WATER MANAGEMENT ADVISORY COMMITTEE

28 September 2023

COMMUNITY STRATEGIC PLAN 2018-2028

ONE – CENTRAL COAST IS THE COMMUNITY STRATEGIC PLAN (CSP) FOR THE CENTRAL COAST LOCAL GOVERNMENT AREA

ONE – CENTRAL COAST DEFINES THE COMMUNITY'S VISION AND IS OUR ROADMAP FOR THE FUTURE

ONE – CENTRAL COAST BRINGS TOGETHER EXTENSIVE COMMUNITY FEEDBACK TO SET KEY DIRECTIONS AND PRIORITIES

One - Central Coast will shape and inform Council's business activities, future plans, services and expenditure. Where actions are the responsibility of other organisations, sectors and groups to deliver, Council will work with key partners to advocate on behalf of our community.

Ultimately, every one of us who live on the Central Coast has an opportunity and responsibility to create a sustainable future from which we can all benefit. Working together we can make a difference.

RESPONSIBLE

WE'RE A RESPONSIBLE COUNCIL AND COMMUNITY, COMMITTED TO BUILDING STRONG RELATIONSHIPS AND DELIVERING A GREAT CUSTOMER EXPERIENCE IN ALL OUR INTERACTIONS. We value transparent and meaningful communication and use community feedback to drive strategic decision making and expenditure, particularly around the delivery of essential infrastructure projects that increase the safety, liveability and sustainability of our region. We're taking a strategic approach to ensure our planning and development processes are sustainable and accessible and are designed to preserve the unique character of the coast.

Good governance and great partnerships

G2 Engage and communicate openly and honestly with the community to build a relationship based on trust, transparency, respect and use community participation and feedback to inform decision making

There are 5 themes, 12 focus areas and 48 objectives

COMMUNITY STRATEGIC PLAN 2018-2028 FRAMEWORK

All council reports contained within the Business Paper are now aligned to the Community Strategic Plan. Each report will contain a cross reference to a Theme, Focus Area and Objective within the framework of the Plan.

Meeting Notice

The Water Management Advisory Committee
of Central Coast Council
will be held at the Nexus Building and and Remotely – Online,
on Thursday 28 September 2023 at 2.00pm,
for the transaction of the business listed below:

1 Procedural Items

2 Reports

Jamie Loader
Chairperson

1.1 INTRODUCTION: WELCOME, ACKNOWLEDGEMENT OF COUNTRY, APOLOGIES, DISCLOSURE OF INTEREST

Chairperson

We acknowledge the Traditional Custodians of the land on which we live, work and play.
We pay our respects to Elders, past, present and emerging and recognise their continued connection to these lands and waterways.
We acknowledge our shared responsibility to care for and protect our place and people.

1.2 PREVIOUS BUSINESS: CONFIRMATION OF MINUTES, REVIEW ACTION LOG

Chairperson

Note: Meeting scheduled for 14 June 2023 was not held, as quorum was not reached.

22 February 2023 meeting minutes and action log are included at attachment 1, for confirmation and review.

In response to action item no. 46 – question regarding unsealed roads/roadway maintenance objectives - please refer to the memo provided at attachment 2.

Attachments

1	MINUTES - Water Management Advisory Committee - 22 February 2023	D15556059
2	Memo - Response to WMAC- sealing roads and streambank rehabilitation	D15843781

Central Coast Council

Water Management Advisory Committee

Location: Nexus Building Wyong
and Microsoft Teams

22 February 2023

MINUTES

Attendance

Members	**Status**
John Asquith	Absent
Ken Brookes	Present
Daryl Mann	Present
Pam McCann	Present
Mick Redrup	Apology

Staff	**Status**
Jamie Loader, Director Water and Sewer	Present
Danielle Hargreaves, Unit Manager Headworks and Treatment	Apology
Luke Drury, Section Manager Assets and Planning	Present
Satpal Singh, Lead Engineer Water Resilience	Present
Kashif Rana, Project Manager Integrated Water Cycle Management	Present
Mohan Seneviratne, Strategy Lead Water Conservation	Present
Tarni Penn, Strategy Lead Water Resources	Present
Rachel Gibson, Team Leader Civic Support	Present
Rachel Callachor, Meeting Support Officer	Present

Procedural Items

1.1 Introduction: Welcome, Acknowledgement of Country, Apologies, Disclosure of Interest 2.00pm

The Chairperson, declared the meeting open at 2.00pm

The Chair read an Acknowledgement of Country statement.

Apologies received were noted.

The Chair called for any disclosures of interest. No disclosures were received

1.2 Previous business: Confirmation of minutes, review action log 2:08pm

The group confirmed the minutes from the previous meeting as noted below, which were distributed to members via email and uploaded to Council's website:

Water Management Committee meeting held 28 September 2022

Confirmed: Pam McCann

It was noted that a Committee member has provided feedback via email which addresses some aspects in relation to outstanding action items and the Coordinator noted he would review and come back with more information.

Reports

2.1 Water Supply System Status Report 2:10pm

Recommendation

That the Committee notes the Water Supply System Status report for February 2023.

Presentation by Satpal Singh, Lead Engineer Water Resilience, covering:

- Dam Storage levels, Rainfall statistics
- River extractions
- Status of Important Assets
  Hunter Water storage and Transfers
  Water Demands (weekly and monthly)
  Climate Driver Update (La-Nina)
  Rainfall outlook (March to May 2023), Max and Min Temperature Outlook (March to May 2023)
- Ourimbah Creek streamflow – Feb to April 2023
- DPI Combined Drought Indicator

Question regarding what caused subsidence in the Mardi to Mangrove Pipeline.
Response provided: This is in part related to the flooding of Wyong River, this has effected the stability and trench back fill.

2.2 Water Resilience Project Status Update 2:22pm

Recommendation

That the Committee notes the Water Resilience Project Status Update for February 2023.

Presentation by Luke Drury

Covering actions identified in the Central Coast Water Security Plan, the three pillars of this Plan and related status updates.

Question regarding observed leakage of 0.75% Average Day Demand
Response provided: This was the observed leakage in the specific suburbs targeted within a three month period. Clarified that system wide non-revenue water trends at 10% and is on par or better than other water corporations/organisations.

Question regarding long term direction in relation to water losses
Response provided: This will be assessed further after base line work is complete, to provide a greater understanding of actual leakage rates. Part of the next stages will be setting a target for leakage per number of connections, as part of a broader water conservation program, to ensure Council is not over investing.

Question regarding SCADA system / network to trace leaks
Response provided: Contract work is undertaken for leakage surveys. Information provided in relation to future development of algorithms to assist detecting leaks via SCADA and satellite imagery.

Questions regarding trade-off between pressure and water quality management vs supply continuity to customers.
Response provided: This is a future improvement project to investigate and implement.

2.3 Strategic Planning Assurance Framework and CCC Works In Progress 2:41pm

Recommendation

That the Committee notes the Strategic Planning Assurance Framework report and provides feedback to Council staff on the identified key issues highlighted in the report.

Presentation by Kashif Rana, providing status update on the Framework and Works in Progress.
Request to Committee members to consider availability for involvement Council is keen to invite one or two of the advisory group members to each of the forums.
Woolcott has issued observer guidelines to be followed.
Process involves three phases:

Phase 1 – Forum 1 March 2023
Phase 2 – Forum 2 May 2023
Phase 3 – Survey – April-July 2023 – Open community survey on YVOC

Engagement process and Outcome proposed explained and information provided that this process will help to decide what is to be included in the Customer Charter.

Deliberative Forum 1 – approx. 3 hours duration, Topics – Project/Masterplan and IPART

Deliberative Forum 2 – seeking suggestions for the forum
And overview of proposed agenda

Action: Request for interest and availability from Committee to attend either of the forums – 1 & 2 March and 9 & 10 May
Email will be sent to WMAC members, with further information and form, seeking response by end of week.

Question regarding FTE staffing levels for the Water and Sewer Directorate.
Response provided detailing information regarding the overall staffing levels forecast to deliver improved performance for the community.

2.4 Implementing the IPART determination - Six Monthly Progress Report 3:09pm

Jamie Loader provided a verbal update regarding CCC Water and Sewer Delivery Plan, a formal report will be presented to Council meeting of March 2023

Outlined the plan to the Committee

This will be the first progress report, covers July – December.
Key focus areas: Accountability, Community Engagement and Asset management

Questions regarding catchment and bushfire management staff.
Response provided: Advised they are included as a part of current and upcoming recruitment. Also described the upcoming security of critical infrastructure risk assessments that will include consideration of natural hazards. Noted one of DPE's 12 strategic planning outcomes is understanding water quality risks. This will include data trends changing over time and modelling. Potential development of a water quality model to supplement the Wathnet model and consider impacts of mitigation measures.

Question re: Water quality and development proposals.
Response provided: There is now one single central coast LEP and DCPs supporting this. Catchment management being worked on with Central Coast Council Strategic Planning. Follows the WaterNSW neutral or beneficial impact requirement – seeking to utilise existing checklists for development applications in Sydney Water Catchments.

Action: Question regarding unsealed roads/roadway maintenance to meet water quality objectives – this will be followed up with information to be provided to the Committee.

Follow up question regarding LandCare / Rivercare following previous floods, for example: 1999, 2007 and river rehabilitation plans, and options and process to enable applications for grant funding, and if there is anything similar that is occurring following the recent weather events, rain, including bushfires as well.
Response provided describing the overlap with the estuary management programs.

As part of IPART review, efficiency measures.

Question regarding pressure pipeline assessment and what assets it covers.
Response provided: Primarily sewer rising mains identified from the associated risk and criticality framework. Ability to undertake assessments of critical water mains as well.

2.5 General business 3:29pm

Question from Committee member regarding status of the Mangrove Mountain private waste facility site.
Response provided: Advised legal action is still ongoing and there is still remedial work that would need to be undertaken and overview provided regarding the legal proceedings.

The Meeting concluded at 3:32pm.

Next meeting: Wednesday 14 June, 2-4pm

Minutes finalised and endorsed on 23 March 2023.

Jamie Loader
Director Water and Sewer
Chairperson

Luke Drury
Section Manager Assets and Planning
Coordinator

Minutes of the Water Management Advisory Committee 22 February 2023 contd

Action Number	Meeting Date	Action	Responsible Party	Action Update	Status
24	27/5/20	Staff to provide a table as a Standing Agenda Item, as presented in the Briefing Note on Water Resilience Works that lists each project and provides a brief status at each Water Management Committee Meeting.	Water and Sewer staff	Ongoing – to be included in future agendas	Ongoing
35	12/8/20	Staff to provide ongoing annual summaries to the Advisory Group of any breaches of Environment Protection Licence's after the relevant annual returns are submitted as well as an update on any major incidents in the network should they occur.	Water and Sewer staff	Ongoing – to be included in future agendas	Ongoing
42	22/7/2022	Unit Manager Headworks and Treatment to contact Committee member to confirm these access arrangements and that the area is still open for public access, generally, and further facilitate that this is being conveyed and made available.	Unit Manager Headworks and Treatment	Access arrangements to confirmed, contact is Liz Knight.	Complete
43	28/9/2022	CCC Asset and Planning is seeking feedback from WMAC on the following matters: Requesting feedback and input from Committee members, specifically regarding the 12 outcomes and their views on what may be of interest to the community.	Project Manager Integrated Water Cycle Management	Initial feedback being sought following September 2022 WMAC meeting. Feedback due COB Monday 31 October 2022.	Complete
44	28/02/2023	Noted a Committee member has provided feedback via email which addresses some aspects in relation to outstanding action items.	Unit Manager, Assets and Planning / Water and Sewer staff	The Coordinator noted he would review and come back with more information.	

