

Northern Floodplain Risk Management Committee

Meeting Date: Wednesday, 06 March, 2024

Location: Jervis Bay Rooms, City Administrative Centre, Bridge Road, Nowra

Minutes Attachments

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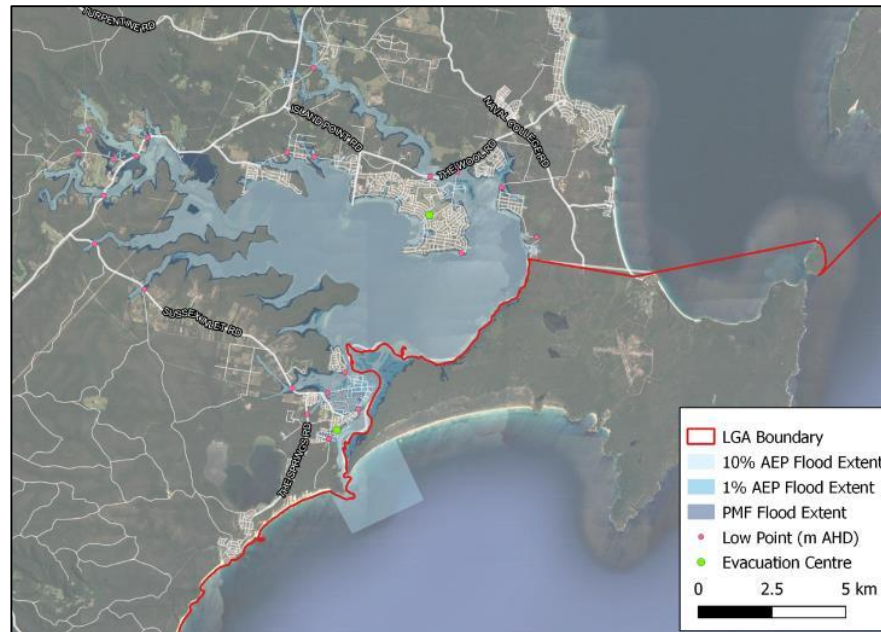
Flood Evacuation Capability Assessment and Triggers

Lower Shoalhaven River and St Georges Basin Catchments

I pay my respect to all First Nations peoples, their cultures and to their Elders, past and present

The Problem

The Lower Shoalhaven River and St Georges Basin catchments are home to several flood-affected towns, some of which are at serious risk of inundation and isolation during flood events. This poses a significant flood risk to property and life.



Project Objectives

- Identify flood evacuation constraints in the catchments and potential mitigation options
- Provide flood evacuation capability analysis to assist the NSW SES in planning for the safe evacuation of people
- Advise Council regarding land use planning considering evacuation capability

Project Scope

- Review available data + produce new data where required
- Assess evacuation capability
- Identify flood evacuation triggers and constraints
- Identify potential mitigation options
- Investigate the vulnerability of critical services
- Identify local needs to improve safety during isolation
- Review existing flood forecast and warning systems
- Advice on land use planning considering evacuation capability

