



Coastal Resilience through Planning: Integrating CHAS in Planning Schemes

QCoast 9th Knowledge and Information Sharing Forum

3 June 2025

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1

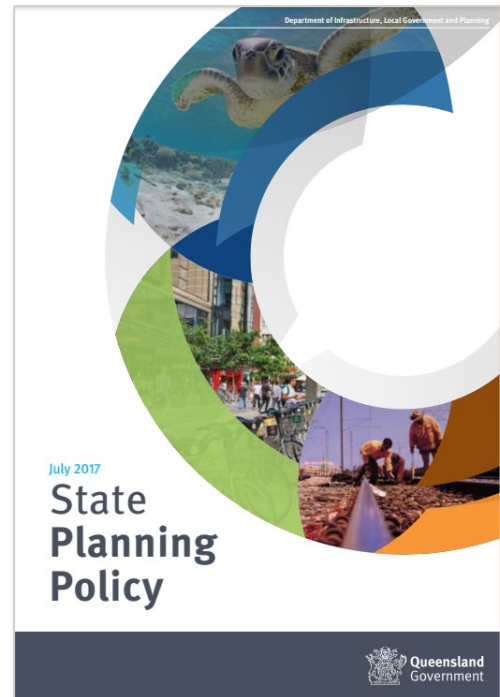
What is the issue?

State planning policy

Risk assessment is at the heart of planning for hazards

**Use Qcoast₂₁₀₀
CHAS process for fit-for-purpose coastal hazards risk assessment**

Council determines what is acceptable or intolerable levels of risk for development



State interest – natural hazards, risk and resilience



The risks associated with natural hazards, including the projected impacts of climate change, are avoided or mitigated to protect people and property and enhance the community's resilience to natural hazards.

1 – Natural hazard areas are identified (i.e., mapped)

2 – A fit-for-purpose risk assessment is undertaken to identify and achieve an acceptable or tolerable level of risk for personal safety and property in natural hazard areas

3 – Land in an erosion prone area is not to be used for urban purposes, unless the land is located in:

- An urban area in a planning scheme
- An urban footprint identified in a regional plan

4 – Development in bushfire, flood, landslide, storm tide inundation or erosion prone natural hazard areas:

- **Avoids the natural hazard area**
- **Where it is not possible to avoid the natural hazard area, development mitigates the risks** to people and property to an acceptable or tolerable level

5 – Development incorporates a range of risk reduction and resilience measures including

- Supporting disaster management
- Avoiding increases in exposure
- Avoiding public safety risks through hazardous materials
- Maintaining landforms

6 – Community infrastructure is located and designed to limit risk and maintain functionality

7 – Coastal protection work in an erosion prone area is undertaken only as a last resort where coastal erosion or inundation presents an imminent threat to public safety or existing buildings and structures

8 – Development does not occur in erosion prone areas within a coastal management district unless the development cannot feasibly be located elsewhere

9 – Development permitted in policy 8 above, mitigates the risks to people and property to an acceptable or tolerable level

QCoast₂₁₀₀ CHAS process is aimed at understanding coastal risks to assets and to enable management of those assets





CHAS informs management of coastal assets across organisational functions from catchment planning, beaches management, parks to infrastructure assets

Challenges for land use planning

CHAS implementation presents a number of common challenges

- CHAS often considers risk to existing assets at a point in time assigning a risk level based on the existing use of that land
- This skews the risk assessment results for land use planning purposes
- For example vacant land, open space land or land used for rural purposes is inherently assigned a lower risk value – when the actual hazard risk may be high