Action Number	Meeting Date	Action	Responsible Party	Action Update	Status
45	28/02/2023	Request for interest and availability from Committee to attend either of the forums – 1 & 2 March and 9 & 10 May Email will be sent to WMAC members, with further information and form, seeking response by end of week.	Project Manager Integrated Water Cycle Management	Meeting Support staff to distribute EOI and further information.	
46	28/02/2023	Question regarding unsealed roads/roadway maintenance meet objectives – this will be followed up with information to be provided to the Committee.	Water and Sewer staff		

Memo

Central Coast Council

To: Water Management Advisory Committee (WMAC)

From: Danielle Hargreaves, Unit Manager Headworks and Treatment

Subject: Response to questions from WMAC on road sealing programs and streambank rehabilitation in Council's drinking water catchments

Date: May 2023 (note this response was prepared for the 14 June WMAC meeting which did not go ahead)

At the meeting held 28 February2023, the Water Management Advisory Committee requested information about roads sealing programs and streambank rehabilitation in the drinking water catchments.

This memo provides a response to these questions.

Question: What is the recent/current/future unsealed roads/roadway upgrade program to improve water quality in the drinking water catchments? Daryl Mann and Ken Brookes described studies and previous projects in this area and asked what our current programs are.

Unsealed roads are identified as a water quality risk in Council's Drinking Water Management System (DMWS) Risk Register.

Unsealed Roads Assessment – 2020

In 2020 Council's Catchment Management Officer (CMO) reviewed and assessed unsealed gravel roads in our drinking water catchments and provided recommendations to the Roads Asset Team to support sealing programs for roads posing most risk to our drinking water quality.

At the time, there were approximately 250,000m^2 of public unsealed gravel roads in our drinking water catchments. This included 26 gravel roads in the Wyong River catchment, 12 gravel roads in the Ourimbah Creek catchment, 21 gravel roads in the Mangrove Creek Weir catchment and 16 gravel roads in the Upper Mooney Dam catchment.

After a desktop review, the CMO identified 22 unsealed roads in Wyong River and Ourimbah Creek catchments as posing the highest risk of impacting our drinking water quality. The CMO then inspected these roads and created a priority list for sealing using factors such as proximity to water, roadside

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Wyong Administration Building: 2 Hely St / PO Box 20, Wyong NSW 2259

vegetation, soil type, surface type/ quality and gradient of slope (in conjunction with the current Roads Asset Teams Prioritisation Criteria Assessment Framework).

The CMO recommendations were then given to the Roads Asset Team.

Multi- Criteria Assessment Framework (MCA)

Councils Road Assets team have developed a Multi-Criteria Assessment (MCA) Framework to prioritise the sealing of unsealed roads. The MCA takes into account several technical, economic, environmental, and social factors. One of the critical environmental criteria is the impact on water quality and drinking water catchments, which is assigned a weighting of 15% of the total score.

Council has made downward CAPEX budget adjustments to the sealing unsealed roads program over recent years, however funding of this program is due to be reinstated from 2024/25, beginning with Chandlers Lane Wyong Creek, which currently holds the highest priority ranking. Based on the current funding levels allocated to this program, other roads, namely Beaven Lane Jilliby, Ravensdale Road Ravensdale and Brush Creek Road Cedar Brush Creek are due to be sealed in subsequent years.

From the list of 387 unsealed public roads in the Central Coast LGA, which have been assessed under the MCA Framework, the top 15 roads with highest priority are all in drinking water catchments (see Table 1).

Table 1 List of unsealed roads prioritised for sealing programs (Multi- Criteria Assessment)- current March 2023

Rank	Asset Name	Suburb	MCA Total Score (%)
1	Chandlers Lane	WYONG CREEK	63.6
2	Beaven Lane	JILLIBY	63.2
3	Ravensdale Road	RAVENSDALE	63
4	Brush Creek Road	CEDAR BRUSH CREEK	63
5	Ourimbah Creek Road	PALM GROVE	63
6	Bunning Creek Road	YARRAMALONG	62.4
7	Dooralong Road	LEMON TREE	62.4
8	Whitemans Lane	DOORALONG	59.2
9	Platypus Creek Lane	PALM GROVE	59.2
10	Hitchcocks Lane	DOORALONG	56.4
11	Dittons Road	DOORALONG	56

12	Davenport Lane	JILLIBY	55.2
13	Brothers Road	JILLIBY	55
14	Macadamia Lane	WYONG CREEK	52.2
15	Dunks Lane	JILLIBY	52.2

Councils CMOs will continue to advocate for and support road sealing programs in the drinking water catchments.

Question: Has W&S or Council estuary team identified the need for any river rehabilitation/streambank work upstream of the water supply weirs following the recent La Nina period and associated floods?

Planning and management in response to flood events and changing streambank conditions in the drinking water catchments have been addresses in this memo under the following headings:

- Streambank Rehabilitation Plans- Wyong River and Ourimbah Creek
- Weed Management Plan for Mangrove Creek Weir drinking water catchment
- Recent and current streambank rehabilitation projects
    - Emergency Flood Recovery Grant for Dubbo Gully
- Future streambank rehabilitation projects

Streambank Rehabilitation Plans- Wyong River and Ourimbah Creek

Council has identified that former Streambank Rehabilitation Plans for Wyong River and Ourimbah Creek which were developed in 2008 are outdated, particularly after the recent La Nina period and associated floods.

Council's Estuary Management Team are hoping to be awarded an upcoming Federal Government $4M Grant under the *Urban Rivers and Catchment Program* (confirmation of grant commencement and closing dates is pending). Under this grant there is $100,000 allocated to develop new Streambank Rehabilitation Plans for Wyong River and Ourimbah Creek ('Plans'). The deliverables of these Plans will include streambank assessments, and identification and prioritisation of management options to address the locations where issues are present.

Council's Estuary Management Team will collaborate with Council's Catchment Management Officers and other agencies for their local knowledge and input on these Plans, and new technologies will most likely be used that improve efficiencies with streambank assessments (e.g., UAV technology, satellite imagery).

Updated Streambank Rehabilitation Plans for Wyong River and Ourimbah Creek will enable strategic management of streambanks and enable Council and other stakeholders to source adequate resources and funding to support the implementation of the Plans.

Weed Management Plan for Mangrove Creek Weir catchment

Council has engaged a contractor to develop a Weed Management Plan for Council owned land in the Mangrove Creek Weir catchment, which is due for completion in April 2023 (draft version completed). This Plan lists weed management options and recommendations based on site-specific weed risk assessments and includes proposed outcomes for up to five years for each recommendation.

The objectives of this Plan are:

- site specific quantitative and qualitative weed assessments in all thirty sites in the Plan area
- for each site assessed, provide a Health Score and Recovery Potential
- prioritise sites and provide recommendations, key performance indicators, and estimate of resources to assist the future direction of ecological restoration works for up to five years
- ensure all weed management recommendations are suitable for application in a drinking water catchment
- prepare map layers showing prioritisation of sites, weed density and distribution and disturbances within the sites, and providing GIS mapping data and UAV flight logs/data to Council
- prepare a map layer of potential revegetation areas and provide recommendations to assist the recovery of disturbed native vegetation within the study area

This Plan will drive management of weeds and revegetation on Council owned land in the Mangrove Creek Weir drinking water catchment, including primarily in the riparian corridor.

Recent and current streambank rehabilitation projects

Most streambank erosion issues in Wyong River and Ourimbah Creek drinking water catchments are on private land, and due to this, Council has found that working in partnership with Local Land Services (LLS) to provide support and funding for streambank rehabilitation projects is the most effective way to manage streambank erosion on private land.

Council is in the closing month of delivering on the Federal Government *Environment Restoration Fund (ERF) Grant* (2020-2023). Under this grant, multiple landholders received funding for rehabilitation works on private land totalling $114,000, which was administered by LLS under their incentive grant agreements. Table 2 lists outcomes that have been achieved under this grant.

Table 2: Outcomes from LLS incentive grant agreements on private properties in drinking water catchments- funded by Federal Government ERF Grant awarded to Council (2020-2023)

Outcome	Completed to date	Completed by 30 June 2023 (with landholder contribution)	Total
Riparian fencing	2.16 km	0.5 km	2.66 km
Riparian zone protected by fencing	3.1 ha	0.5 ha	3.6ha
Area of weed control	2.6 ha	Ongoing	2.6 ha ongoing
Area of revegetation	0.5 ha	2.1 ha	2.6 ha
Number of endemic stems planted	800 plants	1400 plants	2200 plants

Council has identified an issue with streambank erosion on Council owned land behind 81 Ourimbah Creek Road, Ourimbah, which is in the Ourimbah Creek weir pool, and are currently rehabilitating this site using W&S operational budget. To date, rehabilitation works has included:

- arborist work to cut and realign large trees that threatened to fall and increase erosion at the site
- native planting of 600 mat rush (*lomandra longifolia)* and 130 endemic shrubs/ trees, ranging in size from tube stock to large pots
- on-going weed removal and site maintenance.

The CMOs continue to collaborate with other organisations to improve riparian health, for example the Community Environment Network (CEN) Green Teams programs, which are groups of private landholders who implement weed control programs on private property and are guided by a CEN bush regeneration expert. There is a Mangrove Mountain/ Somersby Green Team, and newly formed Wyong Creek/ Yarramalong Green Team, and an upcoming Ourimbah Green Team.

Palm Grove Landcare continue their rehabilitation works on Council and state government owned land in the Ourimbah Creek weir pool. They are currently implementing a $100,000 NSW Environmental Trust Grant for continued and expanded rehabilitation and restoration in this riparian zone.

Emergency Flood Recovery Grant for Dubbo Gully

Council has entered into a Funding Deed Contract with Local Land Services to implement a Federal Government *Emergency Flood Recovery Grant* on Council owned land in the Mangrove Creek Weir drinking water catchment (Dubbo Gully), to the value of $95,000.

This project will treat flood impacts and other threats to the River-flat Eucalypt Forest on Coastal Floodplains of Southern NSW and Eastern Victoria (Threatened Ecological Community) within the Mangrove Creek riparian zone. It was identified that one of the most significant environmental issues to emerge from the March and July 2022 flood events is the risk to rapid recolonisation of riparian land by invasive weed species. Streambank erosion and downstream sedimentation has created disturbance conditions favourable for accelerated weed growth.

This project includes the following:

- Treatment of environmental weed infestations on 10ha
- Seed collection for future revegetation at priority riparian sites
- Management of invertebrate pests across 160ha

This project is being managed by the CMOs. It is in the implementation phase, with contractors currently onsite and completion due by June 2023.

Upcoming streambank rehabilitation projects

In the upcoming Federal Government *Urban Rivers and Catchment Program* grant, the following projects and outcomes are proposed:

- Another grant program to support on ground works on private land, funded by Council under this grant, but administered by LLS
- Support for ongoing maintenance of rehabilitated sites on private land that received funding under the ERF grant
- Ongoing partnerships with government and non-government organisations to achieve conservation and restoration outcomes on public and private land that is not Council owned or managed, for example, collaboration with LLS, NPWS and Darkingjung Local Aboriginal Land Council.

Contact and authors

Authorised by:
Danielle Hargreaves
Unit Manager Headworks and Treatment

Contact:
Jessica Preston
Catchment Management Officer

Item No: 2.1

Title: Water Supply System Status Report

Department: Assets, Infrastructure and Business

28 September 2023 Water Management Advisory Committee

Reference: F2019/01200 - D15820753

Author: Satpal Singh, Lead Engineer Water Resilience. Assets and Planning

Manager: Luke Drury, Section Manager. Assets and Projects

Executive: Danielle Hargreaves, Acting Director Water & Sewer

Recommendation

That the Committee notes the Water Supply System Status report for September 2023.

