

# Boundary Creek, Big Swamp and Surrounding Environment – Remediation and Environmental Protection Plan

## Quarterly Update

1 January to 31 March 2024

12 April 2024

# Table of contents

Introduction.....	3
Implementation of the REPP.....	4
Boundary Creek and Big Swamp Remediation Plan .....	6
Boundary Creek and Big Swamp status update.....	6
Actions completed on the Boundary Creek and Big Swamp Remediation Plan since 31 December 2023 .....	12
Upcoming actions associated with the Boundary Creek and Big Swamp Remediation Plan .....	13
Surrounding Environment Investigation .....	14
Actions Completed on the Surrounding Environment Investigation since 30 September 2023 .....	15
Upcoming actions associated with the Surrounding Environment Investigation.....	15
Issues Register.....	16
Community Engagement .....	17
Success Targets.....	18
Technical Reports and Investigations.....	19
Contingency Measures.....	19
REPP Amendments .....	19
Progress Report .....	20

# Introduction

In June 2017, Barwon Water acknowledged that the historic management of periodic groundwater pumping activities at the Barwon Downs borefield, that were conducted between 1982 and 2016 to supplement drinking water supplies during dry periods, had led to a reduction in groundwater contribution from the Lower Tertiary Aquifer into select reaches of Boundary Creek, a tributary of the Barwon River.

This reduction, in conjunction with the changes in land use, Millennium Drought, and the complexities associated with management and regulation of a private on-stream dam that controls flow into the lower reaches of Boundary Creek, resulted in the occurrence of cease to flow events in Boundary Creek and the increased severity of wet-dry cycling processes within Big Swamp – a wetland that is primarily fed by inflows from Boundary Creek.

This occurred, despite meeting the provisions set out in the groundwater extraction licence(s) that were intended to offset the potential impacts from Barwon Water's groundwater pumping activities on Boundary Creek. This drying subsequently resulted in the enhanced oxidation of naturally occurring acid sulfate soils and discharge of acidity and metals impacting the condition and function of Big Swamp and the lower reaches of Boundary Creek.

In May 2018, Barwon Water established a community and stakeholder working group to help inform the development of a Remediation Plan to address the impacts caused by Barwon Water's activities. In September 2018, Barwon Water's commitment to undertake remedial works was legally strengthened through the issuing of a Ministerial Notice by Southern Rural Water (SRW) under section 78 of the Water Act. The Boundary Creek, Big Swamp and Surrounding Environment Remediation and Environmental Protection Plan (REPP) was subsequently submitted to Southern Rural Water (SRW) in December 2019, and subsequently amended to account for Southern Rural Water and Independent Technical Reference Panel (ITRP) feedback prior to acceptance in February 2020. Noting that this was more recently updated in July 2023.

A key requirement of the section 78 notice and the REPP is the provision of quarterly updates to Southern Rural Water to report on progress with implementation of the plan, as well as an Annual Report. The section 78 notice also stipulates that the Annual Report is required to be submitted to Southern Rural Water for review and comment before being made publicly available by 30 September each year.

This quarterly update is the fifteenth (16<sup>th</sup>) since the REPP was implemented on 1 March 2020, and provides a high-level update on progress against the actions and timeframes outlined in the REPP between 1 January and 31 March 2024.

# Implementation of the REPP

In accordance with the REPP, Barwon Water have adopted an adaptive management approach, whereby the REPP can be adapted in response to the current 'state of knowledge', or in response to data collected as part of the routine environmental monitoring program. This approach allows Barwon Water and Southern Rural Water to evaluate how the confirmed areas of impact and the surrounding environment more broadly are responding to the adopted remediation actions and take further action, such as implementation of contingency measures, if required.

To help address the requirements of the section 78 notice and ensure momentum was maintained, several key milestones and actions were established, as shown in Figure 1. While the timeframes presented only extend until the end of 2024, Barwon Water acknowledges that it may take several years to meet all of the Boundary Creek and Big Swamp remediation success targets, and that the number and nature of remedial actions or contingency measures may change in line with the adaptive management approach.

This acknowledges that the number and nature of remedial actions needs to be balanced with practicality, as is required under the section 78 notice, along with the environmental implications, costs, risks, and trade-offs associated with implementing remedial actions that may alter the condition or intrinsic value of the swamp.

Regular assessment of monitoring results against the success targets and triggers for the implementation of contingency measures will continue beyond the timeframes outlined in Figure 1 until successful remediation has been achieved.

