock. Lake Ainsworth, Lennox Head.



Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<p><b>Action 2.4:</b></p> <p><b>Protect ecosystems that depend on coastal groundwater</b></p>	<p>Datasets for identifying and assigning ecological value for vegetation and wetland groundwater-dependent ecosystems are available on the Sharing and Enabling Environmental Data (SEED) website.</p> <p>Water sharing plans set objectives and rules for monitoring, evaluating, reporting and management of groundwater-dependent ecosystems.</p> <p>Coastal and groundwater water sharing plans specify rules that protect identified groundwater-dependent ecosystems (GDEs). During replacement, new GDEs are identified, to be included in the replacement plan. Coastal water sharing plans are replaced as they expire. An ongoing program of identification means that replacement plans provide rules to protect additional GDEs including:</p> <ul style="list-style-type: none"> <li>• Coastal wetlands identified in <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i>, Chapter 2.</li> <li>• Groundwater-dependent, high ecological value vegetation ecosystems identified by GIS analysis and probability mapping.</li> </ul> <p>These additional ecosystems will be included in the plans that are being replaced in 2023 and over the coming years.</p>		<p>Establish a baseline and monitor ongoing condition of vegetation, wetland and subterranean groundwater-dependent ecosystems.</p> <p>Correlate relationships between condition of vegetation, wetland and subterranean groundwater-dependent ecosystems.</p> <p>Research methods to assess dependence on groundwater by vegetation groundwater-dependent ecosystems.</p> <p>Review available data on springs and assess cultural and ecological value.</p> <p>Implement a risk-based program to regularly improve groundwater-dependent ecosystems data, information products, and adaptive management decisions for the benefit of social, cultural and environmental outcomes.</p> <p>Additional work to be informed by the NSW Groundwater Strategy Implementation Plan.</p>	DPE-Water	DPE-Environment and Heritage

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 2.5:</b> <b>Improve monitoring of water extraction</b>	<p>The NSW Government is progressing the non-urban water metering framework which became law in December 2018.</p> <p>The Department of Planning and Environment–Water has issued advice on how to install metering on portable pumps.</p>	<p>Finalise implementation of the non-urban metering framework in coastal catchments by December 2024.</p>	<p>Progressively make use of metered water use data to improve our estimates of extractions and to improve confidence in the use of models for water planning and policy purposes.</p> <p><i>This may support forthcoming work to establish sustainable extraction limits for surface water and groundwater sources (Action 3.4).</i></p>	DPE–Water	



Image courtesy of iStock. Tweed Heads, NSW.

# Priority 3

## Ensure water resource development and use is sustainable and equitable

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 3.1:</b> <b>Improve fish passage</b>	The NSW Government has identified 6 priority barriers in the Far North Coast region: Bray Park Weir, Jabour Weir, Eden Creek Weir, Goolmangar Creek Weir, Pioneer Crossing, and Eureka Road Crossing.	Implement the Reconnecting Fish Habitat program to restore fish passage and river connectivity at priority weir and road crossings, where funding has been secured, so that fish can move between habitats, avoid predators, find food and breed.	Continue to explore funding opportunities to implement actions at high priority sites.	DPI–Fisheries	Marine Estate Management Strategy  Structure owners  DPE–Water
<b>Action 3.2:</b> <b>Implement fish-friendly water extraction</b>	The NSW Government is collecting information on locations and sizes of pumps in the region by implementing the non-urban metering framework by 2024 (Action 2.5).	Use information collected on pump size and locations to prioritise screening opportunities for the region.	Continue to explore funding opportunities to implement actions at high priority sites.	DPI–Fisheries	
<b>Action 3.3:</b> <b>Address cold water pollution</b>	The NSW Cold Water Pollution Strategy identified Toonumbar Dam as a priority site for future mitigation activities. The NSW Government is continuing to work with WaterNSW to assess and review cold water pollution impacts and potential mitigation options associated with Toonumbar Dam.	The NSW Government is currently reviewing and updating the Cold Water Pollution Strategy. This will include an updated assessment of all large dams that have the potential to cause cold water pollution.	Identified priority sites, including Toonumbar Dam, will be assessed for cost-effective mitigation options. Funding opportunities will be explored to implement capital and operational solutions.	DPI–Fisheries	DPE–Water (including Water Infrastructure NSW)  Natural Resources Access Regulator  Structure owners



Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 3.4:</b> <b>Establish sustainable extraction limits for surface water and groundwater sources</b>	<p>The Department of Planning and Environment–Water has developed a project plan for progressing this work for surface water and connected alluvial groundwater resources. The department has already completed Phase 1 – Review of methods implemented in other jurisdictions. The department has commenced Phase 2, with a focus on identifying existing environmental water requirements.</p>		<p>Continue implementing the project plan:</p> <p>Phase 2 – Develop preferred option(s) for determining sustainable extraction limits: This will consider legislative requirements, data availability, and possible future changes to catchment hydrology.</p> <p>Phase 3 – Apply the preferred option(s): Undertake a pilot trial in one or more catchments to understand environmental, social, economic and cultural impacts.</p> <p>Phase 4 – Refine innovative water sharing arrangements and develop an implementation program.</p>	DPE–Water	
<b>Action 3.5:</b> <b>Reduce the take of low flows</b>	<p>The NSW Government is currently reviewing cease-to-pump rules in unregulated river water sharing plans.</p>	<p>Identify and assess options for installing low-flow bypass devices on new harvestable rights and licensed farm dams.</p>	<p>Implement the preferred and approved option for low-flow bypass installation on appropriate farm dams.</p>	DPE–Water	
<p>*Interdependency with Action 4.6</p>	<p>The NSW Government is undertaking a review of regulation of domestic and stock basic landholder rights through Action 1.6 of the NSW Water Strategy.</p>			DPE–Water	

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 3.6:</b> <b>Address catchment-based impacts of increased harvestable rights limits</b>	<p>Harvestable rights limits for farm dams in coastal-draining catchments were increased from 10% to 30% in May 2022.</p>	<p>Conduct catchment-based assessments for each coastal-draining water source to assess and confirm the 30% limit, or to recommend a different limit for that catchment based on its specific characteristics.</p> <p>This will include an estimate of impacts of increases in harvestable rights dams on the downstream flow regime.</p>	<p>Include harvestable rights in revised coastal water sharing plans as a numerical component of the long-term average annual extractions.</p> <p>Undertake a review of the update of harvestable rights to determine whether further water sharing plan amendments are required.</p>	DPE-Water	
<b>Action 3.7:</b> <b>Support Aboriginal business opportunities</b>	<p>The Department of Planning and Environment-Water is developing the NSW Aboriginal Water Strategy (see Action 1.1).</p> <p>The Department of Regional NSW has established the Aboriginal Partnership Program, which will work with Aboriginal organisations, businesses and individuals to identify and develop new business opportunities or better manage existing ones and access support or grant funding.</p> <p>During consultation on the Draft Far North Coast Regional Water Strategy, we heard that immediate priorities for this action should focus on partnerships for capability-building.</p>	<p>Work with Aboriginal organisations, businesses and individuals in the Far North Coast region to identify and support new and existing business opportunities and to facilitate access to support and/or grant funding.</p>	<p>Subsequent action will be guided by the final NSW Aboriginal Water Strategy.</p>	DPE-Water	<p>Department of Regional NSW</p> <p>First Nations/ Aboriginal peak groups and communities</p> <p>Local councils</p> <p>Regional Development Australia</p> <p>Destination NSW</p>

# Priority 4

## Prepare for future climatic extremes

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<p><b>Action 4.1:</b></p> <p><b>Provide better information about water availability and climate risks</b></p>	<p>The NSW Government is providing continued or expanded access to a range of online resources including:</p> <ul style="list-style-type: none"> <li>• WaterInsights portal, a powerful interactive tool that will provide meaningful data on how water is shared, allocated and managed in a way that is easy to understand</li> <li>• NSW Sharing and Enabling Environmental Data (SEED), which is the state's central resource for sharing and enabling environmental data. SEED now includes the stochastic climate datasets used for the Far North Coast Regional Water Strategy models.</li> </ul>	<p>Continue to provide access to more water models and modelled data in NSW SEED.</p>		DPE-Water	