Report purpose

To provide the Committee with a summary of the status of the water supply system (Action Item 9).

Executive Summary

The Water Supply System Status report provides the Committee with a summary of the status of the Central Coast water supply system including dam storage levels, headworks operations statistics, water restrictions, status of important headworks assets, Hunter water storage levels and transfers, and climatic forecasts.

Background

The Water Management Advisory Committee (WMAC) requested staff to provide a summary of the status of the Central Coast water supply system, as a Standing Agenda Item (Action Item 24).

Current Status

1. Summary

Mangrove Creek Dam (MCD) remains close to full at 98.76% as on 28/8/2023. It has been in this range for more than a year since 5/7/2022 when it first overflowed. Upper Mooney Dam (UMD) is always volatile and has currently drawn down to 40.61%. Mardi dam is currently at 61.7%.

The quality in MCD at the Boomerang Creek Tunnel offtake point is currently outside of the raw water envelope that can be treated effectively at Mardi Water Treatment Plant (MWTP). This is due to a combination of the destratification system having been offline and the

highest level of water ever stored in the dam. This has resulted in low dissolved oxygen and high dissolved metal (iron, manganese) levels within the raw water. The water sourced from MCD is being mixed in Mardi Dam to bring it within the acceptable raw water quality band for MWTP.
While there has been lower available extractions from Wyong and Ourimbah sources, these are still allowing the water quality in Mardi Dam to remain within the treatable water quality band for MWTP after mixing with water sourced from MCD.

Somersby Water Treatment Plant (SWTP) has been using water from UMD and run of the river from Mangrove Creek Weir coupled with small releases from MCD to meet increased production demand due water quality issues at MCD and Mardi Dam.

Recent La Nina climate conditions ended in mid-March 2023. The status has been ENSO neutral for some time but latest update from the BOM is El Nino Alert with positive IOD which typically decreases rainfall for central and south-east Australia and can increase the drying influence of El Nino.

The average weekly demand during the winter months was about 573ML. The maximum weekly demand during same period was 605ML.

Hunter Water Storage level is 93.7% as of 28 August 2023. Currently Hunter Water is supplying Central Coast about 5ML/day in water quality mode.

Report

1. Headworks Operations Statistics

The table below is the summary of where the water has been sourced from for supply, water demand, storage levels and other important information for Central Coast water supply for the report period.

Table 1 Headworks Operations Statistics

	Jun 2023	**Jul 2023**	**Aug 2023** (Until 28/08/2023)
Total Water Sourced for Supply (ML)			
MCD Release and Run of River D/S of MCD @ SWTP	555	417	343
Upper Mooney Dam @ SWTP	863	1,006	605
MCD Release @ MWTP	44	825	838
Mardi Dam @ MWTP	1,191	634	503
Woy Woy Bores @ GWTP-Woy Woy	0	0	0
Net Hunter Transfers (+ from HW and – to HW)	-70	-127	34

Total Demand (ML)	2,454	2,551	2,278
Mardi Mangrove Transfers (ML)			
To Mangrove Dam	-	-	-
To Mardi Dam / Mardi WTP	44	825	838
To Mangrove Creek	113	43	-
Rainfall (mm)			
MCD Rainfall	14	11	42
Mardi WTP Rainfall	3	1	54
Upper Mooney Dam	19	19	48
Total Sourced from environment for Storages (ML)			
Wyong River to Mardi Dam	384	248	246
Ourimbah Creek to Mardi Dam	357	273	288
Mangrove Creek Weir (run of river) to MMD via Spur Main	0	0	0
Mangrove Bore field to Mangrove Creek Weir	0	0	0
Ourimbah / Bangalow Bore field to Mardi Dam	0	0	0
Central Coast end of period Storage Levels (%)			
Total Storage	97.5	96.7	96.1
Mangrove Creek Dam	99.8	99.2	98.8
Upper Mooney Dam	63.4	47.9	40.1
Mardi Dam	60.8	60.6	61.9
Hunter Water end of period Storage Levels (%)	93.5	92.0	93.7

2. Water Restrictions

The Council adopted triggers for Central Coast water restrictions are tabulated below. Water restrictions start at Level 1 when Mangrove Creek storage falls to 50%.

Table 2 Water Restriction Triggers

Restriction Level	Initiate Restriction Level when Mangrove Creek Dam falls to	Remove Restriction Level when Mangrove Creek Dam rises to
Level 1	50%	*55%
Level 2	40%	42%
Level 3	35%	37%
Level 4	30%	32%
Level 5	25%	27%

* Changed to 55% from 52% by the Council resolution on 13/02/2020

The restriction triggers are presented as a guide that should be applied within the overall context of the relevant factors influencing the security of the supply such as:

- The seasonal outlook (for stream flows, rainfall, and temperature)
- Achievement of the current restriction target
- The timing and risk associated with any contingency water supplies, and
- Any other relevant information.

Council transitioned from Level 1 Restrictions to Water Wise Rules on 7 December 2020.

3. Status of Important Headworks Assets

The table below is the list of operations affected or at risk / offline by any current or potential asset issues. These affected operations may or may not impact on system yield.

Table 3 Status of Important Headworks Assets

Operation Impacted	Status	Asset Impacting	Status Comments	Date due back in service	Responsible Officer for return to service
Raw Water Transfers to Mardi Dam	Available				
Mardi to Mangrove Transfers	Available		Raw water quality issues at MCD offtake (DO + Manganese) improving. MCD water used after mixing with Mardi Dam water		
Raw Water Transfers from MCW	Available				
Mooney Dam to WTP	Available				
Mardi Dam to MWTP	Available				
Coastal Transfers	Available				
Western Transfers	Available				
HW Transfers	Available				
Woy Woy Borefield	Mothballed				

4. Dam Storage Levels

As of 28 August 2023, total storage is 96.1%, MCD storage level is 98.8%, UMD and Mardi Dams are currently at 40.6% and 61.7% respectively.

Figure 1 Total Dam Storage Level

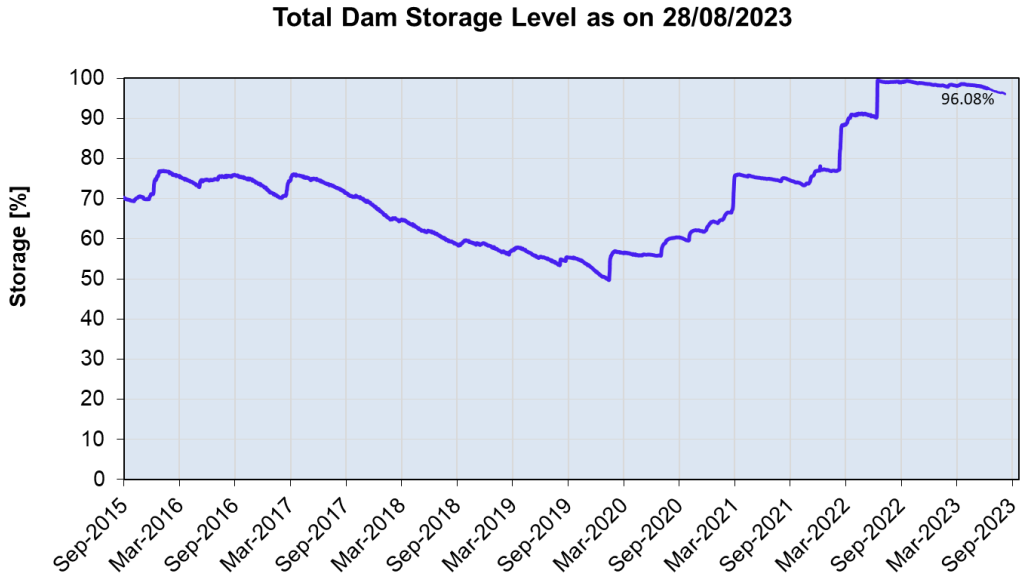


Figure 2 Mangrove Creek Dam Storage Level

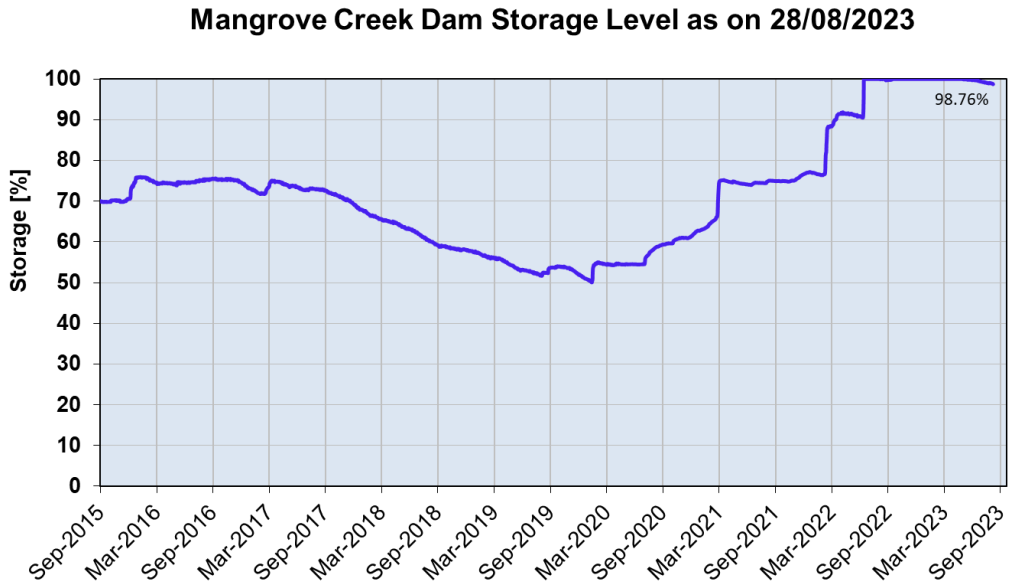


Figure 3 Upper Mooney Dam Storage Level

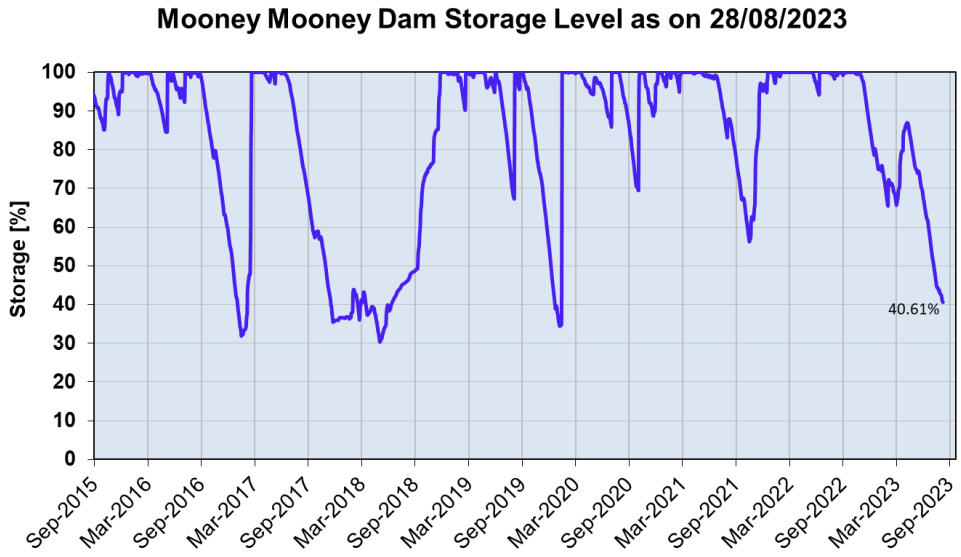
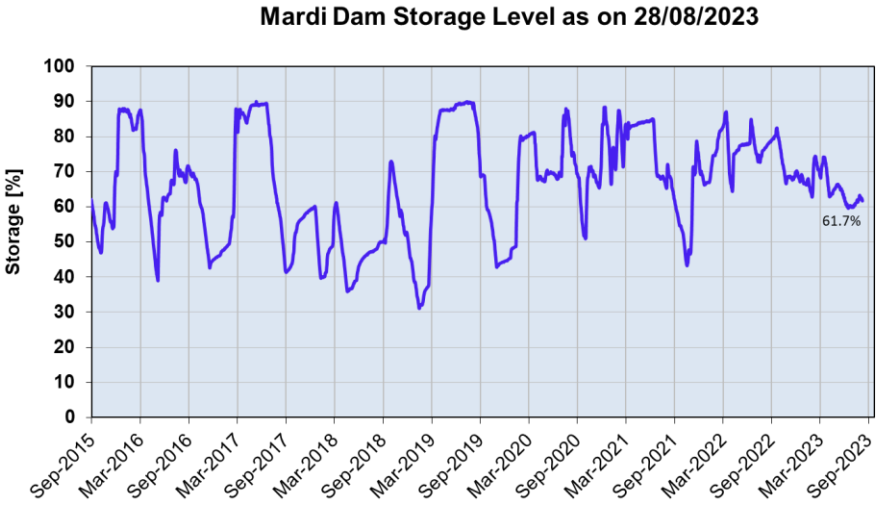