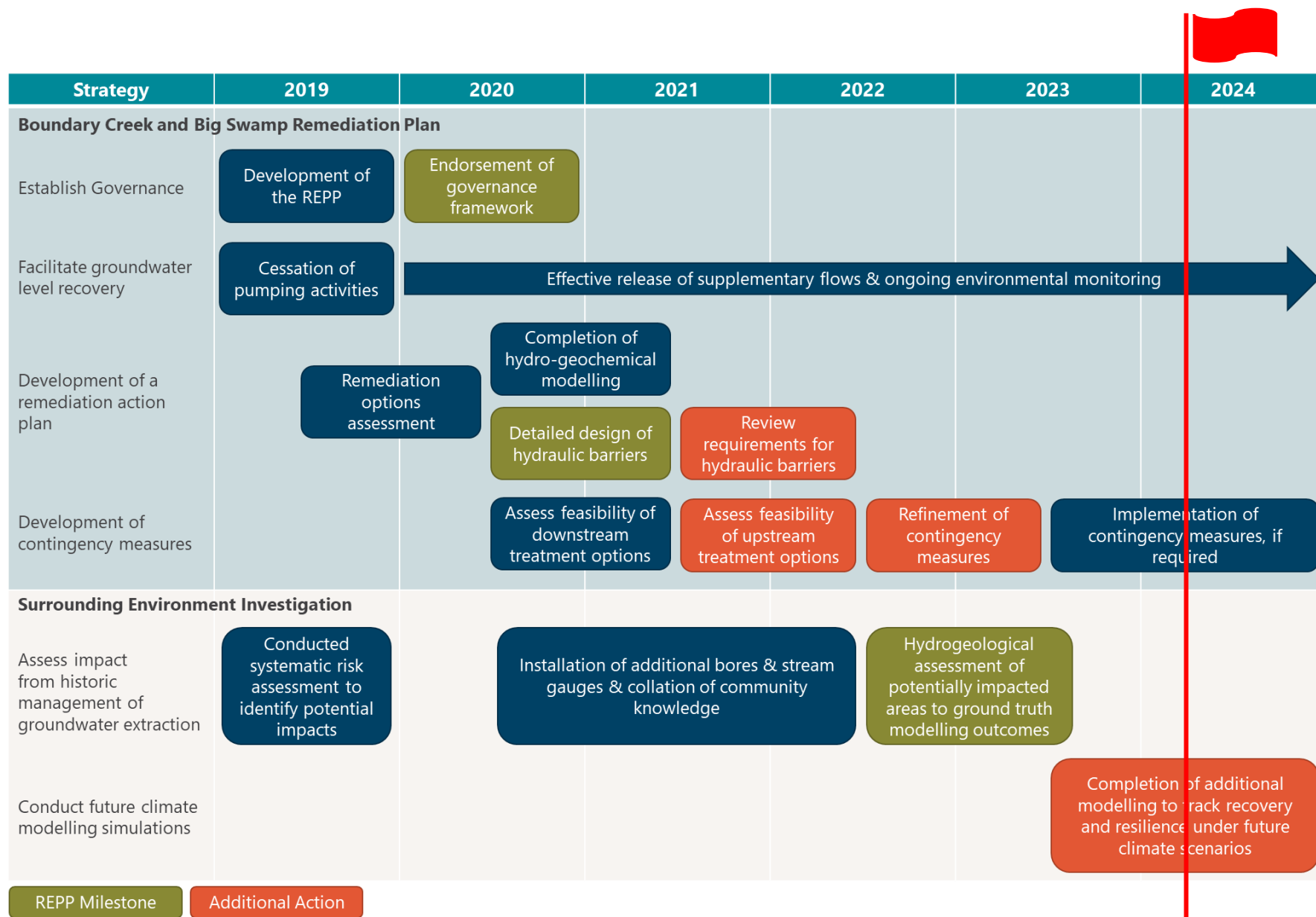


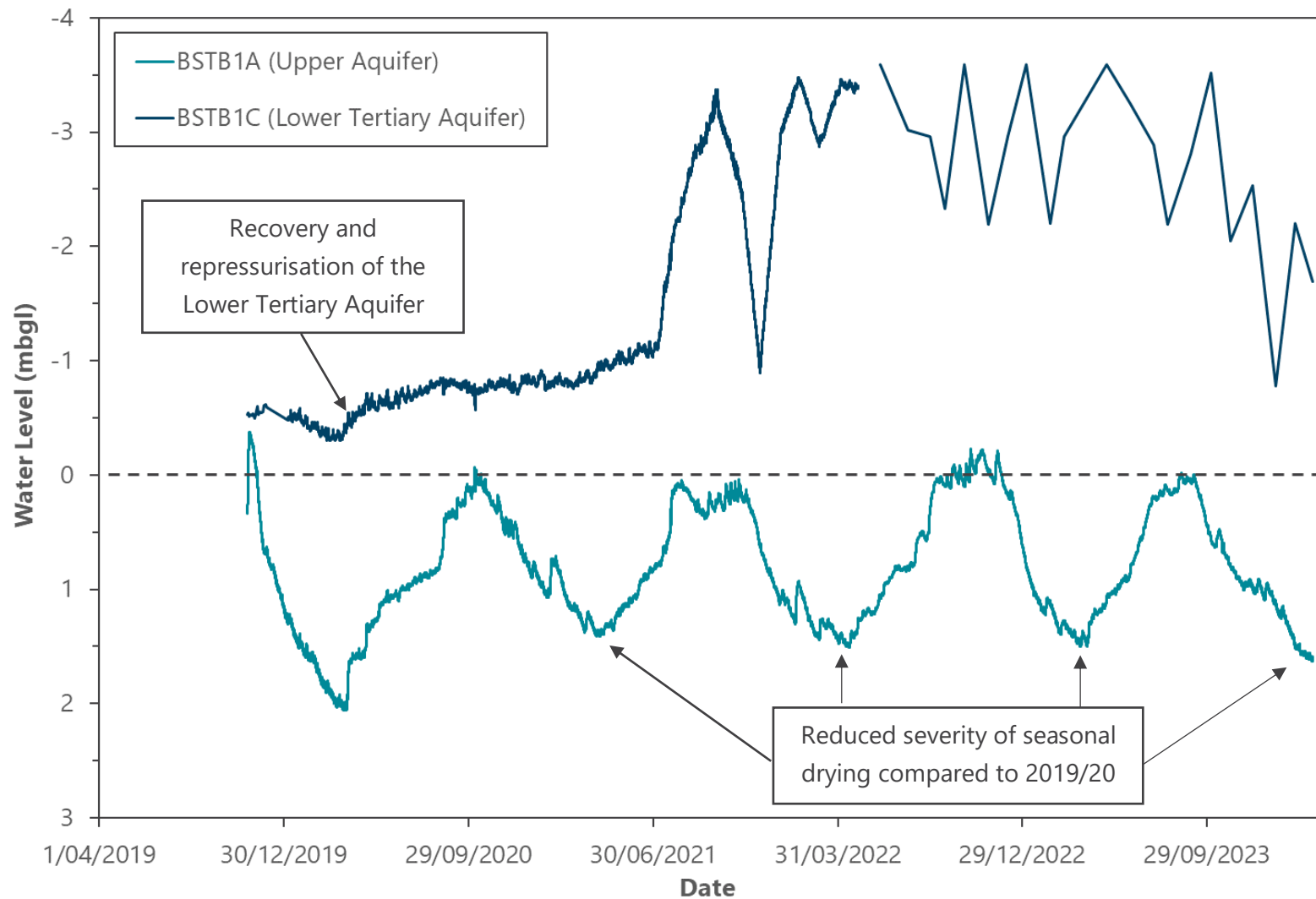
Figure 1: Timeframes for implementation of the REPP