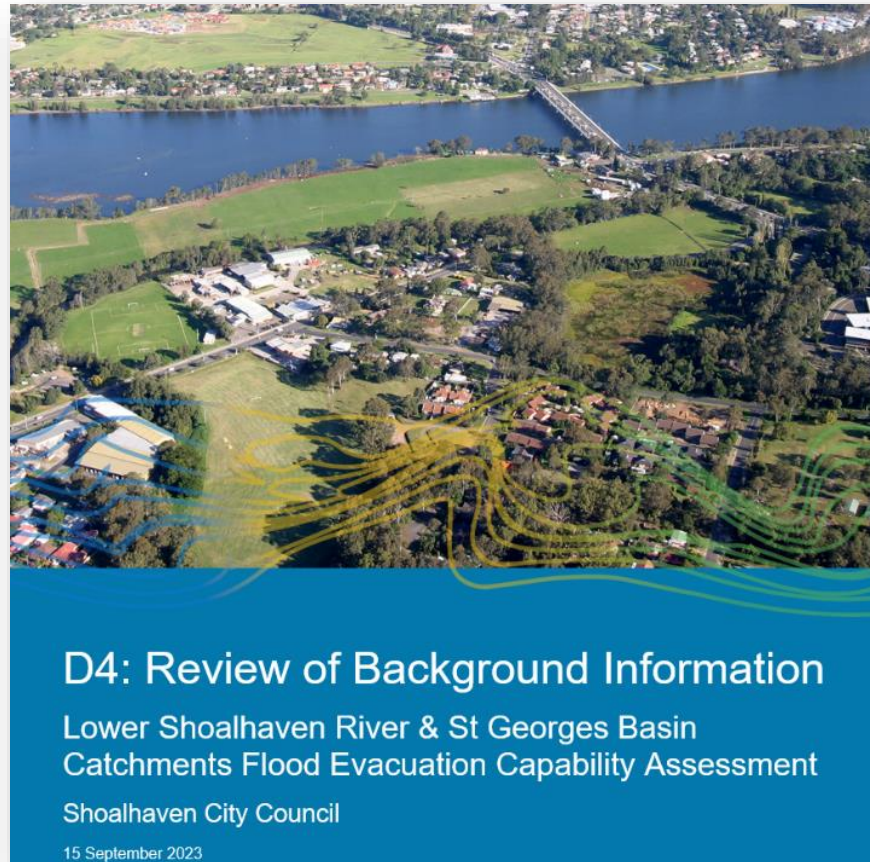
Deliverables and Progress

- Site visit inspection report ✓




Deliverables and Progress

- Background information review ✓



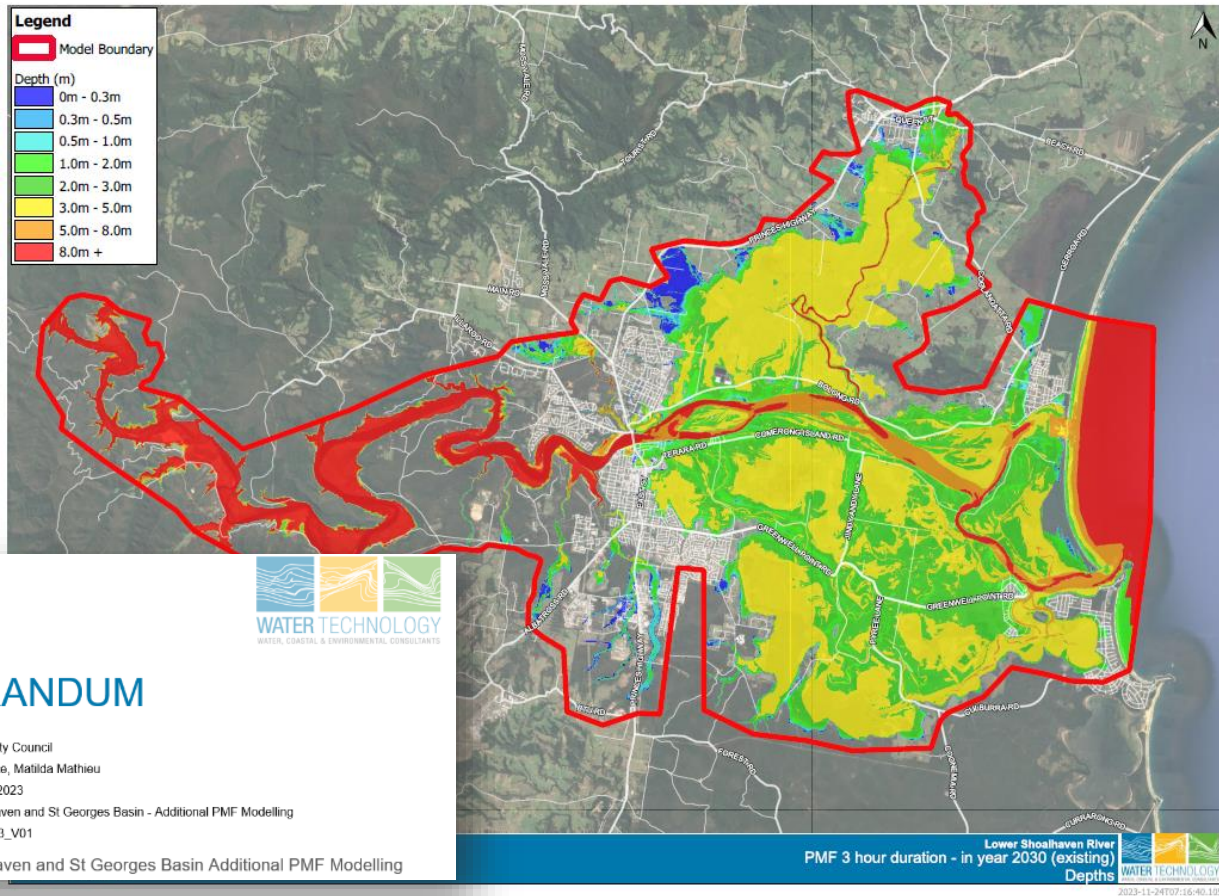
Deliverables and Progress

- Communication and Stakeholder Engagement Plan ✓

Increasing impact on the decision 					
Public participation goal (what are we trying to achieve)	Inform	Consult	Involve	Collaborate	Empower
	To provide the public with balanced and objective information to help them understand the problem, alternatives and/or solutions	To obtain public feedback on alternatives and/or decisions	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered	To partner with the public in each aspect of the decision including the development of alternatives and identification of the preferred solution	To place the final decision-making in the hands of the public
Promise to the public	We will keep you informed	We will keep you informed, listen to and acknowledge concerns and provide feedback on how public input influenced the decision	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision	We will work with you to formulate solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible	We will implement what you decide