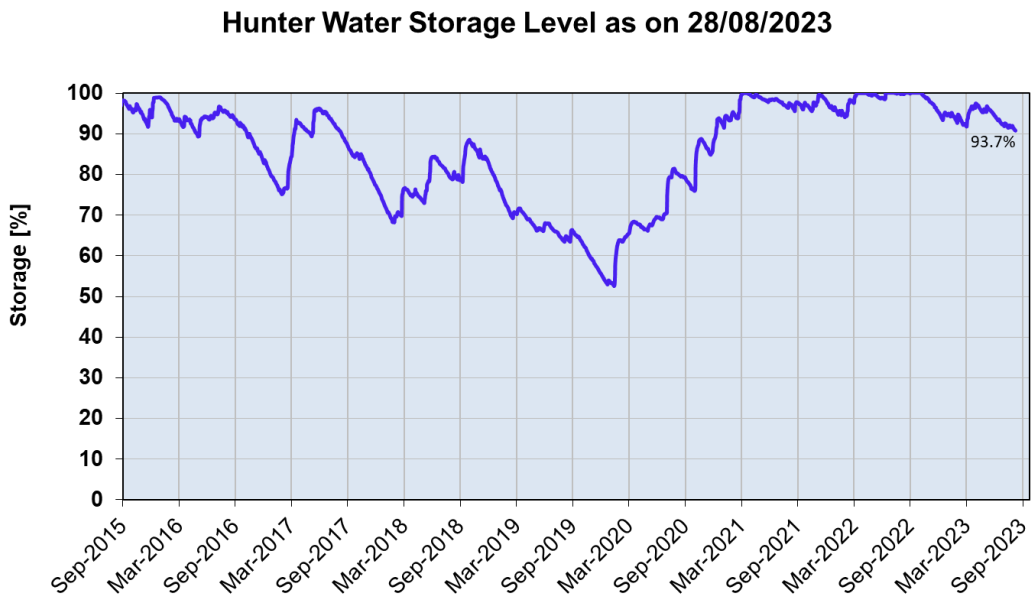
Figure 4 Mardi Dam Storage Level



5. Hunter Water Storage Level and Transfers

As of 2 August 2023, Hunter Water's storage is 93.7%. Currently water quality transfers are happening at around 5 ML/day from Hunter Water to Central Coast.

Figure 5 Hunter Water Storage Level



6. Groundwater

Woy Woy Borefield

Currently bores are run once a month to keep operational and for basic water quality readings. The extracted water is bypassed to sewer and water treatment plant remains mothballed.

7. Rainfall

Table 4 shows long term annual and monthly average (current month) rainfalls with up to date annual and monthly rainfall for the current year and the month.

Table 4 Rainfall Statistics

Period	Rainfall mm				
	Gosford[1]	Norah Head[2]	Mangrove Creek Dam[3]	Mardi WTP	Mooney Dam

Total for 2022	2,318	1,528	1,886	1,992	2,187
Total for 2023 up to 28 Aug 2023	574	571	499	525	559
Long Term Annual* Average	1,350	1,214	953	-	-
Monthly to 28 Aug 2023	28	57	42	54	49
Long Term Monthly Average (Aug)	71	71	56	-	-

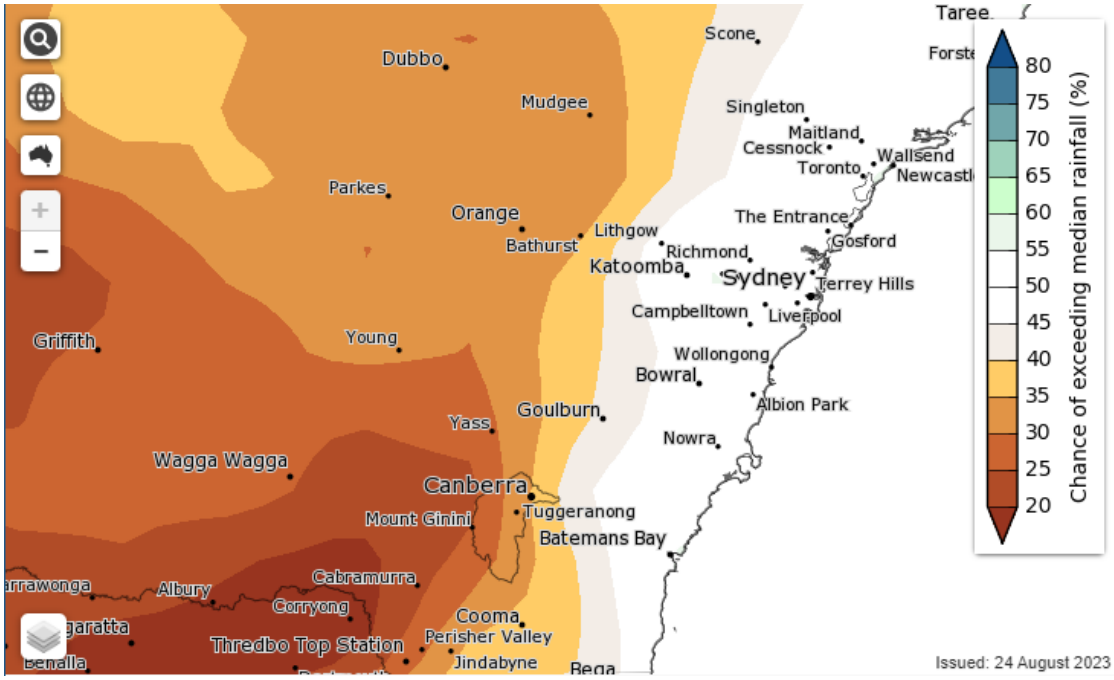
1. BOM Station 061319 (closed 2015) data from 1985 to 2015 has been used for long term average figures and BOM Station 061425 (opened 2013) data has been used for 2021 to 2022 figures
2. BOM station 061273 (closed 2004) data from 1970 to 2004 has been used for long term average figures and BOM station 061366 (opened 1989) data has been used for 2021 to 2022 figures
3. BOM Station 061394 (opened 1982) data from 1982 to 2020 has been used for long term average figures

* Calendar year

8. Seasonal Outlook for Rainfall and Temperature

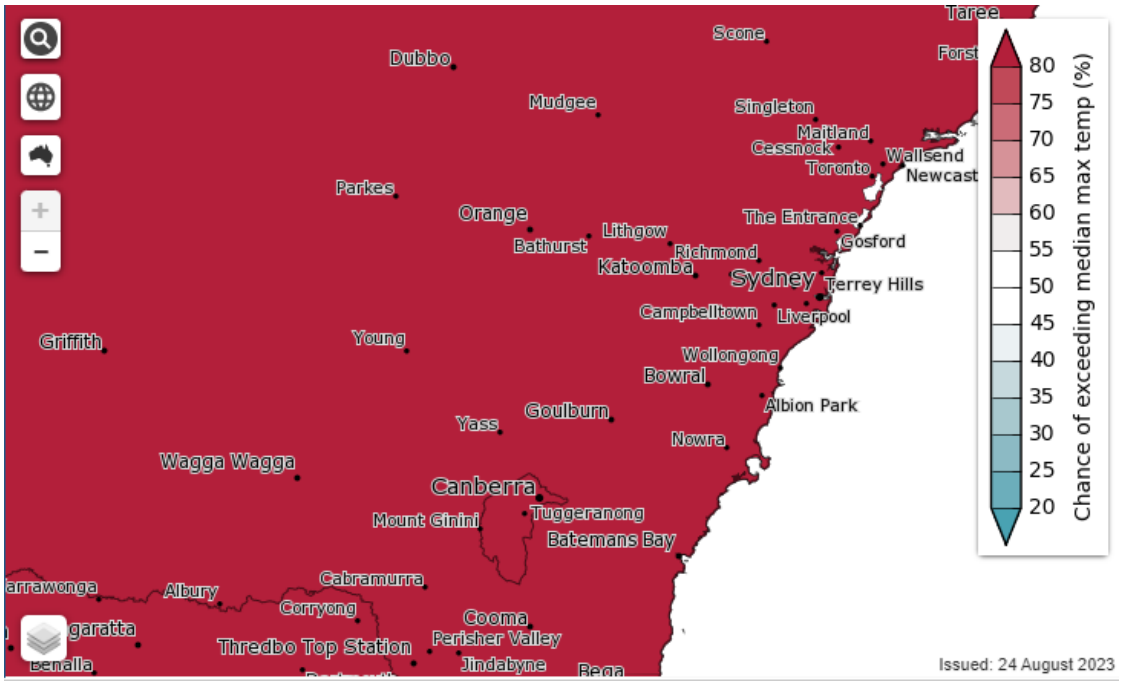
The seasonal rainfall outlook issued by the Bureau of Meteorology on 24/08/2023 predicts 45-55% chance of exceeding the median rainfall for Central Coast in the three-month period from September to November 2023(refer **Figure 6**).

Figure 6. Chance of exceeding median rainfall



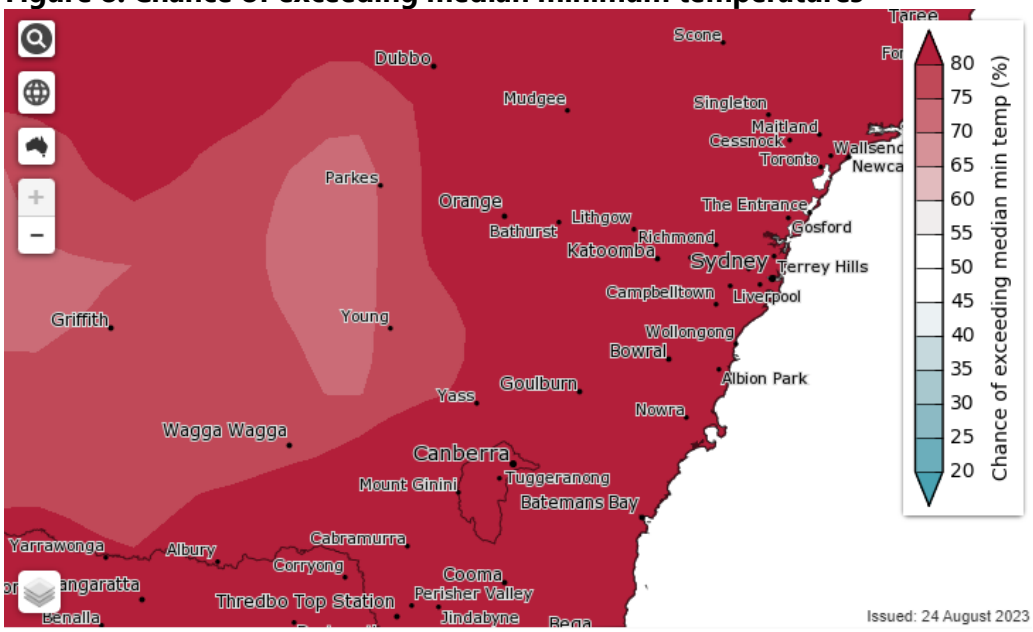
The seasonal projections for the Central Coast region predict above 80% chance of exceeding the median maximum temperatures during the three-month period from September to November 2023 (refer **Figure 7**).