# Boundary Creek and Big Swamp Remediation Plan

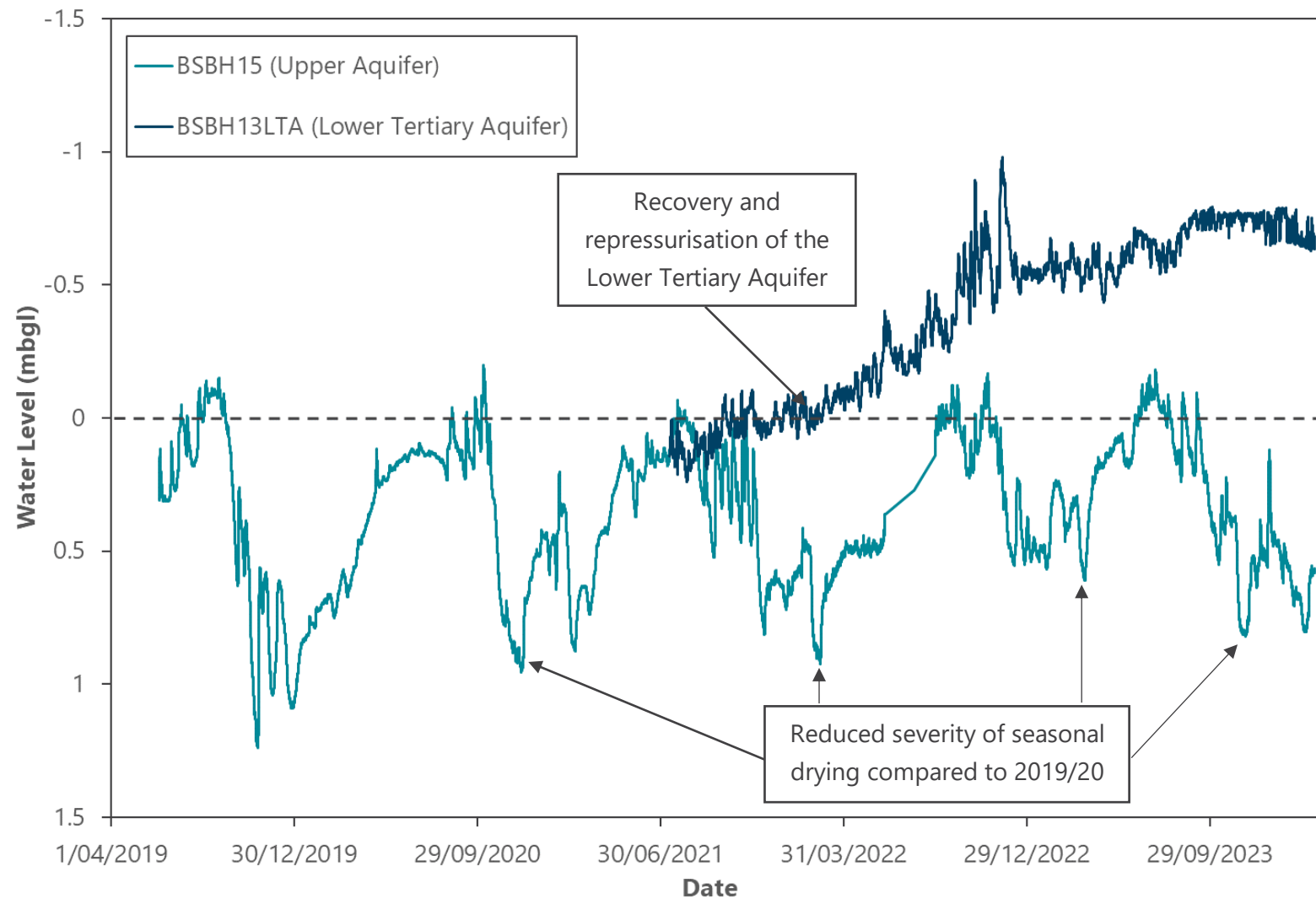
## Boundary Creek and Big Swamp status update

Based on the most recent data collected as part of Barwon Water's routine environmental monitoring program, the following observations can be made:

- Groundwater levels within Big Swamp's upper aquifer system continue to be maintained above the reactive horizon (i.e., where there is a high potential acidity) (refer Figure 2 and Figure 3). This positive outcome continues to minimise any further oxidation of acid sulfate soils and reduce the severity of wet-dry cycling processes.
- Groundwater levels from bores installed in the Lower Tertiary Aquifer system within Big Swamp continue to indicate the long-term recovery and repressurisation of the Lower Tertiary Aquifer system (refer Figure 2 and Figure 3). This is a positive shift towards the restoration of groundwater-surface water interaction in Boundary Creek upstream of Big Swamp. Noting that recent dry conditions have led to a minor decline in groundwater pressures within the confined portions of the Lower Tertiary Aquifer.
- The monthly rainfall deficits observed between July 2023 and March 2024 have resulted in increased drying in the eastern and western portions of the swamp (refer Figure 2 and Figure 3) when compared the conditions in February 2023. Despite this, the moisture content within the swamp and streamflows downstream of the swamp remain higher than worst case conditions.
- Despite the reduction in standing water visible within Big Swamp during January 2024 (refer Table 1), continued vegetation growth and recolonisation is evident when compared to February 2023. This indicates that suitable conditions for desired species have continued to be maintained through the current dry period.
- The pH levels in Boundary Creek downstream of Big Swamp (site 233276) and Boundary Creek at Yeodene (site 233228) continue to exhibit a long-term increasing trend with no severe acid flush events occurring since 2016. Recent results also indicate recovery post the minor acid flush event that was experienced in December 2023 (Figure 4 and Figure 5). Noting that during this time acidity levels remained within the historic range and the pH and acidity levels within the Barwon River were not impacted.











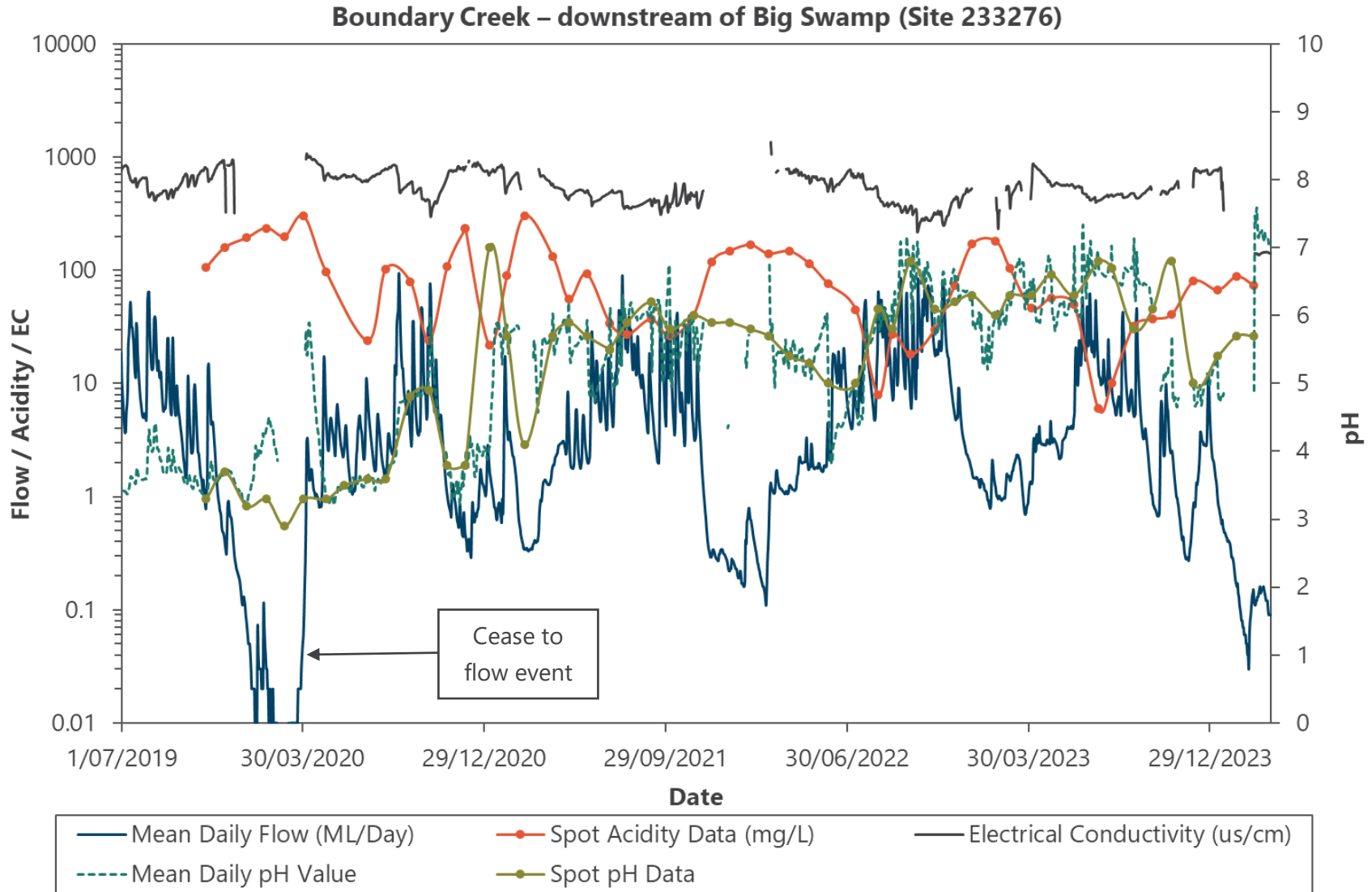
**Figure 2 Groundwater levels in the eastern portion of the swamp. Note that the logger was removed from BSTB1C in April 2022 due to leakage associated with repressurisation of the LTA, the data presented after this time relates to spot sampling data**



