

T5-A5c Effectiveness of land use planning flood controls on buildings

Introducing the research project

Presenter Name

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On behalf of project team researching a NSW

Department of Planning, Housing and Infrastructure
research initiative



The Background

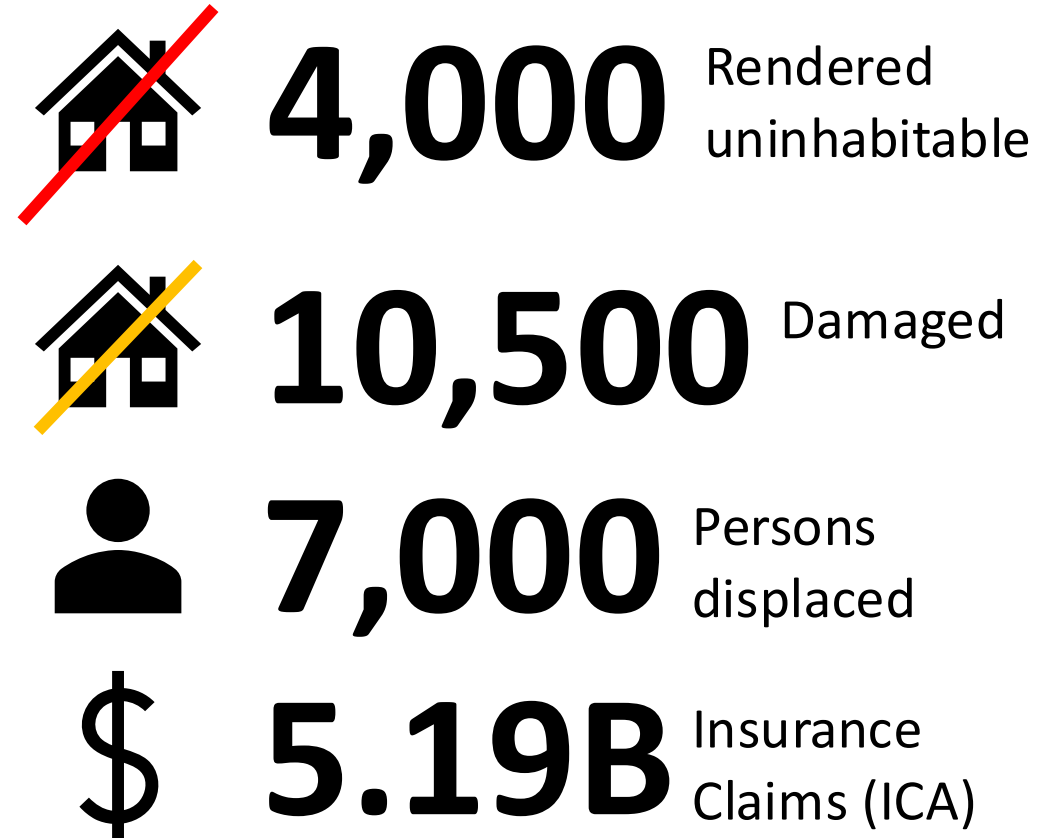


Department of
Planning, Housing
and Infrastructure

Land use planning is a critical control on future flood risk

- Effective planning controls can influence the exposure and vulnerability of communities to flooding, ultimately enhancing resilience and reducing long term impacts.
- The need for this research stems from the floods that impacted NSW between 2020 and 2022.
- DPHI scoped this research with NHRA following these events.