Deliverables and Progress

- Additional Flood Modelling ✓



MEMORANDUM

To Shoalhaven City Council
From William Prentice, Matilda Mathieu
Date 23 November 2023
Subject Lower Shoalhaven and St Georges Basin - Additional PMF Modelling
Our ref 23050058_M03_V01

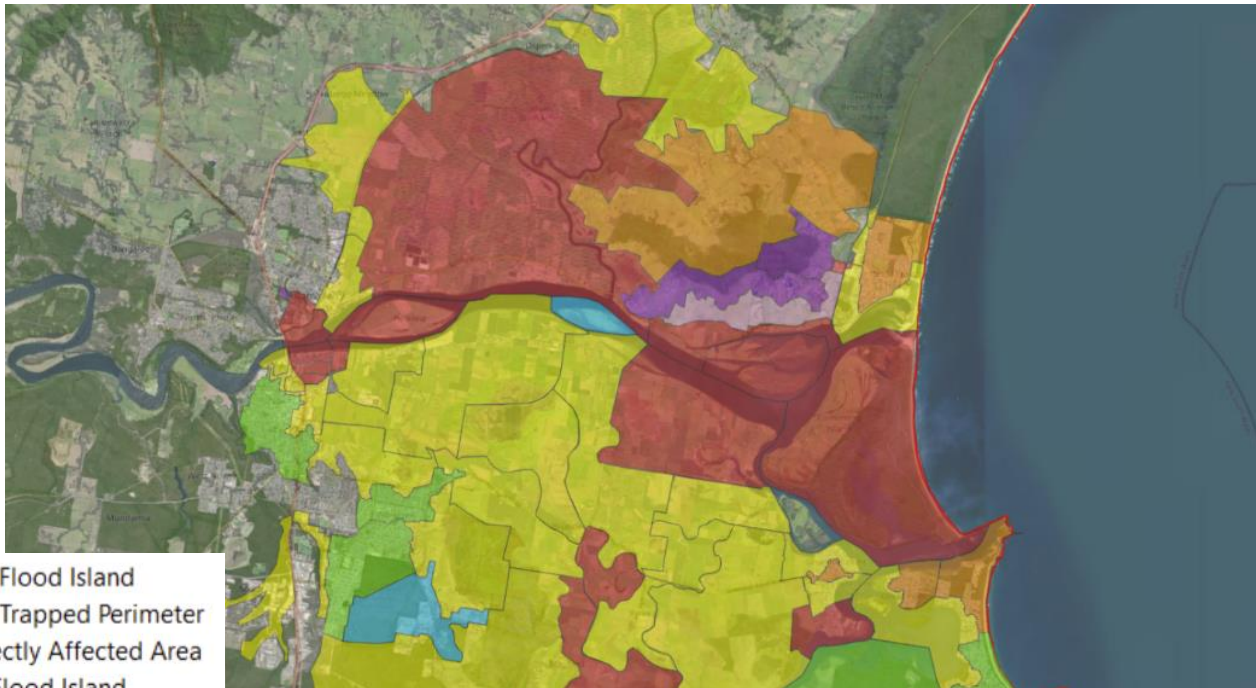
Lower Shoalhaven and St Georges Basin Additional PMF Modelling



