

Loch Garry Flood Protection District Future Service Strategy

DRAFT

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Executive summary

The Loch Garry Future Service Strategy (the Strategy) outlines Goulburn-Murray Water's long-term plan for managing the future of the Loch Garry Flood Protection District service. It sets out a clear direction to eventually return the system to more natural conditions by removing infrastructure and ceasing the service.

The strategy responds to both a significant opportunity and a complex challenge. It offers a chance to restore environmental values and support system health of the Lower Goulburn Floodplain over the long term. At the same time, it requires careful planning, major investment, and meaningful engagement with communities and government to manage the risks and impacts of change. The delivery of the strategy will require an adaptive approach in acknowledgement of a broad range of stakeholders required to support its successful implementation.

The focus of this strategy is limited to the area affected by the 2022 flood event and the infrastructure involved. It does not include broader operational changes across the region or detailed designs at this stage. Instead, it provides a foundation for the future – defining a preferred approach, setting a timeline for staged implementation, and identifying next steps for engagement, planning and investment.

Implementation of the strategy is expected to roll out over a 5–10-year period, with no immediate changes to the revised operating rules currently in place. This long-term view recognises the scale and complexity of work involved and the need for flexibility as the strategy is implemented.

This document is intended to guide GMW's internal planning and decision-making and provide clarity for stakeholders and community members as we work together toward a more sustainable future for Loch Garry.

1. Introduction

The primary purpose of Goulburn-Murray Water (GMW) is the storage, management, delivery, and drainage of water. In the GMW corporate strategy “Achieving Together”, the Loch Garry Flood Protection District (Loch Garry) is acknowledged individually as one of eleven water services provided to our customers. Loch Garry is unique as it provides minor to moderate flood mitigation benefits.

Following extensive technical analysis and community consultation, including engagement with a Community Reference Group (CRG), GMW has determined a preferred option for the future of the service. This strategy document outlines how that chosen option will be delivered in practice — including the operational approach, required investments, governance arrangements, and financial implications.

Purpose of the Strategy

The purpose of the Loch Garry Future Service Strategy is to guide the implementation of GMW’s preferred service option for the Loch Garry Flood Protection District.

The Strategy:

- Documents the future service and confirms GMW’s role for the future.
- Describes how the selected option was chosen, including the consideration of technical, economic, and community input.
- Sets out how GMW will deliver the service strategically and operationally over time.
- Provides a clear implementation pathway that accounts for climate change, future flood risk, and evolving community needs.

This document is intended for a broad range of stakeholders who have an interest in the future of Loch Garry, floodplain management, and service delivery in the Bunbartha/Deep Creek region. It provides transparency around GMW’s position, the rationale behind the selected option, and the pathway toward a long-term, sustainable floodplain solution.

Who this Document is for

Specifically, this strategy is designed to inform:

- **Local landholders and residents** within the Loch Garry Flood Protection District, who are directly impacted by both current flood operations and any future changes to infrastructure or service levels.
- **Partner agencies and authorities**, including the Goulburn Broken Catchment Management Authority and emergency services, who play a critical role in flood response, land and waterway management, and regional planning.
- **Victorian Government departments and regulators**, who provide oversight, funding, or policy direction relating to floodplain infrastructure, land use, and climate adaptation.
- **GMW’s internal stakeholders**, including asset managers, operational teams, planners, and customer service representatives, who will be responsible for implementing and communicating the strategy.

- **Future consultants, technical experts, and researchers**, who may be engaged to support implementation, environmental assessment, flood modelling, or community engagement activities.

Objective of Selected Option

The selected option – Gradual Return to Natural Flows – seeks to gradually restore the Loch Garry floodplain to a more self-sustaining and ecologically balanced state by removing flow control infrastructure and retaining only sufficient levees to manage key risks during the transition. This option reflects a long-term commitment to environmental restoration and sustainable floodplain management, while acknowledging the need for an interim period of managed operations under revised operating rules.

In the immediate term, there will be no change to the existing operation of the service. This will allow time for further planning, engagement, and resource mobilisation to support the long-term transition.

The longer-term objective is to:

- Remove flow control structures and reliance on mechanical regulation.
- Enable natural flow conditions to return, supporting ecosystem restoration.
- Eliminate ongoing infrastructure maintenance and intervention.
- Deliver a sustainable, self-regulating floodplain system.

While this approach carries risks – including high capital investment, potential local flood impacts, and stakeholder concerns – it offers long-term benefits including removing the maintenance burden, increased floodplain resilience, and improved environmental outcomes. The capital cost is estimated at \$20 million to \$40+ million, with implementation expected over a 5–10-year period depending on funding and approvals.