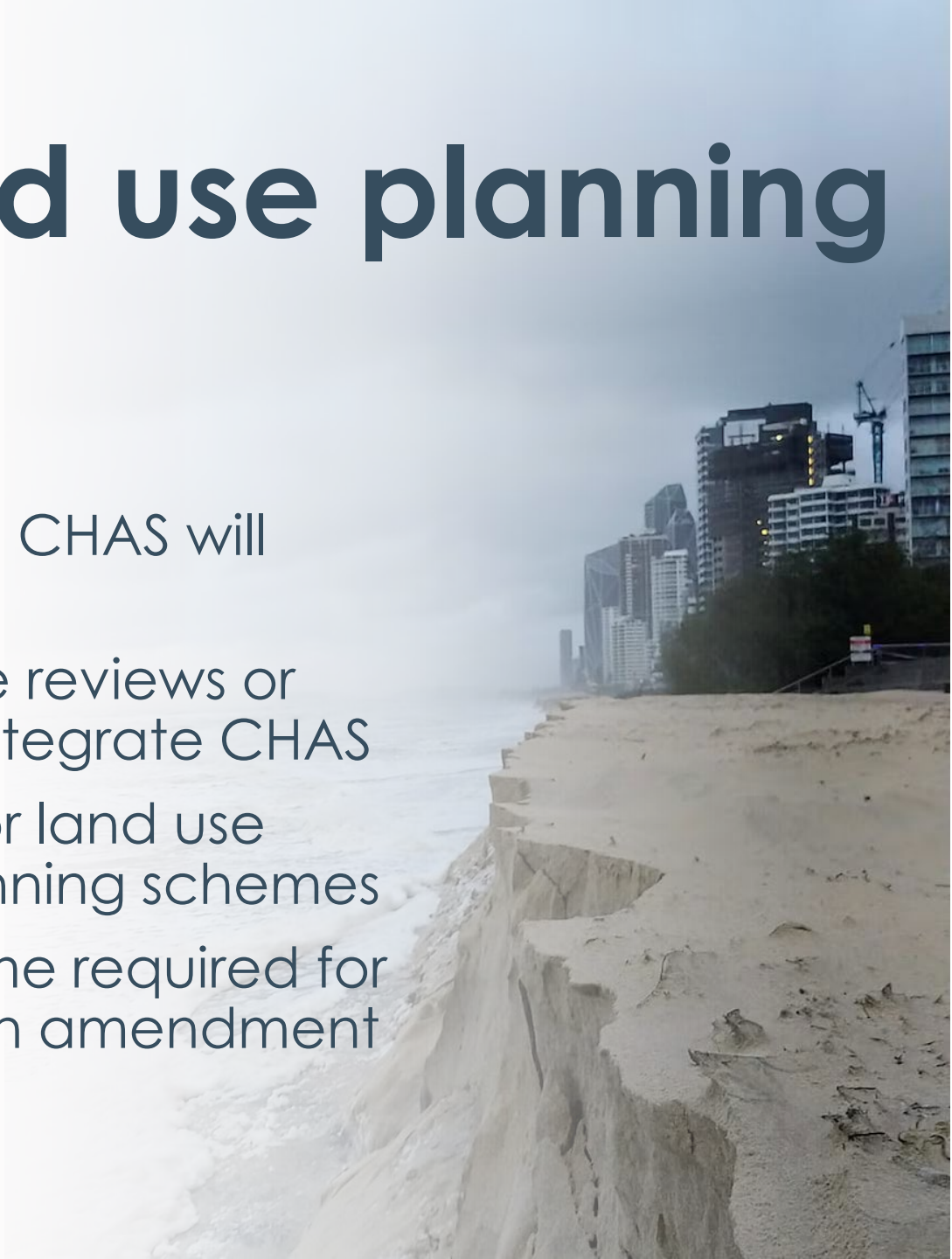


Challenges for land use planning

- **Land use planning is about the potential future intent of land**
- Given the asset focus, there is often insufficient and conflicting policy directions to support land use planning policy decisions
- Need to consider risk in the absence of the use of the land and then understand the exposure of our settlement patterns to that risk
- Coastal hazards are more complex than others as risk is dynamic over time and permanency must be considered
- Land use planning needs to address risk avoidance, risk mitigation and risk tolerance in future land use policy
- Land use decision-making is increasingly connected to governance risk (i.e., residual risk), disaster management, reconstruction obligation, access to capital and insurability

Challenges for land use planning

- Councils are at different stages in CHAS implementation
- Given the changes of IPCC to 1.1m SLR, CHAS will eventually need review
- Opportunity as part of planning scheme reviews or amendments to planning schemes to integrate CHAS
- Need coastal hazards risk assessment for land use planning completed to inform new planning schemes
- Change takes time coupled with the time required for preparing a new planning scheme or an amendment to a planning scheme



2

What do we need for land use
planning?