expert insight and practical solutions

Deliverables and Progress

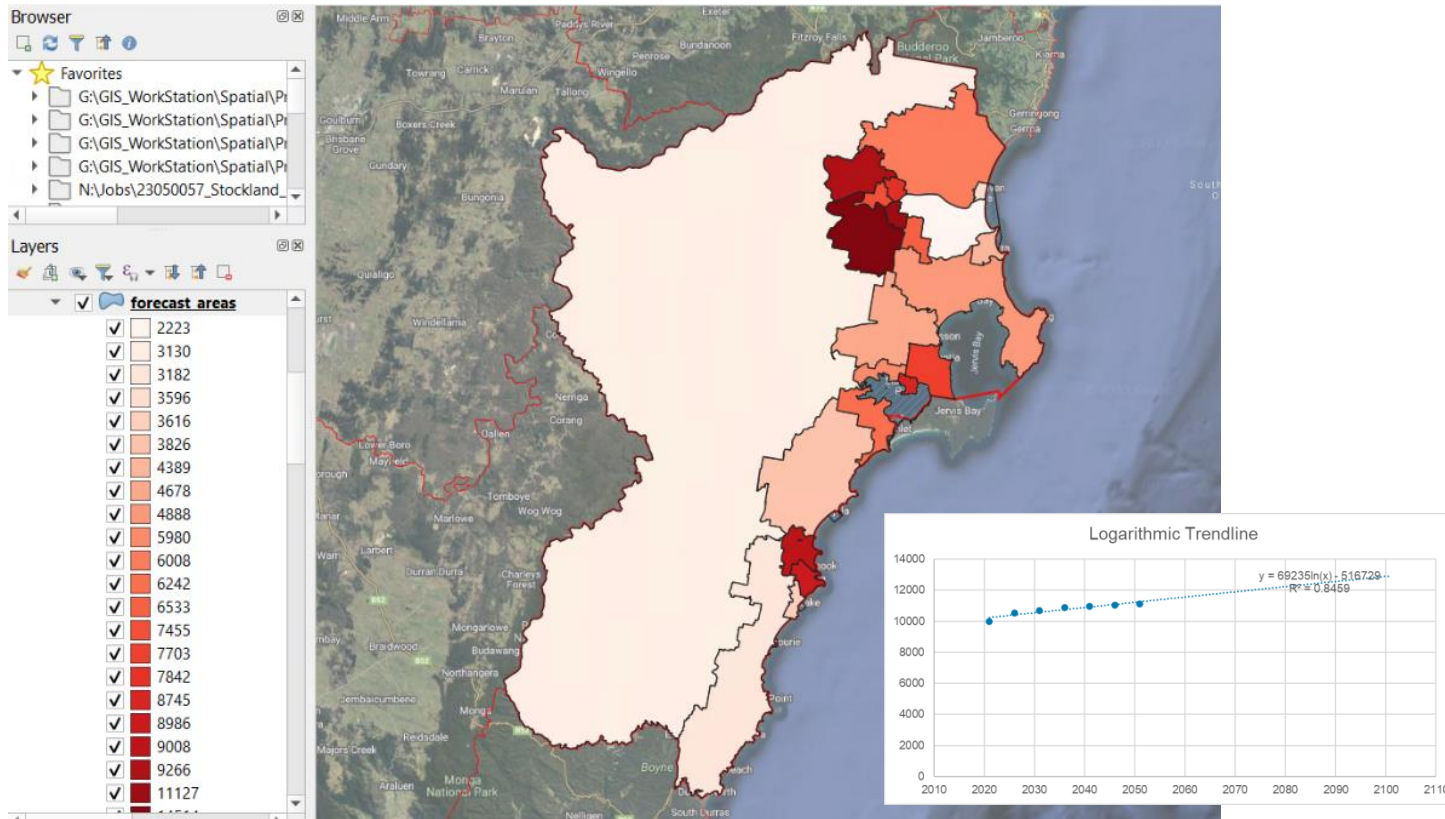
- Review of NSW SES Evacuation Sectors ✓



- High Flood Island
- High Trapped Perimeter
- Indirectly Affected Area
- Low Flood Island
- Low Trapped Perimeter
- Rising Road Access