Opportunities and Challenges

This strategy presents a unique opportunity to shape the long-term future of water management in the region, in a way that supports both environmental recovery and system sustainability. The preferred approach – progressively returning the system to natural flow conditions – has the potential to deliver long-term ecosystem benefits, reduce maintenance costs, and increase resilience to future climate events.

However, this is not without its challenges. The scale and complexity of infrastructure removal, the need for significant capital investment, and the implications for landholders and local assets demand a carefully staged and well-communicated implementation. External stakeholder support is crucial to the successful delivery of the strategy. There is also a need to manage community expectations, maintain service reliability during transition, and ensure any long-term changes are supported by robust modelling, monitoring, and engagement.

Balancing these opportunities and challenges will require collaboration, flexibility, and a shared commitment to long-term outcomes.

2. Background

The Problem

The Loch Garry flood protection infrastructure has been in place since the early 20th century, operating under an agreement made in 1925 between landholders and the State Rivers and Water Supply Commission (now GMW). The base concrete structure underpinning the flood regulator is now more than 100 years old and will require a major upgrade or replacement in the next 10-20 years.

The infrastructure consists of a 48-bay flood regulator and approximately 9.6km of levees. The flood regulator contains 506 drop bars that are manually removed and returned during flood event triggers described in the operating rules. 117 customers covering 16,529 ha in the Bunbartha/Deep Creek region each pay an annual fee based on a price per hectare.

While this system has delivered minor to moderate flood protection for many decades, recent events — most notably the October 2022 flood — have exposed significant limitations in its current operation and long-term viability.

During the 2022 event, floodwaters rose rapidly and significantly exceeded the trigger levels outlined in the then-current Operating Rules. While GMW commenced bar removal as required, the speed and scale of the event meant that only 50% of the bars could be removed before the operation had to be abandoned for safety reasons. The result was widespread damage, levee breaches, and serious operational challenges — underscoring the need for a more adaptive, sustainable, and resilient approach to flood management in this area.

This event reinforced several critical issues:

- The infrastructure and operating model are not suited to managing large, fast-moving floods.
- The manual operation of drop bars creates significant safety risks for staff during high-flow events.
- The system no longer reflects contemporary environmental values or long-term community expectations.
- Climate change and upstream developments are altering the nature of flood risk, with more frequent and intense events expected over time.
- There is an increasing need to consider how the benefits and costs of this service are distributed, and whether the infrastructure should continue in its current form.

In response, GMW has developed a clear direction: to continue operating the Loch Garry infrastructure under the revised Operating Rules as an interim measure, while working toward a longer-term strategy to gradually return the floodplain to more natural conditions.

3. Service scope

The scope of Loch Garry is limited to the infrastructure managed by GMW (the regulator and 9.6km of levees), acknowledging a broader area of impact exists in the lower Goulburn system of levees. These levees can influence the effectiveness of Loch Garry's operation, and they can be directly impacted by the activation of Loch Garry in response to a flood event.

The scope of service provided by Loch Garry is limited to only minor and moderate flood protection. When Loch Garry was commissioned in 1925 it was not designed to provide protection from major flood events and it is important to note that none of the options considered as part of this strategy proposed upgrading to a major flood protection service.

Whilst the lower Goulburn levee system is not GMW's responsibility to manage, it is essential to be included in the implementation of a gradual return to natural conditions. This outcome cannot be achieved through the removal of the Loch Garry infrastructure alone. A wholistic approach is required to achieve the future service strategy for Loch Garry which will need the involvement of other stakeholders including local, state, and federal governments, the catchment management authority, traditional owners, departments and relevant agencies.

5. How the strategy was selected

The development of the Loch Garry Future Service Strategy has been guided by a collaborative, evidence-based process.

Community Reference Group (CRG) Engagement

A dedicated CRG was established to provide local insights, test assumptions, and consider a range of future service options. The CRG included representatives from the Loch Garry Flood Protection District and relevant stakeholder groups. Across six structured meetings, the CRG explored various scenarios, infrastructure considerations, and the implications of changing or maintaining the existing system.

Each meeting was designed with a specific focus to build a shared understanding and work toward a preferred direction:

- *Meeting 1:* Inception meeting to establish engagement, connection and confirm the terms of reference.
- *Meeting 2:* Discuss preliminary CRG survey results and identify themes for possible future options.
- *Meeting 3:* Workshop to establish selection criteria and identify up to five options for inclusion in flood modelling stage.
- *Meeting 4:* Review the outputs from the flood modelling stage.
- *Meeting 5:* Workshop to review options analysis information and updated flood modelling to provide a recommended option to GMW.
- *Meeting 6:* GMW to communicate to the CRG the selected option for the Loch Garry Future Service Strategy and thank the CRG for their engagement and commitment.