Figure 7. Chance of exceeding median maximum temperature



The seasonal projections predict above 80% chance of exceeding the median minimum temperatures during the three-month period from September to November 2023 (Refer **Figure 8**).

Figure 8. Chance of exceeding median minimum temperatures



9. Climate Driver Update

El Niño Alert continues, positive IOD likely for spring

The Bureau's El Niño Alert continues, with El Niño development likely during spring. When El Niño Alert criteria have been met in the past, an El Niño event has developed around 70% of the time.

Sea surface temperatures (SSTs) in the tropical Pacific are exceeding El Niño thresholds and have continued to warm slightly over the last fortnight. Climate models indicate further warming of the central to eastern Pacific is likely, with SSTs remaining above El Niño thresholds until at least early 2024.

The 90-day Southern Oscillation Index (SOI) is presently just below El Niño thresholds, while trade winds and Pacific cloudiness have not yet demonstrated sustained El Niño patterns. Overall, atmospheric indicators suggest the Pacific Ocean and atmosphere are not yet consistently reinforcing each other, as occurs during El Niño events. El Niño typically suppresses spring rainfall in eastern Australia.

The latest weekly Indian Ocean Dipole (IOD) index is +1.05 °C. This is the second week it has been above the positive IOD threshold of +0.40 °C. However, before an IOD event is declared, several more weeks of the IOD index above the positive IOD threshold are required. Climate models suggest a positive IOD is likely for spring. A positive IOD typically decreases spring rainfall for central and south-east Australia and can increase the drying influence of El Niño.

The Madden–Julian Oscillation (MJO) is currently weak or indiscernible. Most surveyed models forecast a strengthening pulse to move over the Maritime Continent or Western Pacific in the coming days. If this pulse moves into the Western Pacific and remains relatively strong it may assist El Niño development by weakening trade winds.

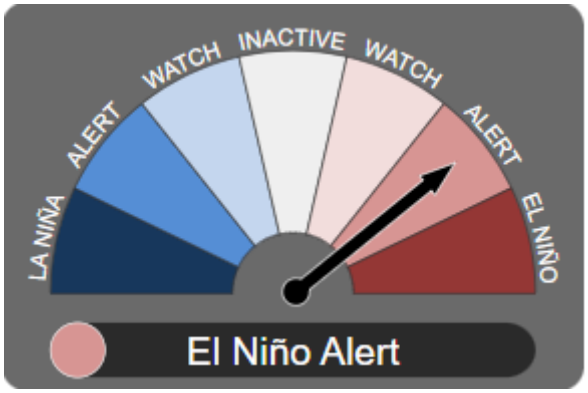
The Southern Annular Mode (SAM) index is currently at neutral values and is expected to become slightly negative then return to neutral during September. A negative SAM is associated with increased rainfall over south-west Western Australia and western Tasmania during spring, while a neutral SAM is associated with typical climate conditions for Australia.

The long-range forecast for Australia indicates warmer and drier conditions are likely across large parts of Australia from September to November. The Bureau's climate model takes into account all influences from the oceans and atmosphere when generating its long-range forecasts.

Global warming

Global warming continues to influence Australian and global climates. Global sea surface temperatures were highest on record for their respective months during April to July 2023, with July also being the equal-highest month on record (according to the ERA5 reanalysis). July 2023 was also the hottest month globally in terms of 2 metre air temperature.

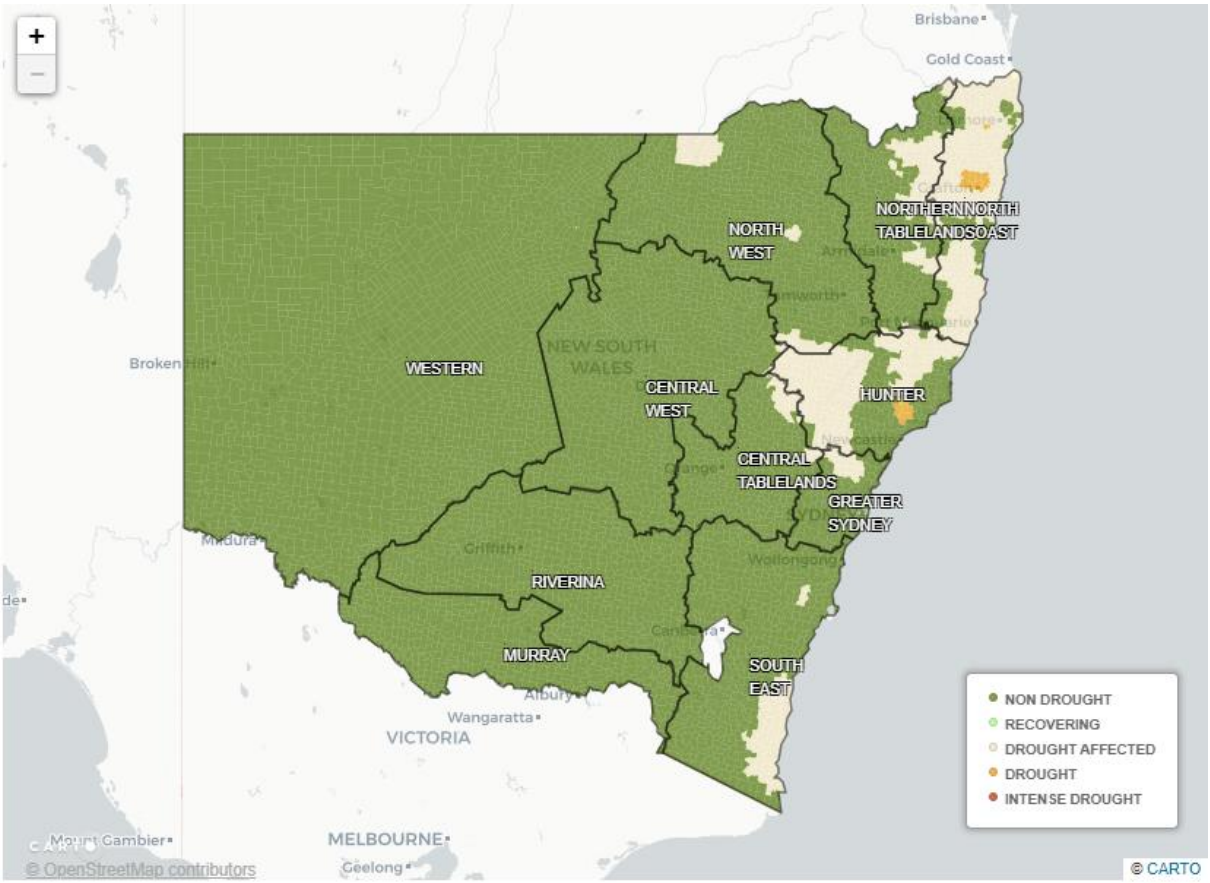
Australia's climate has warmed by an average of 1.47 ± 0.24 °C since national records began in 1910. There has also been a trend towards a greater proportion of rainfall from high intensity, short duration rainfall events, especially across northern Australia. Southern Australia has seen a reduction, by 10 to 20%, in cool season (April to October) rainfall in recent decades. This is due to a combination of natural variability on decadal timescales and changes in large-scale circulation caused by an increase in greenhouse gas emissions.



Issued 29 August 2023 Next Issue: 12 September 2023

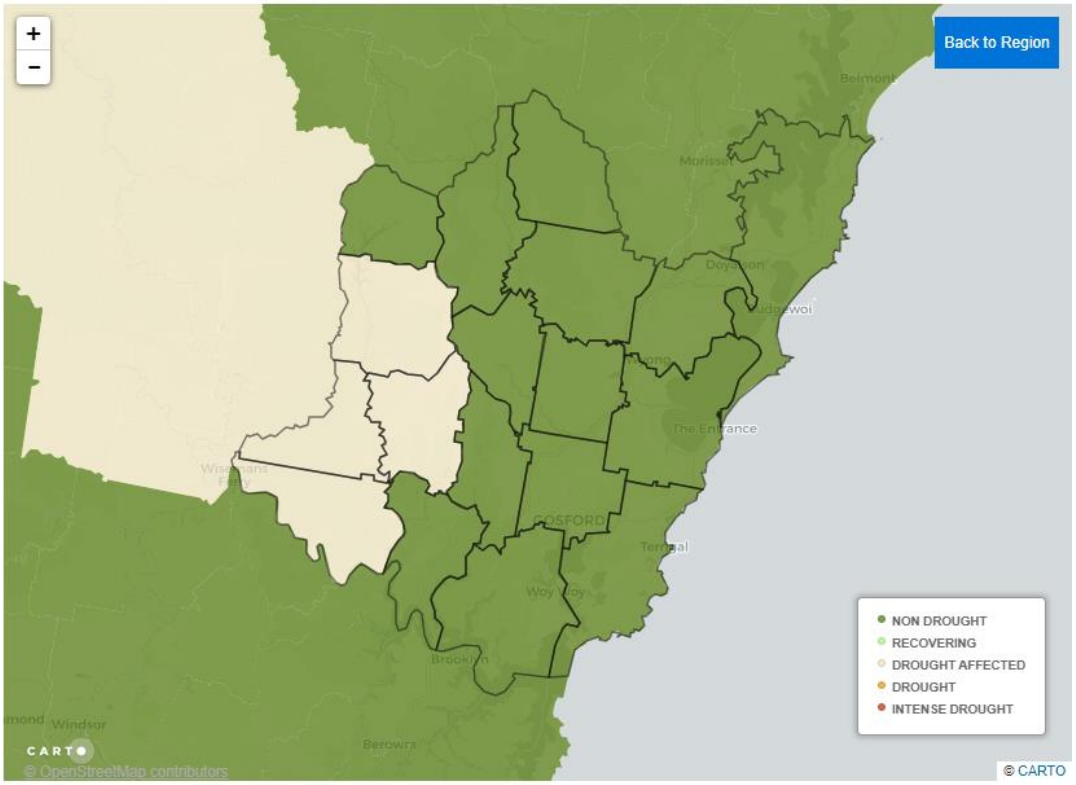
10. Department of Primary Industry Combined Drought Indicator

Figure 8 Combined Drought Indicator map for NSW



Data current to 25/8/2023 (AEST)

Figure 9 Combined Drought Indicator map for the Central Coast



Data current to 25/8/2023 (AEST)

11. Forecast for Ourimbah Creek streamflow

- The Bureau of Meteorology forecast stream flow for the Ourimbah Creek (211013) as shown in the Box Plot and table of statistics below along with historical references.