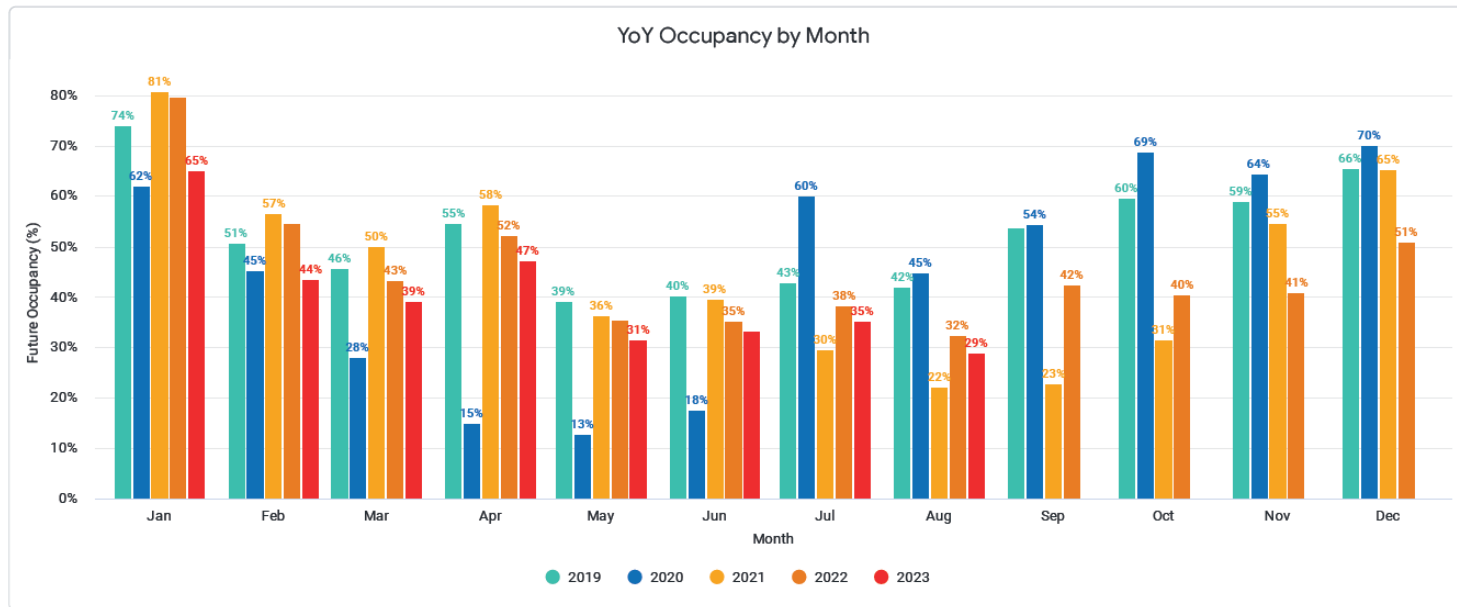
Deliverables and Progress

- Estimate of Evacuees Numbers ✓



Deliverables and Progress

- Estimate of Evacuees Numbers ✓



Upcoming milestones

- Flood evacuation capability assessment (work in progress)
- Flood evacuation triggers and constraints (work in progress)
- Potential mitigation options to improve evacuation capabilities (work in progress)
- Vulnerability of critical services
- Review of and recommendations to improve the existing flood forecast and warning systems (work in progress)
- Advice on land use planning considering evacuation capability

Upcoming milestones

- Review and update of flood emergency response classifications (work in progress)
- Proposed updates to the Shoalhaven DCP 2014
- Revised FECA and FEMP caravan park evacuation procedures as per DCP
- Investigation into the feasibility of raising Greenwell Point Road for improved flood evacuation
- Flood Evacuation Capability Assessment and Triggers Report



Flood Evacuation Capability Assessment and Triggers

Lower Shoalhaven River and St Georges Basin Catchments

Filippo.dallosso@watertech.com.au

R h e l m

Lower Shoalhaven River Floodplain Risk Management Study and Plan

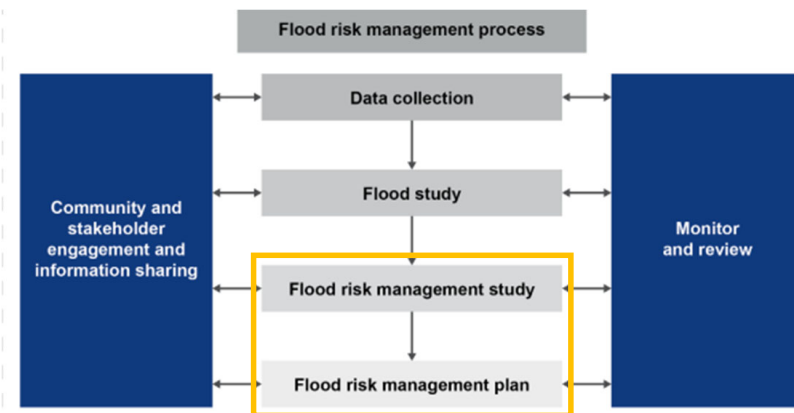
Presentation to the Northern Floodplain Risk Management
Committee