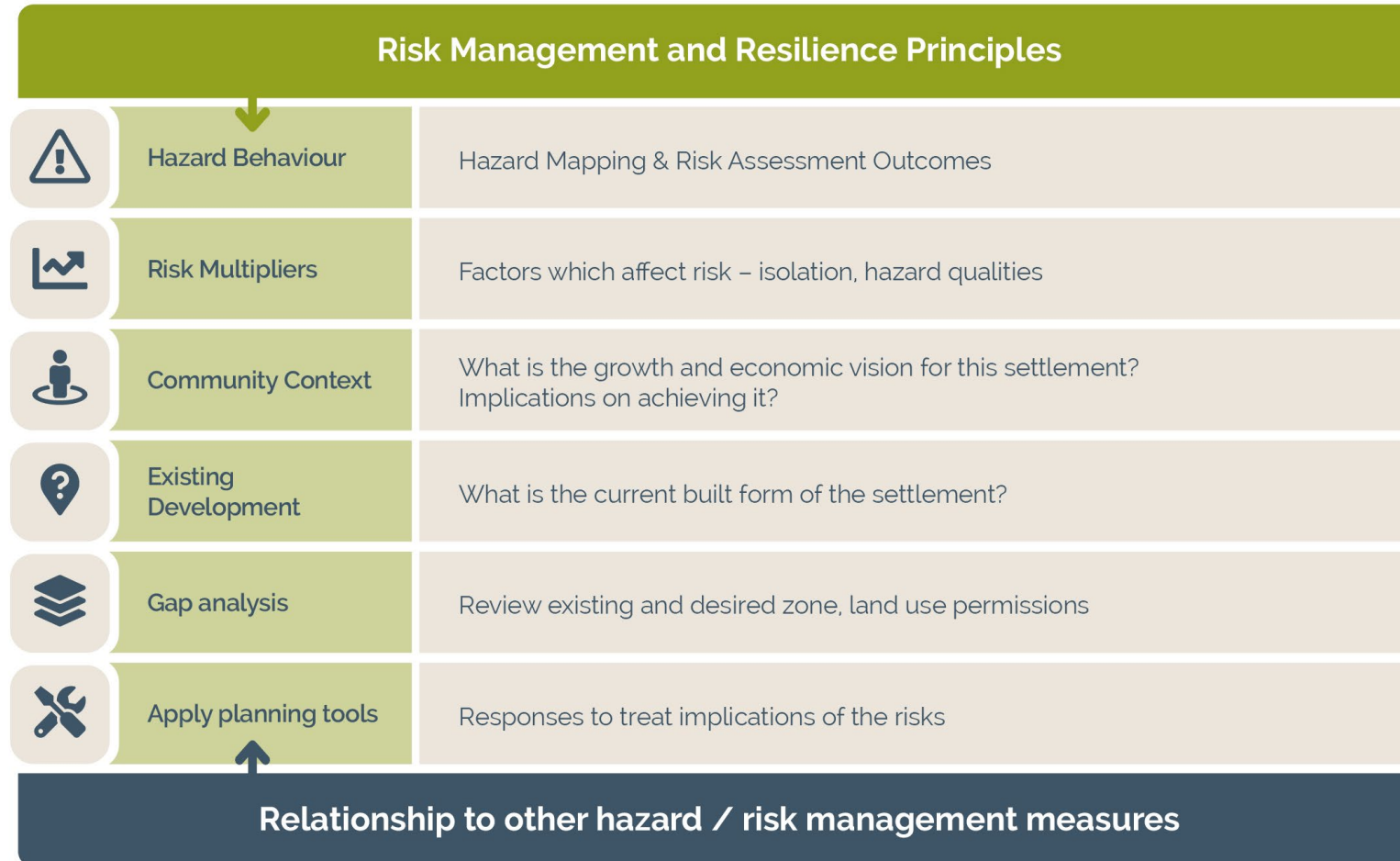
Risk assessments completed for the QCoast₂₁₀₀ process generally require bridging work to ensure they are suitable for land use planning purposes



Addressing the challenges

- **Mapping** which separately identifies:
 - *open coast erosion* based on timescale triggers (current, 2050, 2070 and/or 2100)
 - *Coastal Management District*
 - *estuarine erosion* – policy response for open coast erosion versus canals/estuarine areas varies
 - *permanent tidal inundation (SLR)*
 - *hydraulic risk for storm tide inundation* (including identification of the PME)
 - *storm surge wave action (if known – can be used to address limitations in Queensland Building Assessment Provisions for construction of buildings in storm tide prone areas)*
- **Land use policy responses** and consideration of land use tolerability

Risk translation process



Land use policy considerations

Risk outputs and mapping Factors such as climate change should be acknowledged, and development should respond to natural hazards for both current and future scenarios 1	Alignment of the settlement pattern Zoning considers the land uses envisaged for that zone, and whether the risks can be mitigated to an acceptable or tolerable level of risk for those land uses 2	Land use compatibility The tolerability of specific land uses is considered commensurate with the nature of risk and specific assessment benchmarks included where required 3	Critical infrastructure and vulnerable uses Critical infrastructure and vulnerable uses that require careful management in a hazard area, or that should be avoided in a hazard area are identified 4	Emergency management Development supports and does not unduly burden disaster management responses and recovery capacity and capabilities, and there is clarity of the use of FEMPs 5	Resilient built form and design Buildings are designed and constructed to mitigate risks to a tolerable or acceptable level 6	Additional policy considerations for: • Temporary versus permanent coastal hazard impacts • Canals and man-made revetments • Status of seawalls with and without structural mitigation • Private ownership of mitigation
Resilient access Development ensures adequate vehicle access and egress routes for safe evacuation 7	Development does not affect hazard behaviour Development does not increase the number of people at risk or contribute to increase the level of risk on surrounding people and property 8	Maintaining environmental values and processes Development maintains or enhances the natural and protective functions of landforms, vegetation and ecological processes in the management of natural hazard risk 9	Site-based risk management Site-based investigations are undertaken in areas of potential natural hazard risk or where further technical evidence is required to support the development 10	Hazardous materials and chemicals Development mitigates natural hazard risks to public safety and the environment from the release of hazardous materials and chemicals 11	Consistency in natural hazards language Ensure there is consistency in language and terminology used throughout the Planning Scheme for natural hazards policy 12	

Planning scheme integration



Place-based strategies

- Bespoke/ place-specific risk-responsive narratives/ planning provisions



Zoning

- Limited development zone, Environmental management zone, Rural zone, zoning changes/ density reductions, split zoning
- Resilience or adaptation precincts



Levels of assessment / development assessment pathways

- Assessment relative to risk, vulnerable uses/ critical infrastructure, operational work, building work



Overlay codes

- Combined or separate overlay codes i.e., EPA/ coastal environment, storm tide inundation



Planning scheme policy

- Supporting technical information and guidance

4

Questions?