Figure 10 Forecast streamflow for Ourimbah Creek at upstream of weir (211013)

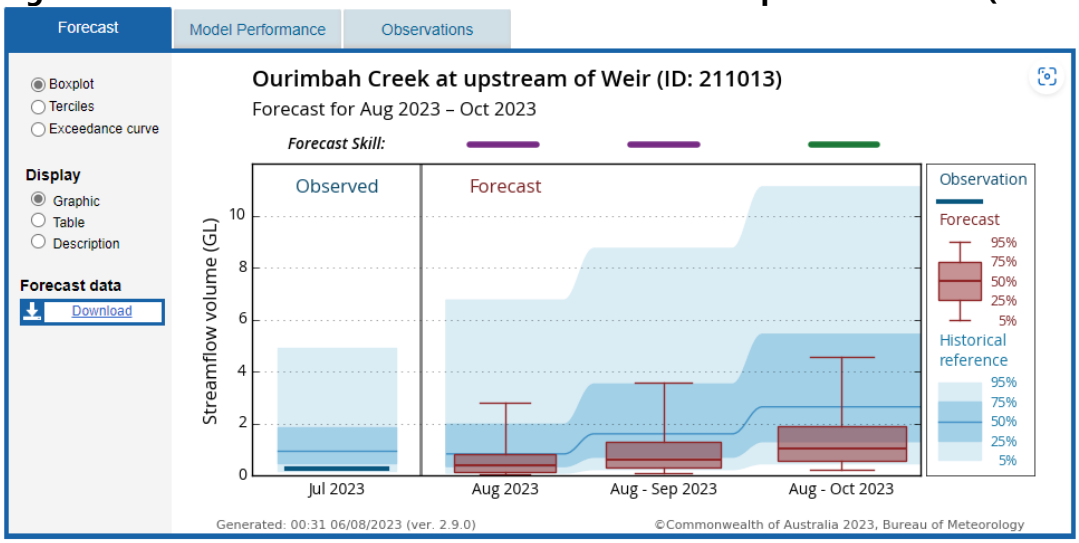


Table 5 Ourimbah Creek at upstream of weir streamflow Forecast Statistics

Forecast boxplots Ourimbah Creek at upstream of Weir (ID: 211013) August 2023 - October 2023								
	Streamflow forecast (GL)			Historical reference (GL)			Historical reference for observation (GL)	Recent observation (GL)
Percentile	Aug	Aug - Sep	Aug - Oct	Aug	Aug - Sep	Aug - Oct	Jul	Jul
5%	0.0	0.1	0.2	0.1	0.2	0.5	0.2	0.3
25%	0.2	0.3	0.6	0.4	0.7	1.3	0.5	0.3
50%	0.4	0.6	1.0	0.8	1.6	2.7	1.0	0.3
75%	0.9	1.3	1.9	2.0	3.5	5.4	1.8	0.3
95%	2.8	3.6	4.6	6.8	8.7	11.1	4.9	0.3

12. Water Demand

The graphs below show the historical monthly and weekly demand for the Central Coast Council.

Figure 11 Monthly Water Demand for Central Coast Council

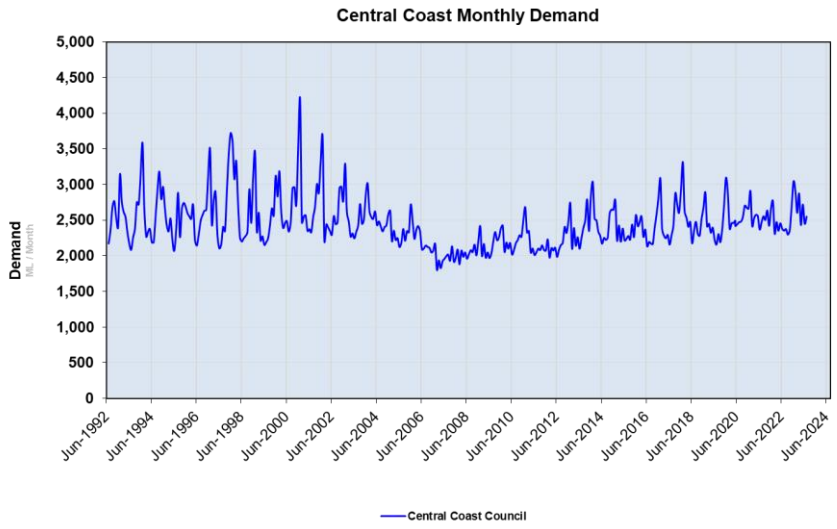


Figure 12 Weekly Water Demand for Central Coast Council

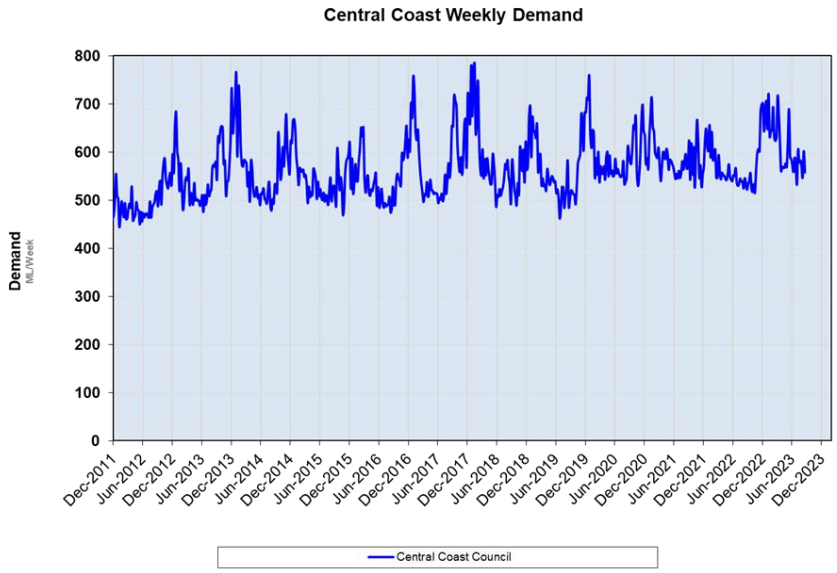
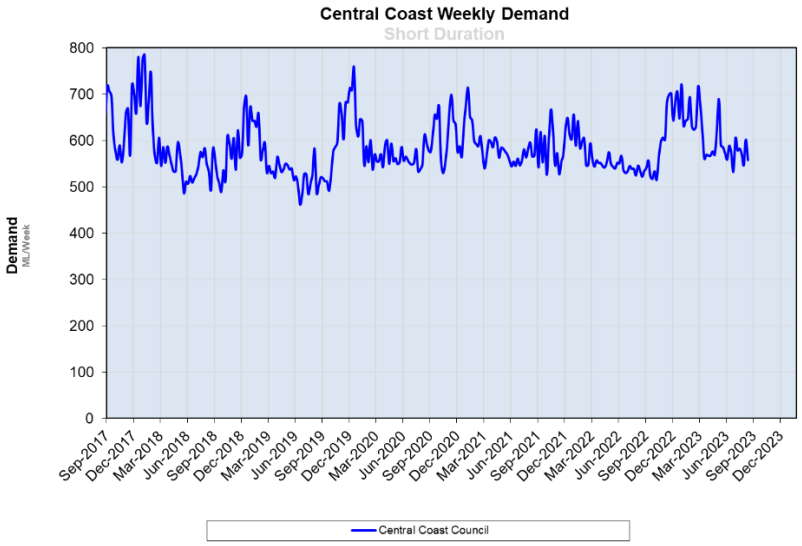


Figure 13 Weekly Water Demand (short term) for Central Coast Council



Link to Community Strategic Plan

Theme 4: Responsible

Goal H: Delivering essential infrastructure

R-H4: Plan for adequate and sustainable infrastructure to meet future demand for transport, energy, telecommunications and a secure supply of drinking water.

Risk Management

Current actions to mitigate risks associated water security are outlined in the 'Water Resilience Project Status Update 28 September 2023'.

Options

1. That the Committee note the report

Attachments

Nil

Item No: 2.2

Title: Water Resilience Project Status Update

Department: Water and Sewer

28 September 2023 Water Management Advisory Committee

Reference: F2019/01200 - D15820743

Author: Kate Gibbs, Executive Support Officer

Manager: Luke Drury, Section Manager. Assets and Projects

Executive: Danielle Hargreaves, Director. Water and Sewer

Recommendation

That the Committee notes the Water Resilience Project Status Update for September 2023.

Report purpose

To provide the Water Management Advisory Committee with an update of key water resilience projects for the Central Coast.

Executive Summary

The Water Resilience Project Status report provides an update on the water security works that are currently underway and the status of each project.

These works are reported within the three pillars identified in the Central Coast Water Security Plan (CCWSP):

- Pillar 1 Conserve and use water efficiently
- Pillar 2 Maximise existing water supplies to delay new water supplies
- Pillar 3 Develop new rainfall independent water supplies for an adaptive future.

Report

1. Pillar 1 Conserve and use water efficiently

1.1. Overview

Water conservation and efficiency is the cornerstone of our Water Security Plan. Achieving long term reductions in demand increases the resilience of the water supply to population growth and future drought.

Council outlined the key resources and activities required to develop and implement a long-term water conservation program within its Water Resilience Step Change Business Case in the 2021 IPART submission. The following roles have been filled to assist the program:

- Strategy Lead Water Conservation
    - Mohan Seneviratne has started in this role in January 2023
- Water Education Officers
    - Dylan Magrin joined the team in March 2023
    - Michelle Murrell joined the team in August 2023
- Water Communications Officer
    - Sasha Crichton commenced in this role in December 2022
    - Megan Golightly commenced in this role in May 2023

1.2. Development of Water Conservation Strategy

During the development of Central Coast Water Security Plan (CCWSP), an "all options on the table" approach was followed. The conservation of water resources is a critical component of effective and environmentally sustainable management of urban water supplies. The Central Coast community strongly supported water conservation as a demand side measure to meet future water needs of growing central coast region. Water conservation came out be Pillar 1 of CCWSP.

A Water Conservation Strategy is being developed to implement this pillar of the plan. The strategy will follow the Water Efficiency Framework developed by the Department of Planning and Environment.

Project Status
Options identification and evaluation metrics are being developed at this stage

1.3. Trial smart meters for top 100 large non-residential customers

Smart meters enable leak detection in real time, timely identification of high consumption patterns and an ability to notify customers, generate accurate consumption trends, improve customer relationship and increased revenue generation through improved meter reads. These are gaining traction in water utilities for the above-mentioned reasons. Over 600,000 smart meters have been installed in Australian water utilities.

The council water customer data analysis showed that about 100 customers account for more than 50% of non-residential water usage. Some of these customers have multiple meters also. The customers that fall in this cohort use more than 10ML/year.

The proposal is to convert the existing customer meters into smart meters using a plug-in device and communication network. The data can be accessed through online cloud-based software.

Project Status
" Taggle Systems" which is market leader in Australia for smart metering is selected for providing and installing these devices. Currently council is currently :

- developing a customer communication plan
- preparing data for upload to "Aqualus" software
- Project to be kicked off mid-September 2023.

1.4. Trial of Water RoadMap for large customers

Council has not proactively promoted water conservation to large water use customers since the lifting of restrictions post the millennium drought in 2012. There is no specific tool or staff to serve large customers and promote water savings. There has been no follow up action with customers who developed Water Efficiency Management Plans (WEMPS) during the millennium drought.

Council has subscribed to Water Stewardship membership Asia Pacific and bought ten licences to explore the use of the Water Roadmap, its proprietary product. The Water RoadMap provides the customers with a strategic pathway towards improved water and wastewater management, addressing water security and water efficiency. The consultant ran a demonstration of the tool to the Water and Sewer management team for its water production business. The output report was prepared and circulated to identify gaps in our business processes.