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<p><b>Action 4.2:</b></p> <p><b>Support local councils to provide a secure and affordable water supply for towns</b></p>	<p>The NSW Government is supporting councils by:</p> <ul style="list-style-type: none"> <li>• providing best practice management frameworks to ensure a safe and reliable water supply</li> <li>• providing guidance on strategic planning outcomes</li> <li>• delivering the \$1.09 billion Safe and Secure Water Program funding high-risk projects across the state.</li> </ul> <p>The NSW Government’s Water Efficiency Program is supporting community adoption of water system efficiency, water conservation and demand management measures.</p>	<p>Implement the new regulatory and assurance framework.</p> <p>Improve collaboration to help local councils deliver more effective and meaningful strategic planning.</p> <p>Trial the ‘Opt In’ grant program which aims to assist councils in project development and/or delivery.</p>		DPE-Water	<p>Water Infrastructure NSW</p> <p>Local councils</p>



Image courtesy of Ryan Fowler, Destination NSW. Cudgen Farmland, NSW.



Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 4.2:</b> <b>Support local councils to provide a secure and affordable water supply for towns (continued)</b>	<p>The NSW Government’s new regulatory and assurance framework for local water utilities encourages local water utilities to develop and apply sound water security criteria and service levels either through a traditional approach, an enduring supply approach, or another credible and robust approach.<sup>2</sup></p> <p>The Department of Planning and Environment–Water has tested an additional options assessment method with Tweed Shire Council that better reflects council’s risk preferences and operating regime.</p>	<p>The Department of Planning and Environment–Water will establish common guidelines for the concept of enduring supply.</p>	<p>Where relevant, local and state governments will use the enduring supply guidelines as a basis for water security assessments and analyses that consider when to trigger additional water supply investments in the future.</p>	DPE–Water	

2. Department of Planning and Environment 2022, *Guidance on strategic planning outcome–Understanding water security*, [www.industry.nsw.gov.au/water/plans-programs/infrastructure-programs/safe-and-secure-water-program/iwcm/town-water-security-analysis](http://www.industry.nsw.gov.au/water/plans-programs/infrastructure-programs/safe-and-secure-water-program/iwcm/town-water-security-analysis)

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<p><b>Action 4.3:</b></p> <p><b>Support regional-scale, adaptive decision-making for town water supplies in the Far North Coast</b></p>	<p>Rous County Council is undertaking planning, design and approvals for the short- and medium-term actions identified in its Future Water Project 2060:</p> <ul style="list-style-type: none"> <li>• Stage 1: Upgrade of Marom Creek water treatment plant, accessing Alstonville and Woodburn groundwater</li> <li>• Stage 2: New groundwater source at Tyagarah.</li> </ul> <p>Tweed Shire Council is continuing to plan the Clarrie Hall Dam augmentation and is completing, and seeking approval for, an environmental impacts statement.</p> <p>Byron Shire Council is working on emergency connections for Mullumbimby to the Rous County Council bulk water supply with NSW Government funding for flood resilience.</p>	<p>Rous County Council will construct/improve Alstonville and Woodburn groundwater source infrastructure.</p>	<p>Rous County Council to operate Marom Creek Water Treatment Plant upgrade and Alstonville/Woodburn groundwater schemes.</p> <p>Tweed Shire Council to construct Clarrie Hall Dam augmentation (pending approval).</p> <p>Investigate the feasibility, including whole-of-life costs, yield assessments, lead times, community acceptance, environmental impacts, technical complexity and regulatory barriers for:</p> <ul style="list-style-type: none"> <li>• linking the Tweed Shire Council and Rous County Council water systems</li> <li>• connecting smaller systems in the Richmond/Brunswick catchments (Casino, Nimbin, Mullumbimby) to the Rous County Council bulk water supply on a permanent basis</li> <li>• constructing a regional desalination facility.</li> </ul>	Local councils	DPE-Water