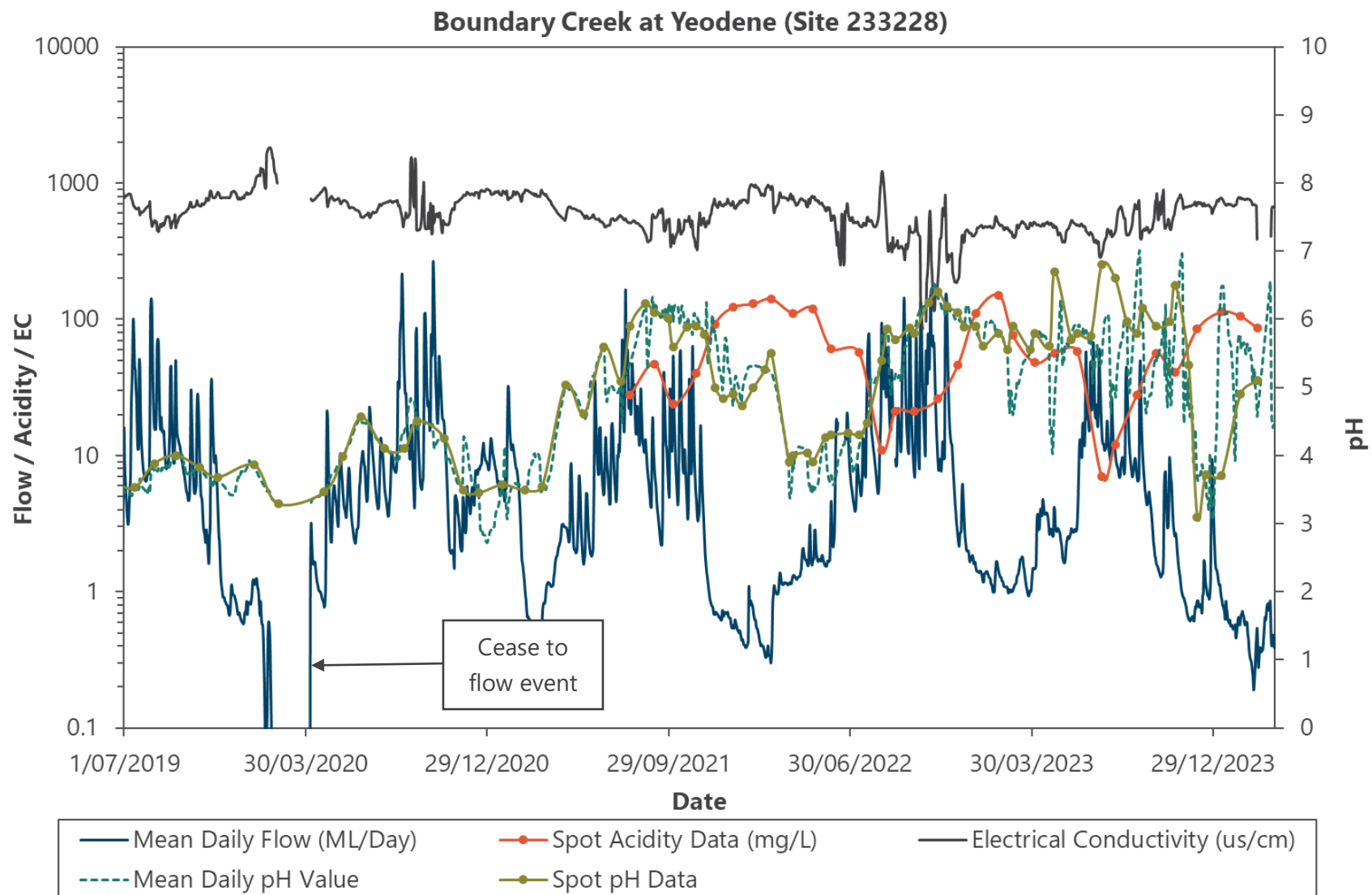
**Figure 3 Groundwater levels in the western portion of the swamp. Note that the logger from BSBH15 was found to be missing on 14 July 2022 and was replaced on 15 August 2022, data between these times relates to spot sampling data**

**Table 1 Visual comparison of Big Swamp since October 2022**

Date	Western end of Big Swamp	Eastern end of Big Swamp
February 2023		
September 2023		
November 2023		
January 2024		



**Figure 4 Streamflow, pH, EC and acidity readings in Boundary Creek – downstream of Big Swamp as recorded at stream gauge 233276 and during routine spot sampling**



**Figure 5 Streamflow, pH and acidity readings in Boundary Creek at Yeodene as recorded at stream gauge 233228 and during routine spot sampling**

## Actions completed on the Boundary Creek and Big Swamp Remediation Plan since 31 December 2023

Table 2 outlines the actions undertaken for the Boundary Creek and Big Swamp Remediation Plan since 31 December 2023.