6 March 2023



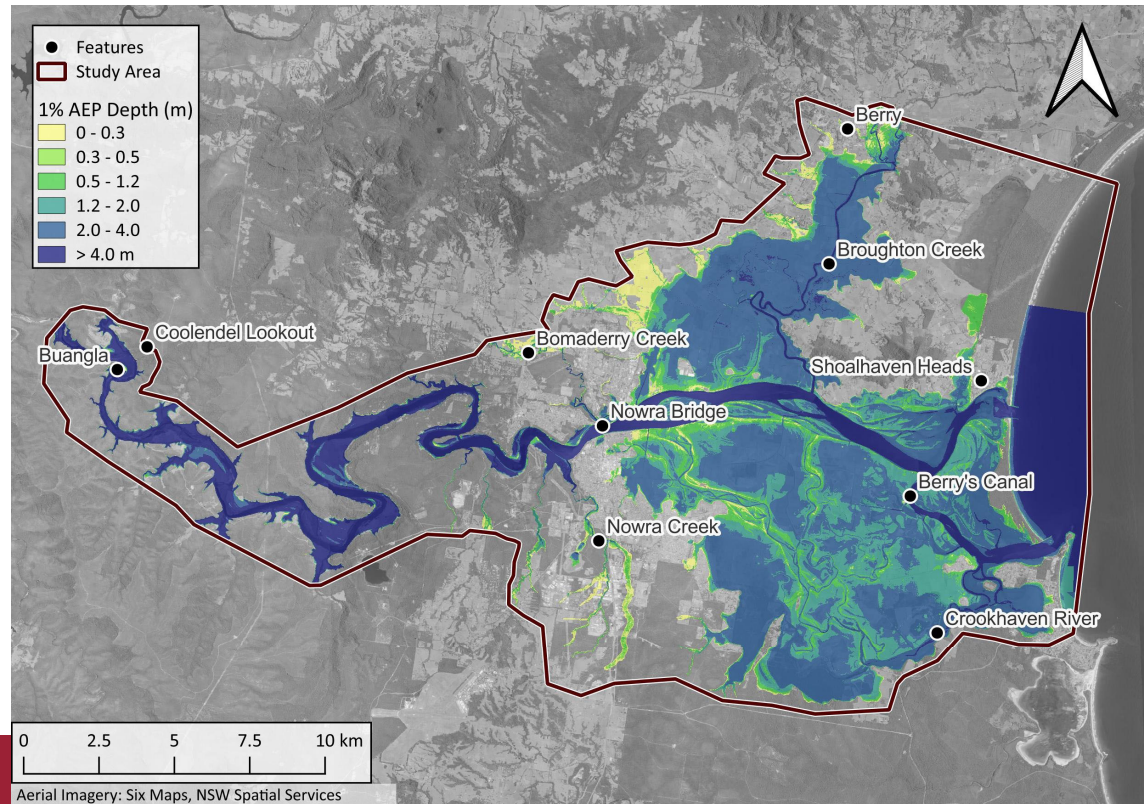
Project Overview

- Study commissioned to better inform management of flood risk in the study area.
- The study is being undertaken in accordance with the Flood Risk Management Manual, a State Government policy document.
- Flood Study was completed in 2022 and adopted in early 2023.
- This study will move through the FRM Study and FRM Plan phases of the framework
- The project has just commenced.
- This presentation will share the key stages of the project, and what outcomes are to be expected at each stage.



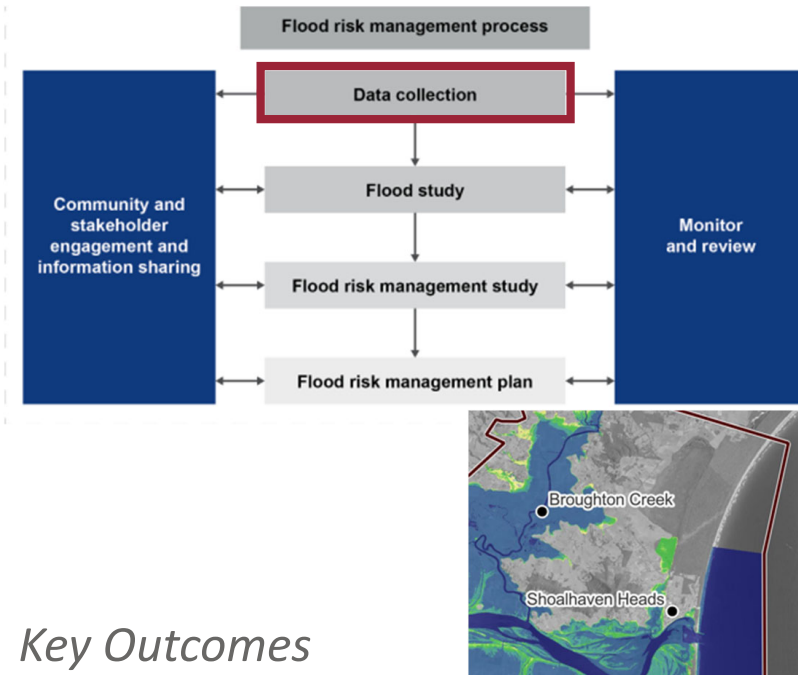
Catchment & Study Area

- Shoalhaven River has a catchment area of 7,250km², the sixth largest coastal catchment in NSW
- Terrain is varied, moving through rolling plateaus, steep, deep gorges, and wide floodplains and estuaries.
- Land use is also highly varied.
- Study focus is on the downstream reach, where development is concentrated.