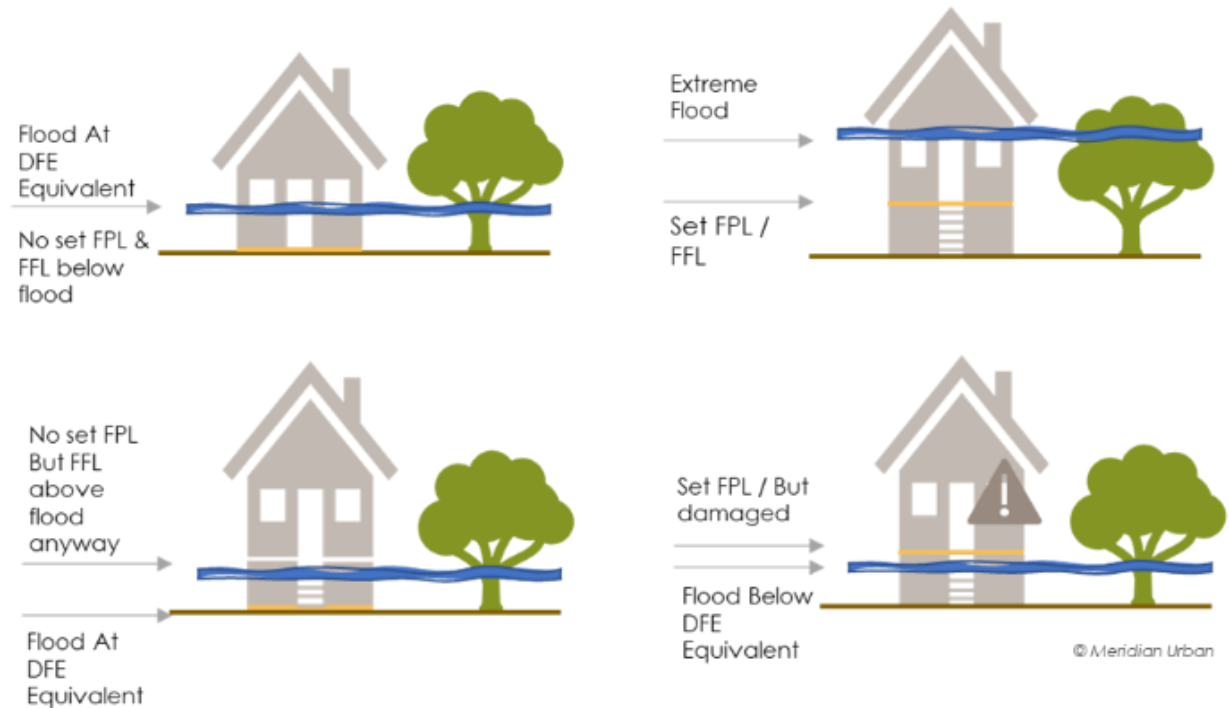
Northern Rivers impacts:



The problem

We don't actually know how well flood-related planning controls work

- Flood-related planning controls are in place across most jurisdictions in Australia
- But there is limited research on whether and how they are effective in avoiding or mitigating flood risk
- Reasons for this are complex – planning policy is generally not well evaluated and flood risk is but one input in the planning system



What we are doing

Examining the problem

The overarching research aim for this project is to establish an evidence base to understand the effectiveness of New South Wales planning provisions in addressing flooding for land releases and buildings that have been built or modified in the last 10 years.