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 4.3:</b> <b>Support regional-scale, adaptive decision-making for town water supplies in the Far North Coast (continued)</b>	<p>Richmond Valley Council in collaboration with Public Works Advisory have finalised the Casino Water Supply Scoping Study. This study considers a range of options for improving Casino’s water security, including accessing the dead storage area of Jabour Weir, raising the weir to increase capacity, or constructing an off-stream storage facility. It also considers the feasibility of accessing water from Toonumbar Dam.</p>	<p>Richmond Valley Council together with Department of Planning and Environment will complete the detailed options assessment for Casino’s water supply (co-funded through Safe and Secure Water Program). This will analyse and assess all the preferred options. The Department of Planning and Environment can offer specialised support in defining requirements and assessing the options, including to access water from Toonumbar Dam releases. This may need to include extending the regulated system to Jabour Weir and may require negotiation and collaboration with WaterNSW and existing regulated water users.</p>	<p>Develop the modelling methodologies and assessment methods that will underpin the options assessments.</p>	Local councils	DPE-Water WaterNSW
		<p>Develop a project plan to guide development of the adaptive pathways, including decision triggers with reference to councils’ local water utility strategic planning and other programmes.</p> <p>This may include using the options assessment method piloted with Tweed Shire Council.</p>	<p>Develop the adaptive plan for regional water supply decision-making.</p>	DPE-Water Local councils	

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 4.4:</b> <b>Support councils to improve flood risk management in the Far North Coast</b>	<p>The NSW Government provides funding and technical support to local councils through the Floodplain Management Program to develop flood studies, and develop and implement floodplain risk management plans.</p> <p>Further work in this area includes:</p> <ul style="list-style-type: none"> <li>• reviewing flood warning systems in priority areas of the Far North Coast with associated priority flood warning improvements</li> <li>• providing technical support to the Northern Rivers Reconstruction Corporation</li> <li>• preparing post-2022 flood behaviour analyses for the Far North Coast river systems.</li> </ul>	<p>Continue to support local councils to develop flood studies and develop and implement floodplain risk management plans under the NSW Floodplain Management Program and relevant Commonwealth-assisted programs.</p> <p>Complete flood behaviour analysis reports for the Tweed River, Tweed Coastal Creeks, Brunswick River and Marshalls Creek, Belongil Creek, Tallow Creek, Richmond River and Wilsons River.</p>	<p>Work with local councils to review the flood behaviour analysis reports and improve and upgrade flood models where necessary.</p>	<p>DPE– Environment and Heritage</p>	<p>Local councils</p>



Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 4.4:</b> <b>Support councils to improve flood risk management in the Far North Coast (continued)</b>	<p>The Australian Government has engaged the CSIRO to undertake the Northern Rivers Resilience Initiative. The Northern Rivers Resilience Initiative is being delivered in 2 phases:</p> <p>Phase 1 (complete) aimed to:</p> <ul style="list-style-type: none"> <li>understand the catchment and climate characteristics which led to the February/ March 2022 flooding</li> <li>rapidly prioritise flood resilience projects suitable for available funding.</li> </ul> <p>Phase 2 (commenced) aims to:</p> <ul style="list-style-type: none"> <li>collect suitable data and construct a whole-of-catchment model for the Richmond River by December 2024.</li> </ul>		<p>Consider new climatic data to improve model performance, where appropriate.</p> <p>Consider flood mitigation scenarios at the Richmond River catchment scale to be tested by CSIRO in 2025.</p>	DPE-Water	<p>CSIRO</p> <p>National Emergency Management Agency (funding)</p> <p>Local councils</p>

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<p><b>Action 4.5:</b></p> <p><b>Enhance coastal water markets</b></p>	<p>The NSW Government is working closely with the Commonwealth and other Murray–Darling Basin governments to ensure the ‘roadmap’ for water market reform represents practical and cost-effective reform measures that will improve confidence in water markets in the Murray– Darling Basin. It is likely that this work will have some statewide implications.</p> <p>The NSW Government is reviewing trade rules as part of the water sharing plans remake process using updated risk assessment data and the uniform application of trade principles.</p>		<p>Review any elements of the Murray–Darling Basin market reforms that may be relevant for the coast. This may include work to determine the current barriers to the development of a successful market, and whether there is the underlying demand for increased water activity.</p> <p><i>This will also be informed by Action 3.4: Establish sustainable extraction limits for surface water and groundwater sources.</i></p>	DPE–Water	
<p><b>Action 4.6:</b></p> <p><b>Investigate increased on-farm water storage</b></p> <p><b>**Interdependency with Action 3.5</b></p>	<p>This action may rely on data and decisions regarding:</p> <ul style="list-style-type: none"> <li>• sustainable extraction limits (Action 3.4)</li> <li>• review of low-flow bypasses (Action 3.5)</li> <li>• implementation of the harvestable rights review (Action 3.6)</li> <li>• enhancing coastal water markets (Action 4.5).</li> </ul> <p>See the relevant sections of this plan for the next steps of these actions.</p>			DPE–Water	

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 4.7:</b> <b>Investigate managed aquifer recharge in the Far North Coast region</b>	<p>The NSW Government has commenced the Managed Groundwater Recharge Framework project. This is a policy framework for managing all activities that intentionally put water into the ground. Managed aquifer recharge schemes are a key activity.</p>		<p>Seek funding to develop the aquifer interference program that will include a policy update and commence the aquifer interference approvals.</p>	DPE-Water	



Image courtesy of iStock. Rocky Creek Dam, Lismore.

Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<b>Action 4.8:</b> <b>Develop a recycled water plan for the Far North Coast</b>	The NSW Government is implementing a new regulatory and assurance framework for local water utilities. The framework details works that require approval, including the supply of recycled water.  The NSW Government is providing ongoing support for local water utilities under the new regulatory and assurance framework. This includes specialist recycled water technical support.	The NSW Government will update the <i>NSW Guidelines for Recycled Water Management Systems</i> <sup>3</sup> to fully integrate with the approvals process for recycled water in the new regulatory and assurance framework.		DPE-Water	NSW Health  Local councils
	The NSW Government is developing a draft Recycled Water Roadmap for consultation, informed by targeted engagement with water utilities and other stakeholders. The draft roadmap is expected to be completed by June 2023.	The NSW Government will consult on and finalise the Recycled Water Roadmap. This will identify policy and regulatory options based on the feedback from consultation (by June 2024).		DPE-Water	NSW Health  Local councils
	Rous County Council are undertaking a preliminary site investigation and regulatory consultation to support development of their recycled water investigations.	Rous County Council is progressing investigations into using recycled water. The Purified Recycled Water for Drinking Investigations – Option Assessment of Indirect and Direct Potable Reuse Schemes is a multi-year investigation that will evaluate the concept-level feasibility of implementing purified recycled water as a potential Stage 3 option (2040–2060) of the Future Water Project.		Rous County Council	DPE-Water

3. Department of Primary Industries–Office of Water 2015, *NSW Guidelines for Recycled Water Management Systems*



Action	Our starting point	What we will do next	What we will do later	Lead	Supported by
<p><b>Action 4.8:</b></p> <p><b>Develop a recycled water plan for the Far North Coast (continued)</b></p>	<p>The Department of Primary Industries has installed a bioreactor and a managed wetland to manage the drainage water from a research greenhouse (at Wollongbar Primary Industries Institute) to assess the efficacy of reusing this water. Water draining from both the bioreactor and a managed wetland is then available for reuse.</p> <p>The Department of Primary Industries has assisted in the installation of a 'GroScale system' at Coffs Harbour. One aim of the GroScale system is to reuse the drainage water for fertigation (after it has been disinfected).</p> <p>The Department of Primary Industries continues to monitor the fluxes of nutrients and sediments on a range of intensive coastal agriculture farming systems. Included in this activity is one site that uses recycled greywater from Coffs Harbour.</p>	<p>The Department of Primary Industries will start measuring the fluxes of water and nutrients from the research bioreactor and managed wetland.</p>	<p>Develop best management practices for blueberry nutrient management for use by industry. This will include advice on managing the additional nutrient load in recycled water.</p>	<p>DPI- Agriculture</p>	