Data Collection & Model Updates

- Compilation and review of available data
- Incorporation of data from other studies:
 - Shoalhaven CMP
 - Flood Evacuation Capability Assessment (FECA)
 - Floor level survey
- Updates to the hydraulic model:
 - Coomonderry Swamp inclusion
 - Levees and flood drainage channels
 - Nowra Bridge Duplication WAE survey

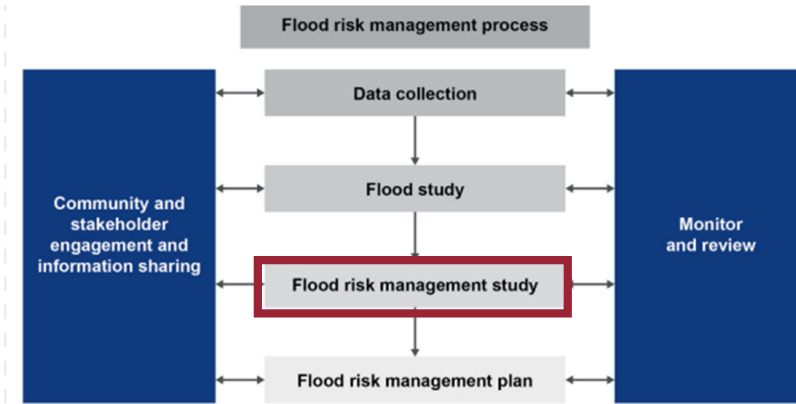


Key Outcomes

- *Flood models updated to be reflective of current site conditions, and to be fit for use in assessing management options.*

Floodplain Risk Management Study

- Building on the Flood Study, the Risk Management Study will develop and assess mitigation and management options to address the flood risks in the catchment.
- Will examine Structural, Emergency Response and Planning measures, informed by this, as well as prior and concurrent studies.

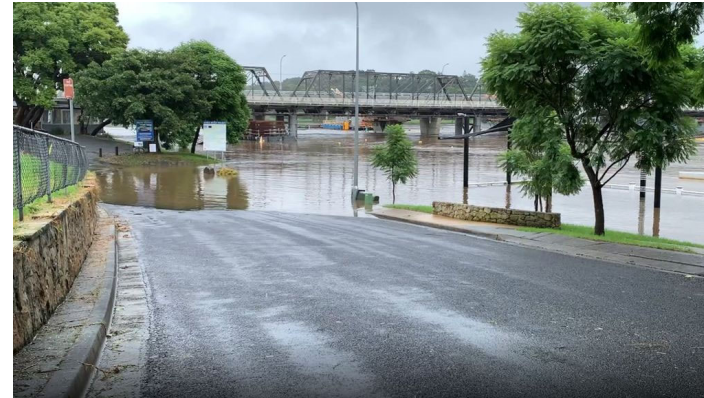


Key Outcomes

- *Development of a set of mitigation and management options to address the flood risk within the study area*
- *Assessment of these options to determine their feasibility*
- *Ranking of all options to determine which are most effective for risk management*

FECA Collaboration

- Core component of the FECA is the assessment of evacuation capacity deficiencies, and measures to address them.
- May include road raising, culvert upgrades, new roads, etc, which would be referred to this study for testing.
- Flood impacts (both positive and negative) will be assessed in the FRM Study.



EMP Trigger Review

- The Shoalhaven CMP and a LGA wide floor level survey are currently being undertaken.
- Inputs from these studies will be used to assess impacts on property from various entrance trigger levels.
- Effort has been made to disconnect from wider study as far as practical.
- Both to deliver recommendations earlier, and to allow specific review and consultation of this option separate to the wider study.



Mitigation Options

- Structural
 - Review of existing levees, assessment of new levees
 - Floodplain filling strategies
 - Stock refuge mounds
- Emergency Management
- Planning & Property



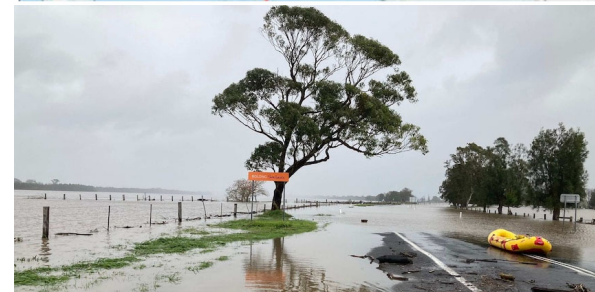
Mitigation Options

- Structural
- Emergency Management
 - FECA recommendations
 - Flood education
 - Flood warning
 - Information to Support Emergency Services
- Planning & Property