Broader community engagement activities were also completed using a combination of in-person drop-in and online information sessions, which were conducted at various locations across the Loch Garry area. Community information and feedback was also facilitated through the Loch Garry Future Service Strategy “Your Say” website. This website provided further information about the process, options, and the process of engagement with the Community Reference Group.

This engagement process helped shape a common understanding of the operational, environmental, and financial considerations associated with each option.

Technical Evidence and Analysis

In parallel with stakeholder engagement, GMW worked closely with the Goulburn Broken Catchment Management Authority and Water Technology to undertake detailed flood modelling. These studies assessed how different infrastructure scenarios would perform across a range of flood events, including consideration of climate change, levee function, and long-term environmental restoration.

Cost estimates at a high level were developed for each option, considering capital works, ongoing maintenance, and operational requirements. This enabled a comparative analysis of long-term viability and helped refine options based on value, impact, and feasibility. The analysis also considered the affordability challenges of a relatively small customer base.

Internal Collaboration and Review

GMW also convened a series of internal workshops with representatives from Operations, Asset Planning, Strategy, Policy, and Customer Services. These sessions tested the outcomes of community and technical work against strategic objectives, regulatory requirements, and operational realities. These workshops were crucial in determining a preferred way forward.

6. Implementation Overview

This section outlines the staged approach to implementing the selected option – Gradual Return to Natural Flows – which requires sustained investment, detailed planning, and ongoing engagement over a multi-year period.

Key Enablers

- Government and co-funding opportunities
- Technical and environmental expertise
- Community support and adaptive governance

Implementation Staging

The implementation will be delivered in phases aligned with key milestones:

Phase 1: Interim Operations

Continue operating under revised rules following the 2022 flood event.

Monitor outcomes and gather operational data to inform next steps.

Phase 2: Detailed Planning and Design

Develop detailed engineering designs for infrastructure removal and levee works.

Undertake updated environmental assessments and approvals.

Secure required funding and partnerships.

Phase 3: Community and Stakeholder Engagement

Ongoing engagement with landholders, traditional owners, stakeholders, and government agencies.

Ensure transparency, build trust, and co-design elements where possible.

See attached Engagement Plan for detailed activities, responsibilities, and timelines.

Phase 4: Infrastructure Works

Commence staged decommissioning and removal of flow control structures.

Construct or upgrade critical levees to manage flood risk.

Monitor and adapt implementation based on in-field outcomes.

Phase 5: Monitoring and Adaptive Management

Establish environmental and operational monitoring frameworks.

Adapt implementation and management based on performance, climate conditions, and community input.

Transition to long-term natural conditions

Implementation Timeline (Indicative)

The implementation of the preferred option is expected to occur over a 5–10-year timeframe, allowing for a staged, adaptive approach that responds to technical, financial, and community considerations. The indicative phases include:

Years 1–2: Planning and Design

- Continue operating under revised operating rules
- Secure funding pathways and approvals
- Finalise infrastructure decommissioning plans
- Ongoing modelling, technical assessments, and risk evaluations
- Continued stakeholder and government engagement
- Pilot or preparatory works where feasible

Years 3–5: Initial Implementation

- Commence staged removal of flow control structures and levee adjustments
- Monitor environmental and hydrological responses

- Implement supporting infrastructure changes as needed
- Provide ongoing updates and engagement with affected stakeholders

Years 6–10: Full Transition and Long-Term Monitoring

- Complete major infrastructure works
- Embed adaptive operating rules
- Formalise governance arrangements for long-term management
- Monitor ecological, economic and service outcomes
- Review and refine system performance and risk mitigation strategies

Risk Management

Risks will be actively managed through:

- Progressive engagement and transparency.
- Strong project governance.
- Scenario planning and operational flexibility.

7. Risk and resilience

The successful implementation of the Strategy acknowledges the risk that comes with the support of external stakeholders as the impacted environment is beyond the scope of GMW's direct control. To mitigate this risk, a model of proactive and ongoing engagement with the external stakeholders is essential to move towards an agreed outcome and enable the implementation to proceed.

7. Appendix

7.1 Supporting documents

Table 1 Supporting documents

Document Name	Objective Number	Summary of content
Loch Garry Options Paper	A5439264	
Revised Operating Rules – Loch Garry Flood Protection District – November 2023	A4773680	

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