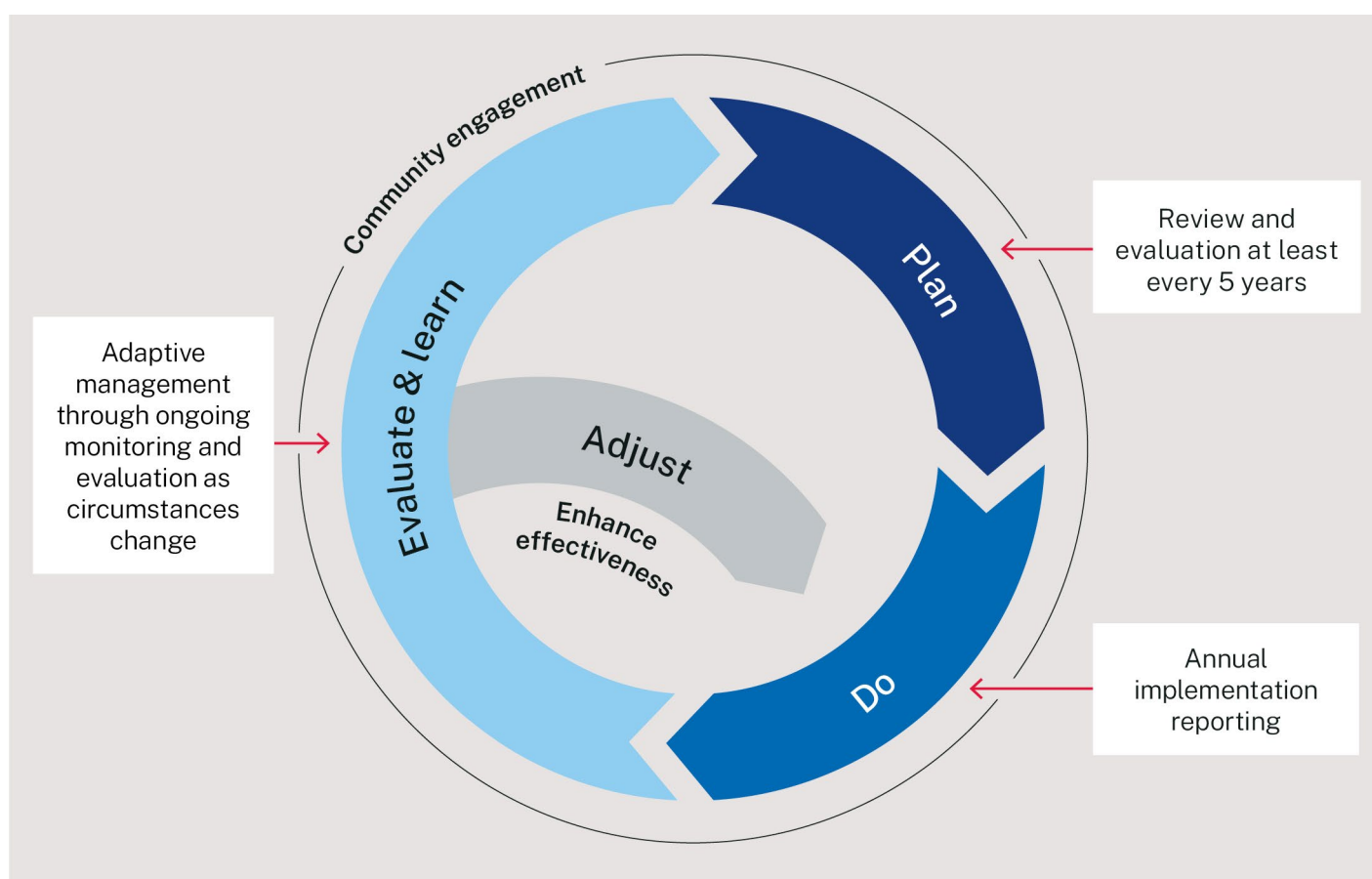
# Ongoing monitoring, adaptation and reporting

The Far North Coast Regional Water Strategy is designed to respond to changing circumstances. We will undertake a formal review of the strategy at least every 5 years or in response to significant changing conditions and government priorities. The formal review will ensure that the key assumptions, such as population and demographics, have not significantly changed. Amendments may be made in response to key changes in water demand, social preferences, science and technology, economic conditions, or other

events, including how climate change assumptions and responses evolve. These amendments may result in a shift in priorities, and the implementation plan will be updated to reflect this.

We will report every year against actions in the implementation plan, so that the community can track our progress and we can demonstrate which actions have been delivered, or continue to be delivered, in that year.

**Figure 1. Regional Water Strategy Process**



**Table 1. Supporting activities**

Action	Lead agency	What we will deliver in the next 5 years
Reporting	DPE-Water	Publish regular progress updates on delivery of the actions in the Far North Coast Regional Water Strategy Implementation Plan so that the community can track progress.
Monitoring and evaluation	DPE-Water	Apply the framework developed for the NSW Water Strategy to monitor, review and report against the actions in the Far North Coast Regional Water Strategy.
Review	DPE-Water	Undertake a formal review of the strategy at least every 5 years, or in response to changing circumstances. The formal review will ensure that the key assumptions, such as population and demographics, have not significantly changed.