**Table 2 Boundary Creek and Big Swamp - Actions completed in Q3 2023/24 (1 January – 31 March 2024)**

Action Items	Comment / Link
Submit quarterly update to Southern Rural Water for the period 1 October to 31 December 2023 and publish to the Your Say web page	Complete Refer to the Your Say website located here: <a href="https://www.yoursay.barwonwater.vic.gov.au/boundary-creek">https://www.yoursay.barwonwater.vic.gov.au/boundary-creek</a>
Completion of the March 2024 Remediation Reference Group meeting	Completed 27 March 2024
Submit quarterly update to Southern Rural Water for the period 1 January to 31 March 2024 and publish to the Your Say web page	Complete – this report Refer to the Your Say website located here: <a href="https://www.yoursay.barwonwater.vic.gov.au/boundary-creek">https://www.yoursay.barwonwater.vic.gov.au/boundary-creek</a>
Continue to collect data from new and existing monitoring assets	Ongoing
Provision of supplementary flows, where required, to maintain flows of at least 0.2 ML/day at the Boundary Creek at Yeodene stream gauge (site 233228).	Ongoing Supplementary flow releases of between 1.5 and 2 ML/day have occurred between 1 January and 29 March 2024. On 30 March 2024 releases were put on hold due to a burst pipe. This was subsequently resolved on 3 April 2024 and supplementary flows resumed. Barwon Water also continues to monitor the operation of the automated flow release valve that was installed on the outlet of the private on-stream dam to help facilitate the passing of flows down Boundary Creek. On 1 February 2024 Barwon Water identified some land use changes between the supplementary flow release point and the dam, an investigation is currently underway to determine if these may be contributing to increased losses within this reach. An update will be provided once this investigation is complete.

Action Items	Comment / Link
<p>Progress amendment of the REPP based on the current 'state of knowledge' and the adaptive management approach.</p> <p>This will include a review of the adopted remedial actions and the development of a risk-based remedial strategy that accounts for recent community and stakeholder feedback to help facilitate natural recovery processes.</p>	<p>Complete, the revised REPP was submitted to Southern Rural Water on 31 July 2023.</p> <p>Barwon Water is currently awaiting feedback on this from Southern Rural Water.</p>
Development of contingency measures	<p>Barwon Water's risk-based contingency approach and design of a mobile downstream treatment contingency measure was submitted to Southern Rural Water alongside the revised REPP on 31 July 2023.</p> <p>Barwon Water is currently awaiting feedback on this from Southern Rural Water.</p>
Completion of a Level 3 Ecological Risk Assessment to quantify the risks of the existing metal and acidity loads on Boundary Creek, Big Swamp, and the Barwon River and to help inform the development of suitable triggers for the implementation of relevant contingency measures, if required	<p>Submitted to Southern Rural Water on 31 July 2023 and uploaded to the Your Say website.</p> <p>Refer to the Your Say website located here: <a href="https://www.yoursay.barwonwater.vic.gov.au/boundary-creek">https://www.yoursay.barwonwater.vic.gov.au/boundary-creek</a></p> <p>Noting that some minor updates to this report are to be conducted following receipt of Southern Rural Water's feedback on the July 2023 submissions.</p>
Engage a suitably qualified driller to conduct the Barwon Downs borefield decommissioning works	In progress, a suitably qualified contractor is expected to be appointed by 30 June 2024.

## Upcoming actions associated with the Boundary Creek and Big Swamp Remediation Plan

Table 3 outlines the upcoming actions associated with the Boundary Creek and Big Swamp Remediation Plan between 1 April and 30 June 2024.

**Table 3 Boundary Creek and Big Swamp - Upcoming actions for Q4 2023/2024 (1 April – 30 June 2024)**

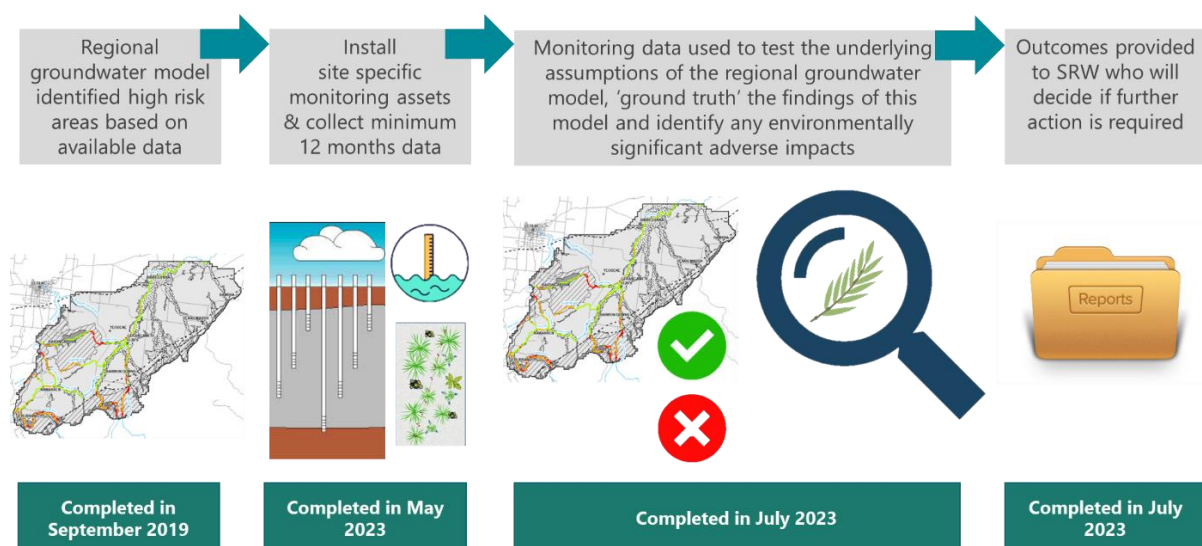
Action Items	Due
Submit quarterly update to Southern Rural Water for the period 1 April – 30 June 2024 and publish to the Your Say web page	14 July 2024

Action Items	Due
Continue to collect data from new and existing monitoring assets	Ongoing
Continue to release supplementary flows, where required, to try to maintain a flow of at least 0.2 ML/day at the Yeodene stream gauge #233228	Ongoing

## Surrounding Environment Investigation

### Surrounding Environment Investigation status update

In line with the REPP, the outcomes of the surrounding environment investigation were submitted to Southern Rural Water on 31 July 2023, as detailed in Figure 1 and Figure 6.



**Figure 6 Process overview for the surrounding environment investigation**

Barwon Water is currently awaiting feedback on the surrounding environment investigation from Southern Rural Water. However, the remedial actions that have been committed to as part of the Boundary Creek and Big Swamp Remediation Plan will continue to facilitate the recovery of the Lower Tertiary Aquifer within the surrounding environment and help to address any identified groundwater pumping derived hydraulic influences and/or uncertainties associated with this work.

