Improving Dam Safety and Management in South Australia

Project Overview

The project aims to enhance dam safety and management across South Australia. It focuses on understanding and mitigating dam failure risks, particularly in high-risk catchments, through key activities such as improving dam spatial data, developing a state-wide risk analysis methodology, engaging with dam landholders, and implementing policy.

Background

The project is crucial in addressing priority outcomes, issues and actions outlined in the June 2020 position paper Improving Dam Safety and Management in South Australia. The position paper was developed to document and support addressing concerns about dam safety management in South Australia, and to propose a framework with a number of elements to improve dam safety management.

The project will enhance DEW's capabilities and tools for managing and communicating dam safety, dam data and mapping resources, aligned with its responsibilities as the South Australian flood hazard risk reduction leader.

The project outcomes aim to enhance current and future dam safety, planning, and mitigation efforts across South Australia where flooding frequency and intensity is projected to increase due to climate change, contributing towards achieving the South Australian Government Climate Change Actions.

Project objectives

The project is driven by a critical need to better understand and mitigate dam failure risk, especially in high-risk catchments. The project's strategic objectives will be achieved through:

- Improving the management of dam spatial data across the state.
- Developing and implementing a state-wide dam risk analysis methodology that estimates the relative level of dam failure risk for each SA catchment at a broad scale based on the key factors that contribute to dam failure.
- Reviewing and improving geospatial assessment methodologies developed in 2022 to identify dams with varying risk or failure consequences in high-risk catchments.
- Applying an improved geospatial assessment to identify dams with varying failure consequences or risk categories in high-risk catchments.
- Applying an improved geospatial assessment to define dam failure impacts of selected high failure consequence dams in high-risk catchments to support flood emergency response and planning.
- Engaging with and supporting dam landholders to better manage their dams.
- Improving dam policy in partnership with South Australian dam authorities.

Project scope

The project is state-wide and considers all catchments and known dams.

In scope	Out of scope
Dam spatial dataset consolidation and improvement.	Collecting and developing new dam spatial data.
Develop and implement a state-wide dam risk analysis methodology.	Assessing dams.
Develop and implement a catchment level dam risk analysis.	Detailed engineering assessments.
Impact analysis and flood inundation mapping for target high risk dams in high-risk catchments.	Comprehensive flood modelling for all catchments.
Dam workshops and direct landholder engagement in target high-risk catchments.	Engagement with landholders in all high-risk catchments.
Broad communication including strong local government communication and engagement campaigns to support dam safety and effective dam maintenance and management.	In-depth community training programs.
The development of a dam policy discussion paper and consultation with stakeholders on policy options and implementation of policy.	Full implementation of all policy options.

Project funding

The project has been allocated funds of $812,000 from the South Australian Government.

Project timeframe

The project will run from June 2023 to June 2026.

Project deliverables

Develop improved dam spatial data and dam risk assessment tools

- Create and implement a methodology for assessing relative dam failure risks across South Australian catchments, facilitating targeted risk mitigation efforts and engagement activities.
- Enhance and optimise geospatial tools to accurately identify and classify dams based on their failure consequence or risk levels in high-risk catchments.
- Produce high-resolution flood inundation maps for high-risk dams, aiding in emergency response planning and risk communication.

Develop South Australian dam policy to support dam safety and management through stakeholder consultation

- A discussion paper outlining policy directions for dam safety and management.
- Summaries and outcomes from stakeholder workshops on policy development.
- Finalised policy outputs aimed at improving dam safety and management in South Australia along with checklists for contractor selection.

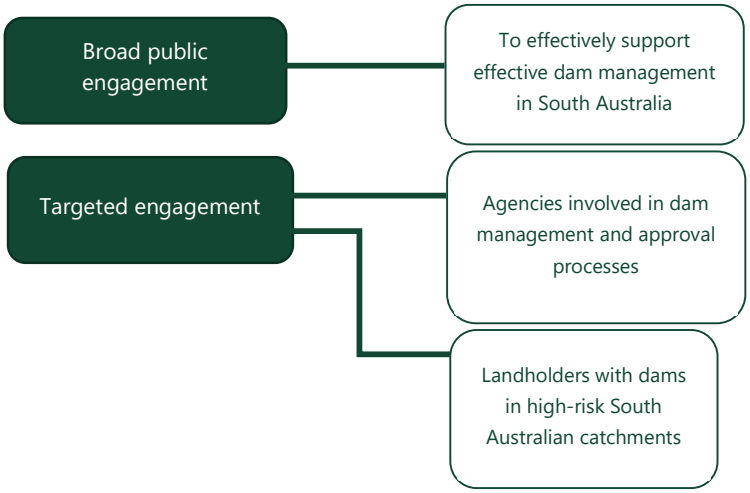
Community engagement and education

- Dam workshops and direct landholder engagement in target high-risk catchments including incentives to encourage owners to create high performing dams.
- Strong local government engagement.
- Development of resources to support landholders in effectively managing dams and to assist with selecting contractors for dam works.

Project stakeholders

The project team will be engaging with the following stakeholders:

- State government agencies (including the SA State Emergency Service)
- Landscape Boards
- Dam landholders
- Local government
- Households and businesses with flood risk



Project partnerships

Through grant funding from the Landscape Priorities Fund 2023/24, the Hills and Fleurieu Landscape Board will deliver the *Building Landscape Resilience with High-Performing Dams* project with support from the Department for Environment and Water and the Northern and Yorke Landscape Board.

More information

DEWFloodProjects@sa.gov.au

www.environment.sa.gov.au/topics/flood