Mitigation Options

- Structural
- Emergency Management
 - Information to Support Emergency Services
 - Emergency Response Mapping
 - Road overtopping durations and locations
 - Updated flood mapping
 - Data handover to SES
- Planning & Property



Mitigation Options

- Structural
- Emergency Management
- Planning & Property
 - Voluntary house raising / purchase / land swap
 - Strategic cumulative fill policy for future development
 - Tallowa Dam operational strategies
 - Advice on planning and policy



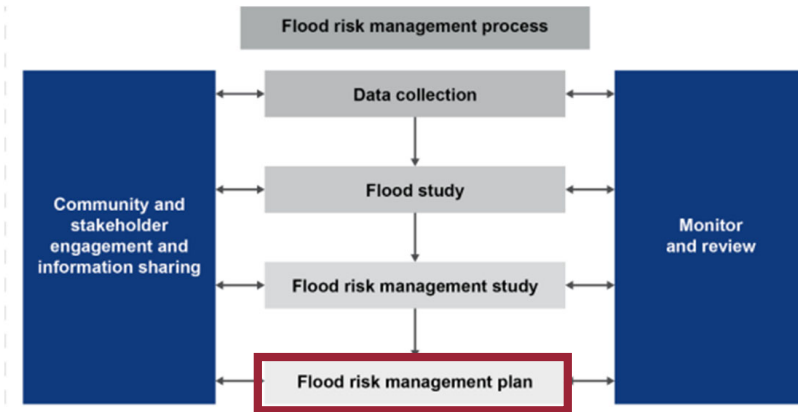
Mitigation Options

- Structural
- Emergency Management
- Planning & Property
 - Advice on planning and policy
 - Flood planning level and area
 - Review of current planning controls and policies
 - Advice on updates and revisions to plans and policies
 - Clarity and ease
 - Best practise
 - Consistency



Floodplain Risk Management Plan

- The Plan distils the findings and recommendations of the Study into a recommended implementation process for Council.

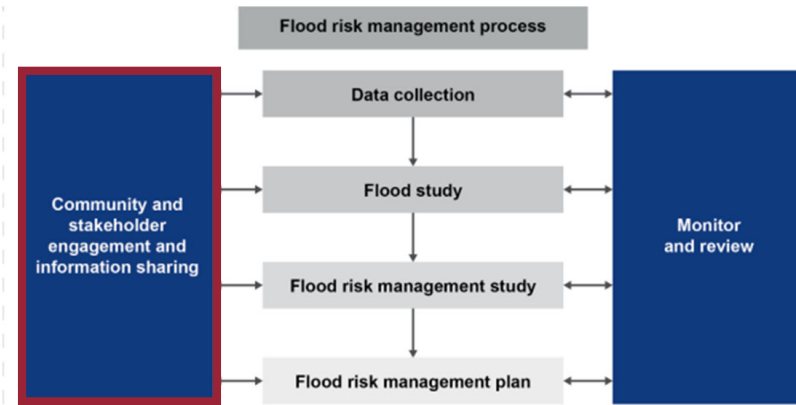


Key Outcomes

- A set of costed, feasible, and desired management options.
- A suggested order of implementation, based on costs, benefits and community feedback.

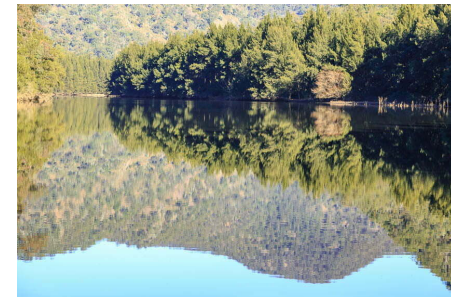
Engagement Overview

- Community and stakeholder engagement is a key goal of the study, and engagement tasks will be undertaken throughout:
 - Community feedback on flood management was sought as part of the flood study, so this data is already available. This study presents an opportunity for further community feedback.
 - Community will be consulted again during the public exhibition of draft documents.
 - SES is a key stakeholder and will be actively consulted throughout the project.
- Media releases and Council Get Involved webpage updates will be undertaken throughout the study.



Future Milestones

- Review and model updates (June '24)
- Review of EMP trigger levels (August '24)
- Review of climate change impacts (August '24)
- Assessment of management options (December '24)
- Draft report and Public Exhibition (March '25)
- Project Completion (June '25)



Questions?