Further works are also planned within the upper reaches of Deans Marsh, Matthews and Pennyroyal Creeks due to the paucity of data in these areas in particular. However, these remain on hold until we receive feedback from Southern Rural Water regarding the surrounding environment investigation and proposed next steps.

## Actions Completed on the Surrounding Environment Investigation since 30 September 2023

Table 4 outlines the actions completed for the Surrounding Environment Investigation since 31 December 2023.

**Table 4 Surrounding Environment Investigation - Actions completed in Q3 2023/24 (1 January – 31 March 2024)**

Action Items	Comment / Link
Submit quarterly update to Southern Rural Water for the period 1 October to 31 December 2023 and publish to the Your Say web page	Complete Refer to the Your Say website located here: <a href="https://www.yoursay.barwonwater.vic.gov.au/boundary-creek">https://www.yoursay.barwonwater.vic.gov.au/boundary-creek</a>
Completion of the March 2024 Remediation Reference Group meeting	Completed 27 March 2024
Submit quarterly update to Southern Rural Water for the period 1 January to 31 March 2024 and publish to the Your Say web page	Complete – this report Refer to the Your Say website located here: <a href="https://www.yoursay.barwonwater.vic.gov.au/boundary-creek">https://www.yoursay.barwonwater.vic.gov.au/boundary-creek</a>
Continue collection of data from new monitoring assets for the surrounding environment investigation	Ongoing
Continue collation of community information regarding sites/issues of concern to inform the surrounding environment investigation	Ongoing
Completion of fish surveys in the Upper Barwon Region	The first round of the fish surveys commenced in February 2024. As part of this, Barwon Water and the CCMA held an electro-fishing demonstration event on 29 February 2024 to provide agencies and community members the opportunity to learn more about electro-fishing and how it can be used to inform our water management decisions moving forward.

## Upcoming actions associated with the Surrounding Environment Investigation

Table 5 outlines the upcoming actions associated with the Surrounding Environment Investigation between 1 April and 30 June 2024.

**Table 5 Surrounding Environment Investigation - Upcoming actions for Q4 2023/2024 (1 April – 30 June 2024)**

Action Items	Due
Submit quarterly update to Southern Rural Water for the period 1 April to 30 June 2024 and publish to the Your Say web page	14 July 2024
Continue collection of data from new monitoring assets to track recovery	Ongoing
Completion of further investigations into Deans Marsh, Matthews and Pennyroyal Creeks	Barwon Water is currently awaiting feedback from Southern Rural Water on our 31 July 2023 submissions before finalising the scope of these further investigations. At this stage these works are due to be completed by 31 December 2024.
Completion of climate resilience modelling of waterways influenced by former groundwater pumping activities at the Barwon Downs borefield	Due 31 December 2024

## Issues Register

Table 6 below outlines any issues that have been identified during implementation of the REPP that may impact future implementation activities.

**Table 6 Issues register**

Issue	Likelihood	Consequence	Comments
Availability of appropriate consultants or contractors to undertake works required under the REPP	Medium	Low	Barwon Water has experienced delays regarding the availability of consultants, contractors, and materials to complete work for this project. With consultants continuing to be close to capacity this remains an ongoing risk and may lead to unexpected delays.
Extended remediation timeframes	Medium	Low	While water level and quality improvements are evident, changing climatic conditions could impede the recovery seen to date or lead to another decline in the future. While this is beyond Barwon Water's control, this may provide a barrier to meeting the remediation success targets.

# Community Engagement

The fourteenth (14<sup>th</sup>) Remediation Reference Group (RRG) meeting was held via Zoom on 27 March 2024. This meeting was attended by Barwon Water, members of the community and stakeholder Remediation Reference Group and Southern Rural Water.

Topics discussed included:

- A follow up on actions from the last meeting
- Electro-fishing demonstration event recap
- Status update on the July 2023 submission and when we expect to receive feedback from Southern Rural Water
- An update on where we are at with engaging a suitably qualified driller to complete the Barwon Downs Borefield Decommissioning works
- An update on the progress of the climate resilience modelling work
- An update on the progress against the Boundary Creek and Big Swamp Remediation Plan and the current conditions with Boundary Creek and Big Swamp
- Check-in on the timing of the next Remediation Reference Group (RRG) meeting
- Next steps.

During this meeting, an open forum was also held for group members to raise any topics that were not discussed above and for members to ask any questions that they may have. A high-level summary of the feedback received during this meeting is outlined in the table below.

**Table 7 Community feedback**

Community Feedback Received	Response
An RRG member expressed an interest in getting access to the findings from the fish survey work that is currently being undertaken and queried how they can access any previous fish survey work	<p>Barwon Water will share the outcomes of the fish survey work as soon as they become available. This will include two reports, one post the 2024 event and another post the 2025 event.</p> <p>The Corangamite Catchment Management Authority also advised that the findings from previous fish survey work are available via their knowledge base that can be accessed via the following link:</p> <p><a href="https://ccmaknowledgebase.vic.gov.au">Corangamite CMA Knowledge Base - eLibrary (ccmaknowledgebase.vic.gov.au)</a></p>

<p>An RRG member raised some concerns regarding the accuracy of the data being fed into the climate resilience modelling work and what sections have or have not been included in the work</p>	<p>Barwon Water's climate resilience modelling work focuses on waterways that have been influenced by Barwon Water's groundwater pumping activities. The intent of this work is to understand how historic pumping and other factors may influence the future resilience of these systems.</p> <p>This predictive modelling work is an important tool to give us a window into the future and help inform future management decisions.</p> <p>These concerns will be raised with the consultants conducting the work in line with advice from an RRG nominated expert. Barwon Water also committed to providing further information on this work once the predictive modelling has been completed.</p>
<p>An RRG member asked if there was an opportunity to bypass McDonalds Dam and deliver supplementary flows directly into Big Swamp given the additional losses identified upstream of the dam</p>	<p>Historically the losses between the supplementary flow release point and the dam have been very small (i.e. up to 0.2 ML/day). An investigation is currently underway in response to the increased losses identified over the summer period.</p> <p>New assets and infrastructure would be required to direct flows directly into Big Swamp. This would also require additional stakeholder engagement, design, and approvals.</p> <p>Given supplementary flows are to be phased out as groundwater-surface water interaction returns, this is not on the horizon at this stage.</p>

## Success Targets

Since the implementation of the REPP in March 2020, the success targets have been reviewed and adapted over time based on feedback from the Remediation Reference Group, Southern Rural Water and the Independent Technical Review Panel. These were most recently updated as part of the revised REPP that was submitted to Southern Rural Water on 31 July 2023. Noting that feedback on the revised success targets has not yet been received from Southern Rural Water.