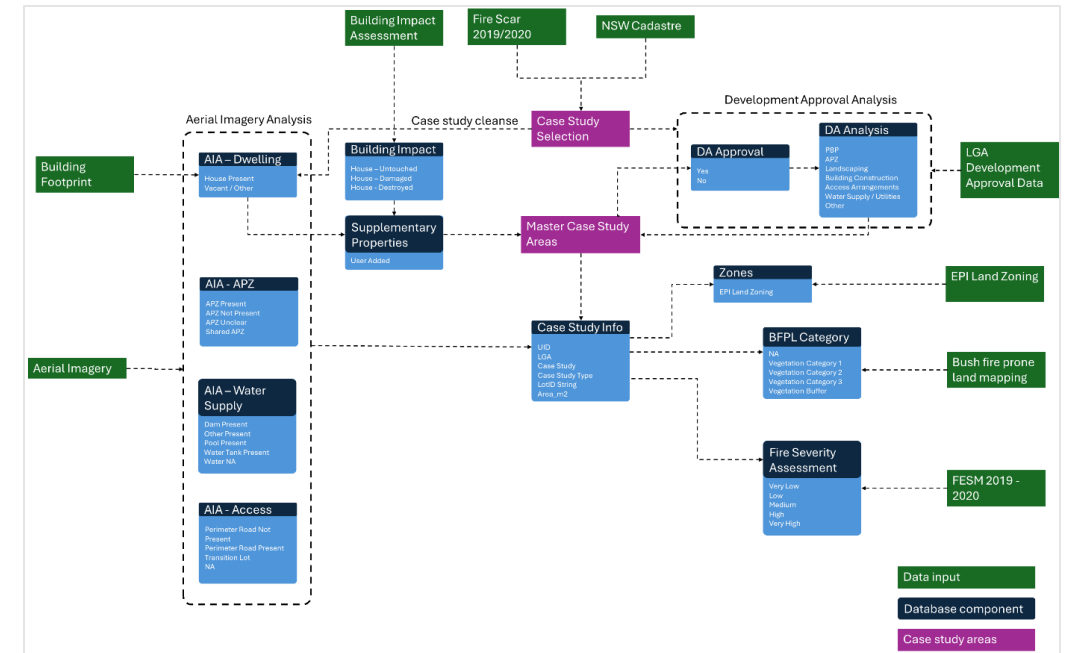
- Are flood planning controls in New South Wales fit-for-purpose to improve the resilience of buildings and communities?
 - Are Councils consistently implementing flood planning controls?
 - What constraints prevent effective application of flood planning controls?
- How do buildings constructed with flood planning controls compare to those without in flood-prone areas?
- What legislative, policy or practice changes could strengthen flood resilience and improve implementation?
- Can the findings of this study be applied to other natural hazard planning frameworks?



What we are doing

Providing an Evidence Base

- Using case study LGAs from those flood affected in the last 5 years
- Ensuring a diverse array of councils – metropolitan, regional, rural
- Developing a detailed database of flood related development applications, approvals and planning proposals
- Comparing these to known recent flood events, including:
 - Damage assessments (where available)
 - Flood study information – matching events to AEPs and hazard categorisation
- Creating a database and geospatial webmap



A project schema used for a similar project for bush fire - we are developing a similar schema linked to the methodology for this research project



A web app prepared for a similar project on bush fire impact.



What we are doing

Developing Findings for NSW and National Consideration

- The success or otherwise of siting-based requirements such as avoidance of floodways or high hazard areas.
- Whether or not the DFE was exceeded in recent events, and the nature of the resultant building damage in either scenario.
- The actual relationship between the flood planning level specified by the controls, and the actual floor level built to in approval documents.
- The interlinkage with the National Construction Code, and whether there are gaps / barriers with that linkage.
- The success of or time period taken for state-level changes in directions and the like to be incorporated fully into the local EPIs – if at all.
- Unintended barriers in application or enforcement of the controls



What we are doing

Developing Recommendations

- Insights on the continued suitability of the 1% AEP as the prevailing DFE level for planning controls, in an era of increasing event frequency and severity due to climate change.
- Could or should controls be place-based (or transect-based), such as differential requirements based on rural, rural residential, and urban contexts given the different interaction each land use type has with the landscape.
- Suggested amendments to specific flood related planning controls – including whether a tightening on requirements in floodways, breakout locations in more extreme events, etc
- Whether tighter requirements for resilient materials is warranted, particularly if retrofitting is emerging as an acceptable flood mitigation alternative (particularly for post-event recovery activities funded by government)
- Recommendations that relate to unintended barriers or constraints



What we are finding

- Avoiding bias is critical
 - Presence of controls may be acting as a deterrent to lodging an application in the first place
- Controls and the people/culture administering them can result in different outcomes
 - Manner in which controls are applied may be just as critical as the controls themselves
- Other parts of the planning process are relevant
 - Compliance with approved plans and treatment of unapproved works may be a key consideration for regulators

Project commenced in earnest in Q1 2025 – research is still underway



Why it matters

We will have robust evidence to support better policy making and statutory drafting

- The research will be used to inform future review of existing NSW legislation, standards and policy from which improved risk-based land use planning outcomes can be developed.
- It will also inform national policy by providing the evidence to strengthen land-use planning provisions, refine flood controls, and guide policy improvements, and offer suggestions to improve practice and policy administration.