Project Status
Council has initially purchased 10 licences for the RoadMap and is facilitating delivery to 10 large non-residential customers. Council has already run this with the following customers:

- Trendpac
- Sanitarium
- Lendlease

The feedback from these customers was positive. These business customers found the first round very useful. It has provided them with the opportunity to understand their water usage behaviour and use this as a benchmark to monitor future course of actions identified. Two more rounds after 6 and 12 months will be undertaken to keep the momentum going. The next batch of non-residential customers is being planned.

1.5. Water Conservation Messaging in Customer Water Bill

Council staff have identified that there is an opportunity for water conservation messaging through the water bill in addition to information provided by other channels. The proposed layout will align with water conservation messaging used by other utilities e.g., Hunter Water

and Origin Energy. The graphics comparing actual water usage with that as per water wise rules' target of 150 litres/per person per day will be included to empower residential customers to proactively save water. The redesigned water bill will start from July 2024.

1.6. Department of Planning & Environment Programs

The Department of Planning and Environment (DPE) is leading water conservation on several fronts and Council staff are participating in various programs and workshops to keep abreast of the state initiatives and leverage future opportunities that may become available.

Recent Milestones/Activities:

System leakage detection and technology application

Council participated in DPE sponsored surveys and workshops for understanding levels of maturity in assessing and managing network leakage across various water utilities. DPE intends to use the outcomes to guide future pilot projects and initiatives. Council could not participate in pilot projects due lack of staff to manage these additional projects however Council participated in staff awareness and training programs for pressure management, active leak detection and metering held in March 2023.

Water Efficiency Framework

Water efficiency framework is a best practice guide for developing and delivering water efficiency. The department has provided a workbook based, self-rating tool to progress towards best practice.

Council is also participating in Reference Group Workshops for valuation of costs and benefits of water conservation initiatives for preparing a catalogue and Economic Level of Water Conservation (ELWC) for use by water utilities. The project is sponsored by DPE, and Frontier Economics is doing the cost benefit analysis.

The objective of the project is to develop a framework for evaluating the costs and benefits of approaches to water conservation undertaken by NSW water utilities. This includes applying the framework and guidance material to a range of indicative case studies to:

- Demonstrate that the framework is fit for purpose when applied to real world scenarios which will maximise the 'lessons learnt' from this project.
- Ensure the guidance material is user friendly and can be applied by the intended audience.

DPE has consulted with various utilities and is developing a Best Practice Guideline for utilities to follow for non-residential water efficiency programs.

Next Milestones

Ongoing participation in DPE led programs and integration of future Council resources into those programs.

1.7. Active leak detection program

Background

Leak Detection Project involves acoustic scanning of reticulation and trunk supply mains to detect leaks on various pipe materials including cement lined cast iron, asbestos cement, mild steel cement lined and PVC water mains.

The project will reduce operating costs associated with the supply of treated water to customers since the net overall volumes of water supplied via the distribution network will be reduced as leaks are progressively detected and repaired. Consequently, the cost recovery will also improve for water supplied to customers.

Central Coast Council operates a water distribution network comprising 2,019km of watermains up to DN450 and an additional 167km of trunk watermains up to DN1200 size.

Further benefits of the Leakage Detection Project will identify longer term asset issues in the water distribution network and assist with targeted water main renewals to improve network reliability and decrease the age of network assets.

Project Status

Ongoing

Recent Milestones

- Twelfth quarterly package of work completed. Thirteenth quarterly package of work commenced encompassing:
    - Woy Woy
    - Davistown
    - Forresters Beach
    - Avoca Beach
    - Picketts Valley
    - Wamberal
    - Springfield
    - Mooney Mooney
    - Cheero Point
    - Gosford

- Point Frederick
- Wyoming
- The Entrance
- The Entrance North
- Tumbi Umbi
- Berkeley Vale
- Glenning Valley
- Gwandalan
- Summerland Point
- San Remo
- Blue Haven
- Point Clare
- Tascott
- Copacabana
- Patonga

- Leak detection contractors are currently working in Berkeley Vale and Glenning Valley. Woongarah and Wadalba have been acoustically scanned in the previous quarterly package of work and represent the first scan of these locations under the new program. The results provide a baseline for relatively new infrastructure (less than 20 years old) composed of uPVC pipe material and indications are that leakage in these areas will be caused by leaking main taps, hydrants, service lines or meters. Five leaks were detected in Woongarah and six leaks detected in Wadalba. A leaking main tap was detected in each location. The results obtained reflect the lower operating pressure in this part of the network, younger asset age and the leaks detected were related to meters, customer side leaks, connection couplings and hydrants. Forresters Beach has been scanned for the first time as part of the project in the current quarterly package and good results were obtained. A significant leak was detected on the 50mm diameter service line to SPS FB04. Approximately 81% of the Central Coast Council water supply network has been scanned as of 30th June, 2023.
- The current thirteenth quarter of leak detection work is for 545km of watermain.
- The estimated leakage rate per km of water main for each suburb is continuing to be used as a prioritisation technique to gain maximum benefit from the project.
- Estimated water losses identified to 30th June 2023 through leak detection prior to repairs being completed was 1.00ML/day for the twelfth quarter of work. The estimated loss rate was 1.72kL/km/day based on 185 leaks detected.

Next Milestones

- Thirteenth quarter of work commenced from 26th June 2023 and is continuing to progress.
- Data from customer calls reporting leaks is also being used for prioritisation especially for locations not reporting a high frequency of water main breaks per 100km of main such as Umina Beach, Toukley and Green Point. Locations will continue to be prioritised on recorded leakage data and frequency of watermain breaks per 100km.
- Recruitment and onboarding of additional Operations Engineer to assist the planning and implementation of shutdowns for subsequent repair work.

Forecast completion date

- Late-2023 for the initial scan of the entire network.
- Continue to target locations throughout the network based on historical leakage results, prioritising locations with high leakage rates.

2. Pillar 2 Maximise existing water supplies to delay new water supplies

2.1. Overview

Upgrades and refurbishment of existing, under-utilised surface water, recycled water and groundwater infrastructure can provide cost effective yield benefits before constructing new supplies.

Council outlined the key resources and activities required to maximise existing supplies within its Water Resilience Step Change Business Case in the 2021 IPART submission. The following roles are now planned to be recruited over the next 12 months to assist the program:

- Strategy Lead Water Resources Tarni Penn has started in this role in January 2023
- Senior Asset Planning Engineer Mano Jayasekara started in this role April 2023

2.2. Mardi Water Treatment Plant Stage 3 Upgrade ($82.5M)

Background

The Mardi Water Treatment Plant (MWTP) upgrade will secure up to 160ML/d nameplate treatment capacity at current treated water quality targets under contemporary raw water quality conditions, catering for peak day demand for the Central Coast now and into the future while also meeting inter-region transfer commitments.

Partial project funding obtained under the NSW Safe and Secure Water Program.

IPART Determination May 2022 found the project to be prudent but suggested opportunities to improve delivery efficiency which led to an Early Contractor Involvement (ECI) phase with

the preferred tenderer in early 2023 and deferral of a portion of mechanical and electrical works to a future Stage 4 project, estimated in 2040.

Department of Planning and Environment (DPE) issued an approval under Section 292 of the Water Management Act for the project under the new framework on the basis of the preliminary design.

Project Status

- Detailed design of the project has commenced.

Recent Milestones

- Completion of the ECI phase.
- Confirmation obtained from DPE that changes to the project as a result of the ECI phase, including Stage 3 and future Stage 4 upgrades, are consistent with the approval issued under Section 292 of the Water Management Act.
- Execution of a Design and Construct (D&C) Contract with Abergeldie Contractors Pty Ltd on 30 June 2023.
- Execution of a loan arrangement with Commonwealth Bank (CBA) to maintain the Water Fund's cashflow.

Next Milestones

- Completion of the 50% design and commencement of the 90% design.

Scheduled completion date

- Late 2025

2.3. Mooney Dam Water Pump Station Upgrade ($4.4M)

Background

Mooney Raw Water pumping station requires a capacity increase from 30ML/d to 60ML/d. The project objectives are as follows:

- Enable Southern Average Day Demand (ADD) to be taken solely from Upper Mooney Dam. This greatly simplifies treatment as raw water alkalinity is consistent (as compared to mixing Mangrove and Mooney water)
- Provide security of supply to the Southern area. If Mangrove creek pumping station fails, the current 30ML/d Mooney duty is not sufficient to supply the south on a peak day.
- Enhance the delivery capacity from Mooney Mooney Dam to the Somersby water treatment plant and to increase headworks yield by enabling water transfer from

Lower Mangrove Weir to Mooney Mooney Dam during periods of surplus flow in Lower Mangrove Creek and low levels in Mooney Mooney Dam.

- Utilise Mooney Mooney Dam as the sole source for Southern ADD, simplifying the treatment process and ensuring consistent alkalinity by reducing the need for raw water mixing.

Project Status

Construction funding request placed on hold while options phase is reassessed.

Recent Milestones

Initial stakeholder project review workshop.

Next Milestones

Project constructability and options confirmation.

Concept design for preferred option

Define and confirm procurement strategy

Detailed Design and delivery

Scheduled completion date

TBC post reassessment of options and concept design.

2.4. Recycled Water Scheme Review and Refurbishment

Background

Council operates several sewage treatment plants (STPs) and stormwater capture systems, which potentially yield water for reclamation for a variety of applications. Council supplies recycled water to diverse users including residential customers, groundkeepers, holiday parks, mines and construction companies. This project is the preliminary review of the refurbishment of recycled water scheme (Phase 1). This was commissioned to review the Council's schemes to understand the current challenges, capacity, regulatory status and potential end users.

The major drivers for this project are to:

- understand the refurbishment/upgrade requirements to return the schemes to a fully operational status and obtain current regulatory approvals
- develop a prioritised strategy to identify where capital/operational investment into the existing reuse schemes provides the most value.

Project Status

The main investigation has been completed and, with Council input, the final report has been issued. Recommendations were reviewed by Council's Water Resilience Committee in July 2020. The report confirmed compliance issues in relation to end water quality for the recycled water schemes.

Previous Milestones

Completion of detailed water quality monitoring in 2022.

Next Milestones

Onboard new resources on recycled water scheme details.

Review of detailed water quality monitoring data and determination of upgrade/renewal requirements.

Scoping and prioritisation of required works.

Forecast completion date

This project was the preliminary review of the refurbishment of recycled water scheme (Phase 1) – completed July 2020

Scoping of Phase 2 will commence by June 2023 with a program of works to be determined throughout FY2023/24.

2.5. Porters Creek Transfer System Readiness Assessment

Background

Porters Creek Transfer Scheme (PCTS) was used an additional water source during millennium drought, which was operational from 2006 to 2008. The PCTS involved transferring raw water from Porters Creek and pumping it to upstream of the Wyong River Weir for storage and treatment at Mardi Dam and Mardi Water Treatment Plant respectively. Porter Creek catchment is fast growing urban catchment and PCTS was installed just upstream of creek's merger with Wyong River. The system was installed as an emergency water supply under the Water Act 1912. The water license approval was only temporary, for a maximum period of 2 years.

Council adopted a Drought Management Plan (DMP) in 2020. The DMP was prepared in accordance with the NSW Government Best-Practice Management of Water Supply and Sewerage Guidelines (2007) which requires Local Water Utilities such as Council to have a sound Drought Management Plan in place and be ready to implement their plan when drought conditions arise. The DMP identified the PCTS as a historical water source that could be implemented during a future drought if required. The DMP identified the opportunity to re-examine the option but also highlighted the constraints that would need to be overcome. Central Coast Water Security Plan (CCWSP) also involves a drought response, developed to implement alternate water supplies quickly in the case of a drought emergency. One such

action is to undertake a readiness assessment for the PCTS to ensure it is 'Plan Ready' in the event of a future drought. This includes seeking a water supply works approval and extraction license for the scheme and any amendments required to the Wyong River extraction rules.