An update on progress against the relevant success targets will be provided in the 2023-2024 Annual Report along with the supporting monitoring data.

## Technical Reports and Investigations

Relevant technical and investigation reports that have been completed to inform the Boundary Creek, Big Swamp and Surrounding Environment Remediation and Environmental Protection Plan can be accessed via Barwon Water's dedicated Your Say webpage via the following link: <https://www.yoursay.barwonwater.vic.gov.au/boundary-creek>

## Contingency Measures

As part of the REPP review process, Barwon Water has since developed a risk-based contingency approach that focuses on minimising the potential for high-risk events, should these persist following the implementation of the primary remedial actions.

The risk-based contingency approach, which has been developed in conjunction with the Remediation Reference Group, was submitted to Southern Rural Water on 31 July 2023 as part of the revised REPP. Noting that feedback on the proposed contingency measures has not yet been received from Southern Rural Water.

## REPP Amendments

The revised REPP was submitted to Southern Rural Water on 31 July 2023 following completion of the Ecological Risk Assessment and Palaeoenvironmental Study. This version of the REPP also included revisions based on the feedback received on the interim draft REPP that was submitted to Southern Rural Water on 22 December 2022.

Barwon Water is currently awaiting Southern Rural Water's feedback on the revised REPP so that this, along with the success targets and contingency measures, can be finalised.

# Progress Report

Table 8 outlines the actions that have been completed, are currently in progress, or are yet to commence as part of implementation of the REPP through to the end of the 2025/26 monitoring and reporting period (30 June 2026). It is important to note that additional tasks may be added as they are identified during the implementation of the REPP.

**Table 8 Task Tracker**

#	Activity	Due Date	Status	Health Indicator	Comments
1.0	Meeting with SRW to be held at the Barwon Water office to develop work plan towards confirming priority actions relating to feedback provided.	30-Apr-20	Complete	Complete	Complete
2.0	Complete autumn macro-invertebrates survey	30-Jun-20	Complete	Complete	Complete and uploaded to Your Say webpage
3.0	Complete soil incubation testing	31-May-20	Complete	Complete	Complete and uploaded to Your Say webpage
4.0	Submit quarterly report to SRW and publish to website	30-Jun-20	Complete	Complete	Complete and uploaded to Your Say webpage
5.0	Scoping of SW-GW technical work packages required to inform detailed design and address feedback register	30-Nov-20	Complete	Complete	Complete
6.0	Complete installation of additional monitoring assets required to inform the Surrounding Environment Investigation	30-Jun-23	Complete	Complete	The installation of 21 additional groundwater bores and redevelopment and re-instatement of 3 former state observation bores was completed in June 2022. Barwon Water completed the last of the 5 new stream gauges in May 2023. Noting

#	Activity	Due Date	Status	Health Indicator	Comments
					that the East Barwon stream gauge instrumentation was subsequently removed in December 2022 due to the need to relocate the telemetry station. The East Barwon stream gauge reinstatement works have not yet been completed and remain on hold given the surrounding environment investigation has indicated that Barwon Water's historic management of groundwater pumping activities at the Barwon Downs borefield have not resulted in any environmentally significant adverse impacts at this location. On this basis, Barwon Water no longer plan to reinstate this stream gauge.
7.0	Conclusion of monitoring period enabling the capture of a full seasonal cycle of data to inform updates to the groundwater-surface water model and geochemical model.	31-Jul-20	Complete	Complete	The data collected from this work has since been included in the relevant technical reports.
8.0	REPP Feedback Work plan - Submission and Acceptance	31-Jul-20	Complete	Complete	Complete
9.0	Governance Framework - Submission and Acceptance	31-Jul-20	Complete	Complete	Complete
10.0	Barwon Water Communications and Engagement Plan	Ongoing	Ongoing	Ongoing	The Communications and Engagement Plan continues to be adapted in line with the adaptive management approach.
11.0	Submission of the updated REPP to Southern Rural Water to account for the current state of knowledge and close out any outstanding feedback. SRW to accept the updated REPP.	31-Jul-23	Complete	Complete	On 22 December 2023 Barwon Water submitted an interim draft of the revised REPP to Southern Rural Water for initial comment and feedback.

#	Activity	Due Date	Status	Health Indicator	Comments
					This was subsequently updated to account for the additional work and feedback and was submitted to Southern Rural Water on 31 July 2023. Barwon Water are currently awaiting Southern Rural Water's feedback on this before it can be finalised.
12.0	Submit annual report to SRW and publish to Your Say website	30-Sep-20	Complete	Complete	Complete
13.0	Remediation Reference Group Meeting	2-Dec-20	Complete	Complete	Complete
14.0	Establish vegetation monitoring for Boundary Creek and Big Swamp Remediation Plan	31-Dec-20	Complete	Complete	Completed
15.0	Update groundwater-surface water model	31-Dec-20	Complete	Complete	Complete and uploaded to Your Say webpage
16.0	Submit quarterly report to SRW and publish to Your Say website	31-Dec-20	Complete	Complete	Complete
17.0	Remediation Reference Group Meeting	17-Mar-21	Complete	Complete	Complete
18.0	Submit quarterly report to SRW and publish to Your Say website	31-Mar-21	Complete	Complete	Complete
19.0	Remediation Reference Group Meeting	23-Jun-21	Complete	Complete	Complete
20.0	Submit quarterly report to SRW and publish to Your Say website	30-Jun-21	Complete	Complete	Complete and uploaded to Your Say webpage
21.0	Submission of detailed design of the hydraulic barriers outlining proposed controls or actions and any revisions to success measures/targets.	1-Jul-21	Complete	Complete	Complete. Submitted to Southern Rural Water on 1 July 2021. Barwon Water has since reviewed the viability of this remedial action as part of the Outcomes and Implications of the Upstream Treatment Investigation (Barwon

#	Activity	Due Date	Status	Health Indicator	Comments
					Water, 2022) and no longer consider hydraulic barriers a potential remedial action due to the unintended impacts that would result from implementing this approach. This has since been reflected in the revised REPP.
22.0	Update Hydro geochemical model	31-Jul-21	Complete	Complete	Complete and uploaded to Your Say webpage
23.0	Complete detailed design of contingency measure and feasibility assessment for up-stream for new upstream treatment method	31-Jul-21	Complete	Complete	<p>Barwon Water has since ruled out the use of the proposed semi-passive caustic magnesia treatment system. This decision was supported by Southern Rural Water and the Independent Technical Review Panel (ITRP) in their response received on 29 August 2022.</p> <p>Following completion of the Upstream Treatment Investigation in June 2022, Barwon Water have since developed a risk based contingency approach that focuses on minimising the potential for high-risk events, should these persist following the implementation of the primary remedial actions.</p> <p>As part of this, Barwon Water submitted the design on a mobile downstream contingency measure to Southern Rural Water on 31 July 2023.</p>
24.0	Remediation Reference Group Meeting	8-Sep-21	Complete	Complete	Complete
25.0	Submit annual report to SRW and publish to Your Say website	30-Sep-21	Complete	Complete	Complete

#	Activity	Due Date	Status	Health Indicator	Comments
26.0	Remediation Reference Group Meeting	9-Dec-21	Complete	Complete	Complete
27.0	Submit quarterly report to SRW and publish to Your Say website	31-Dec-21	Complete	Complete	Complete
28.0	Completion of upstream treatment investigation and development of Trial Plan	14-Jan-22	Complete	Complete	Complete. Submitted to SRW on 14 January 2022. Barwon Water has since ruled out the use of the proposed semi-passive caustic magnesia treatment system. This decision was supported by Southern Rural Water and the Independent Technical Review Panel (ITRP) in their response received on 29 August 2022.
29.0	Remediation Reference Group Meeting	21-Mar-21	Complete	Complete	Complete
30.0	Submit quarterly report to SRW and publish to Your Say website	31-Mar-22	Complete	Complete	Complete
31.0	Hosted community information session in Winchelsea	10-May-22	Complete	Complete	Complete
32.0	Hosted community information session in Colac	17-May-22	Complete	Complete	Complete
33.0	Remediation Reference Group Meeting	8-Jun-22	Complete	Complete	Complete
34.0	If trial plan is approved undertake upstream treatment trial	30-Jun-22	Complete	Complete	Barwon Water has since ruled out the use of the proposed semi-passive caustic magnesia treatment system. This decision was supported by Southern Rural Water and the Independent Technical Review Panel (ITRP) in their response received on 29 August 2022.
35.0	Decision on implementation of full-scale upstream treatment, hydraulic barriers, and downstream treatment	30-Jun-22	Complete	Complete	

#	Activity	Due Date	Status	Health Indicator	Comments
36.0	Submit quarterly report to SRW and publish to Your Say website	30-Jun-22	Complete	Complete	Complete
37.0	Remediation Reference Group Meeting	21-Sep-22	Complete	Complete	Complete
38.0	Submit quarterly report to SRW and publish to Your Say website	30-Sep-22	Complete	Complete	Complete
39.0	Submit annual report to SRW and publish to website	30-Sep-22	Complete	Complete	Complete
40.0	Remediation Reference Group Meeting	16-Nov-22	Complete	Complete	Complete
41.0	Submit quarterly report to SRW and publish to Your Say website	31-Dec-22	Complete	Complete	Complete
42.0	Remediation Reference Group Meeting	8-Mar-23	Complete	Complete	Complete
43.0	Submit quarterly report to SRW and publish to Your Say website	31-Mar-23	Complete	Complete	Complete
44.0	Remediation Reference Group Meeting	14-Jun-23	Complete	Complete	Complete
45.0	Submit quarterly report to SRW and publish to Your Say website	14-Jul-23	Complete	Complete	Complete
46.0	Submission of the Ecological Risk Assessment to Southern Rural Water	31-Jul-23	Complete	Complete	Submitted to Southern Rural Water on 31 July 2023
47.0	Submission of the Paleoenvironmental Study of Big Swamp to Southern Rural Water	31-Jul-23	Complete	Complete	Submitted to Southern Rural Water on 31 July 2023
48.0	Development of the Barwon Downs Borefield Decommissioning Plan	31-Jul-23	Complete	Complete	Submitted to Southern Rural Water as part of a bore decommissioning licence application on 17 July 2023. Southern Rural Water has since granted Barwon Water a licence to decommission the Barwon Downs Borefield production bores and we are currently working towards engaging a

#	Activity	Due Date	Status	Health Indicator	Comments
					suitably qualified contractor to conduct these works.
49.0	Submission of the revised downstream treatment contingency measures	31-Jul-23	Complete	Complete	Submitted to Southern Rural Water on 31 July 2023
50.0	Provide the outcomes of the Surrounding Environment Investigation to Southern Rural Water to determine if further remedial works is required	31-Jul-23	Complete	Complete	Submitted to Southern Rural Water on 31 July 2023
51.0	Remediation Reference Group Meeting	6-Sep-23	Complete	Complete	Complete
52.0	Submit annual report to SRW and publish to website	30-Sep-23	Complete	Complete	Complete
53.0	Submit quarterly report to SRW and publish to website	14-Oct-23	Complete	Complete	Complete
54.0	Remediation Reference Group Meeting	15-Nov-23	Complete	Complete	Complete
55.0	Submit quarterly report to SRW and publish to website	14-Jan-24	Complete	Complete	Complete
56.0	Remediation Reference Group Meeting	27-Mar-24	Complete	Complete	Complete
57.0	Submit quarterly report to SRW and publish to website	14-Apr-24	Complete	Complete	Complete
58.0	Submit quarterly report to SRW and publish to website	14-Jul-24	Not started		
59.0	Remediation Reference Group Meeting	Aug/Sep-24	Not started		
60.0	Submit annual report to SRW and publish to website	30-Sep-24	Not started		
61.0	Submit quarterly report to SRW and publish to website	14-Oct-24	Not started		

#	Activity	Due Date	Status	Health Indicator	Comments
62.0	Completion of follow up investigations on Deans Marsh, Matthews and Pennyroyal Creeks	31-Dec-24	Not started	At Risk	Scope to be finalised following receipt of Southern Rural Water's feedback on the July 2023 submissions.
63.0	Completion of further modelling work to track recovery and test what may happen under future climate scenarios	31-Dec-24	In progress	On Track	Works commenced 27 November 2023
64.0	Submit quarterly report to SRW and publish to website	14-Jan-25	Not started		
65.0	Remediation Reference Group Meeting	Mar/Apr-25	Not started		
66.0	Submit quarterly report to SRW and publish to website	14-Apr-25	Not started		
67.0	Submit quarterly report to SRW and publish to website	14-Jul-25	Not started		
68.0	Remediation Reference Group Meeting	Aug/Sep-25	Not started		
69.0	Submit annual report to SRW and publish to website	30-Sep-25	Not started		
70.0	Submit quarterly report to SRW and publish to website	14-Oct-25	Not started		
71.0	Completion of Fish Surveys in the Upper Barwon	31-Dec-25	Not started		
70.0	Submit quarterly report to SRW and publish to website	14-Jan-26	Not started		
71.0	Remediation Reference Group Meeting	Mar/Apr-26	Not started		
72.0	Submit quarterly report to SRW and publish to website	14-Apr-26	Not started		