Project Status

The contract for the work has been awarded to GHD and was kicked off on 20 June 2023

Recent Milestones

Site visit was conducted with the project team from GHD and most of the RFIs have been addressed

Next Milestones

To receive draft report in the beginning of October 2023

Forecast completion date

August /September 2024

3. Pillar 3 Develop new rainfall independent water supplies for an adaptive future

3.1. Drought Response Desalination Readiness Activities

Background

Following the conclusion of the Drought Response Desalination Readiness Assessment, the recommendation to revise the originally proposed horizontal collection well intake structure in favour of a traditional direct ocean intake and to progress the project to a construction ready state is being pursued. To facilitate this, staff have commenced works associated with the additional studies and investigations necessary to formally request for a modification to the original planning Development Consent, to the NSW Department of Planning, Industry and Environment (DPIE).

Project Status

Due to the current high levels of our water storages, this project has been put on hold – recommencing FY 23/24.

Recent Milestones

The works associated with the direct ocean intake location shortlisting has been completed with the final report submitted.

Forecast completion date

Additional investigations that were identified as required to progress have an anticipated completion period of 3 years once the overall project is restarted.

Investigations scheduled to recommence FY2023/24.

Link to Community Strategic Plan

Theme 4: Responsible

Goal H: Delivering essential infrastructure

R-H4: Plan for adequate and sustainable infrastructure to meet future demand for transport, energy, telecommunications and a secure supply of drinking water.

Risk Management

This report outlines various demand and supply side measures to manage risks to regional water security.

Options

That the Committee notes the report.

Attachments

Nil

Item No:	2.3
Title:	Environmental Protection Licence (EPL) non-compliance summary
Department:	Water and Sewer

28 September 2023 Water Management Advisory Committee

Reference:	F2019/01200 - D15820774
Author:	Kate Gibbs, Executive Support Officer
	Stephen Shinners, Team Leader Water Compliance
Executive:	Danielle Hargreaves, Acting Director Water & Sewer

Recommendation

The Committee notes the Environmental Protection Licence (EPL) non-compliance summary report.

Report purpose

To provide the Committee with a summary of the recent Environmental Protection Licence (EPL) non-compliances.

Executive Summary

Breaches of Environmental Protection Licenses following relevant annual returns are submitted to the Advisory Committee to note. This includes updates on any major incidents in the network (Action Number 35).

Over the recent period the EPL annual return was submitted to the EPA for EPL 1802 – South Sewage Treatment System. Three instances of non-conformance were reported.

Two incidences to note also occurred during this period; a large number of odour complaints for Bateau Bay Sewage Treatment Plant, and a rising main break at West Gosford.

Background

Central Coast Council (CCC) has three Environmental Protection Licences (EPLs) that relate to the management and operation of its sewerage schemes. The EPLs are based on the respective outfalls which may include multiple Sewage Treatment Plants (STPs). The EPLs are regulated by the NSW Environment Protection Authority (EPA) and the current EPLs and associated STPs are outlined below:

- EPL 1802 – South Sewage Treatment System

- Kincumber STP
- Woy Woy STP

- EPL 1942 – Bateau Bay Sewage Treatment System
  - Bateau Bay STP

- EPL 2647 – North Sewage Treatment System
  - Charmhaven STP
  - Gwandalan STP
  - Mannering Park STP
  - Toukley STP
  - Wyong South STP

All three EPLs were reviewed by CCC and EPA in 2021. A number of changes to monitoring points and pollutant concentration limits were incorporated into the updated EPLs issued by EPA. The daily flow limit to the Norah Head outfall for EPL 2647 was increased from 40,000 kL to 60,000 kL.

It is noted that CCC operates within other EPLs that relate to the Mooney Mooney and Cheero Point sewage reticulation system, Waste Management Facilities and certain waterways. Those EPLs are not discussed within this document. Full details relating to each EPL held by CCC can be found at the Council website.

Current Status

Council submitted an Annual Return for EPLs 1802 in July 2023. Three instances of non-conformance with EPL 1802 conditions were reported and these are summarised below.

Report

Non-Conformance	Actions Taken
Condition L2.2: Calculated load of Total Nitrogen discharged over the reporting year was above the limit specified in the EPL	Condition L2.2: The nitrogen load was elevated on occasion due to mechanical failures and process optimisation issues at Kincumber and Woy Woy STPs during the annual reporting period. The scraper on the primary sedimentation tank has been repaired, four aeration valves on Aeration Tank 3 were replaced and recommissioned, and multiple bridge repairs across all clarifiers are in progress at Kincumber STP.

	Solids reduction by repair to belt press at Woy Woy STP will return plant to more typical nitrogen removal performance. A preventative maintenance program is being implemented at both STPs to manage operation of our assets and reduce the likelihood of unplanned failures in the future. Offline assets are being returned to operation through a planned refurbishment program to provide additional redundancy to critical assets.
Condition L4.1: The daily volume limit of 150,000 kL/day was exceeded for EPA Monitoring Point 10 (Outfall Tunnel). High rainfall events caused increased inflow to Kincumber and Woy Woy STPs, due to stormwater ingress to the sewer.	Condition L4.1: Following an audit of the stormwater and sewage catchments for Terrigal Lagoon, Council has continued to implement programs to eliminate illegal stormwater connections to sewer, raise and reseal maintenance holes susceptible to inundation, and either clean and reline, or replace sewers susceptible to stormwater or groundwater incursion. Council has identified a number of capital improvement projects to improve the integrity and capacity of the sewer network and STPs. These projects were included in the works program to be considered by IPART and will be scheduled following conclusion of the price determination.
Condition R2.2: A written report for EPA notification 132846 (notified 21 February 2023) were not submitted in the seven days required.	Condition R2.2: Duties and accountabilities have been reinforced for responsible staff, and tracking of report submission implemented to ensure reports are submitted on time.

Other Issues:

Bateau Bay Sewage Treatment Plant:

Council has received a number of odour complaints from the Bateau Bay community that can be attributed to operations at the Bateau Bay Sewage Treatment Plant. Council held a community meeting on Tuesday 11 July 2023 regarding the issues associated with the odours and what actions Council are implementing to address these issues. A number of immediate, short- and immediate-term deliverables are being actioned to address the issue.

West Gosford Major Sewer Rising Main:

A large volume of sewage discharged to Narara Creek on 13 April 2023 due to corrosion of the West Gosford Major Sewer Rising Main at West Gosford. Council undertook significant works to contain the discharge and undertake repairs of the main. A comprehensive water quality monitoring program was undertaken to determine the extent of impact and when water quality had recovered. Investigations are currently underway to determine design options for upgrading the rising main. EPA is currently investigating the incident and has received a detailed report following submission of a number of questions in relation to the event.

Link to Community Strategic Plan

Theme 4: Responsible

Goal H: Delivering essential infrastructure

G-E2: Improve water quality for beaches, lakes and waterways by minimising pollutants and preventing litter entering our waterways.

Risk Management

Actions taken or proposed to manage the risks associated with each non-compliance are listed in the above table.

Attachments

Nil

Item No:	2.4
Title:	Delivering the IPART Determination - community engagement and customer charter
Department:	Water and Sewer

28 September 2023 Water Management Advisory Committee

Reference:	F2019/01200 - D15820732
Author:	Scott Gordon, Business Manager Business Performance
Executive:	Danielle Hargreaves, Acting Director Water & Sewer

Recommendation

That the Committee note the report.

Report purpose

To provide the Water Management Advisory Committee with an update on delivering on Water and Sewer's IPART Determination, specifically in relation to community engagement and development of a Customer Charter.

Executive Summary

Council is continuing its focus on placing the customer at the centre of our business through better and targeted engagement with the community.

Council's current round of engagement resulted in the community determining a set of values for water and sewer, providing feedback on performance metrics, reporting and communications preferences, and determining the contents for a Customer Charter.

Council co-designed with the community its first detailed Customer Charter for Water and Sewer, including a Summary Charter. Public exhibition of both documents, and a complementary Customer Complaints Management Framework, closed on 23 August 2023 with six submissions received. Council is to consider the final Charter and Framework at its meeting of 26 September 2023 for adoption and publication.

Background

Council's current round of engagement with the community commenced on 1-2 March 2023 with the first of a series of Deliberative Forums. Phase 2 of the forums were held on 9-10 May 2023 with the same participants. All sessions were held in Gosford and Wyong and externally facilitated by Woolcott Research.

The forums sought input from our community on what they valued most about our services, how we are performing, targets for the future, and what they would like included in our very first Customer Charter between the community and Water and Sewer.

The community determined the following values for Water and Sewer:

- Good quality water
- Quality treatment (sewer)
- Reliable service
- Affordable
- Environmental focus
- Effective planning
- Transparency and education

Quality and reliability were considered the priority values for both water and sewer. However, the other values should also be considered in Council's decision making.

Council co-designed its first detailed Customer Charter for Water and Sewer, including a Summary Charter with the community. Council resolved at its meeting of 25 July 2023 for both these documents, and a complementary Customer Complaints Management Framework, to be placed on exhibition for public comment for 28 days.

Phase 3 of the current engagement program was a customer survey of residents which was conducted from 5 June 2023 to 3 July 2023. The survey was conducted online via Your Voice Our Coast with 1,232 respondents to the survey.

Current Status

Customer Charter

Community feedback on the draft Customer Charter (including the Summary) and the Customer Complaints Management Framework (Framework) closed on 23 August 2023 with six submissions received (one non-water and sewer related). Council assessed that there were no material suggestions to change the draft Charter.

The final Charter and Framework is to be presented to Council at its meeting of 26 September 2023 for adoption and publication on Council's website.

Engagement

The insights from Phase 3 of the community engagement program will inform future planning, delivery and performance reporting of water and sewer services. Specifically, these insights are being used to better align service improvements, such as enhancing our communications about service interruptions and reviewing and rationalising performance reporting, to meet customer expectations. This is consistent with IPART's expectations of Council. Key insights were:

- Strong agreement with values and outcomes developed from the Phase 1 and 2 Deliberative Forums:
  Water: Residents 88%, Businesses 88%
  Sewerage: Residents 86%, Businesses 88%

- Preferences for reporting of existing performance measures:
  Quarterly bills: Residents 59%, Businesses 58%
  Council website: Residents 45%, Businesses 47%
  Emails: Residents 28%, Businesses 42%

- Preferences for reporting of additional community performance measures:
  Publicly report on a quarterly basis on Council's website (except for the average level of water consumption which customers want reported on bills)

- Preferences for additional information from Council:
  Communicate via Council's website and social media

- Preferences for communications about planned service interruptions
  Communicate via SMS/text message:
  Residents 71%, Businesses 73%

- Preferences for communications about unexpected service interruptions:
  Communicate via SMS/text message:
  Residents 75%, Businesses 78%

Planning has also commenced to undertake further broad community engagement regarding un-serviced properties. The initial survey is planned to be undertaken in September 2023 via Your Voice Our Coast. An additional online Qualtrics survey of residents with un-serviced properties is to be undertaken after assessment of the initial survey results.

Link to Community Strategic Plan

Theme 4: Responsible

Goal G: Good governance and great partnerships

R-G2: Engage and communicate openly and honestly with the community to build a relationship based on trust, transparency, respect and use community participation and feedback to inform decision making.

Critical Dates or Timeframes

26 September 2023 – Council to consider the final Customer Charter and Customer Complaints Management Framework for adoption and publication.

Attachments

Nil

2.5 GENERAL BUSINESS

Attachments

Nil