

Integrating the risk-based framework with your coastal management program

The *Risk-based framework for considering waterway health outcomes in strategic land-use planning decisions* (the risk-based framework) is a 5-step process that decision-makers can use to manage the health of waterways in New South Wales. It brings together existing NSW Government policy and is a key tool for improving the management of diffuse-source water pollution under the *NSW marine estate management strategy 2018–2028*.

The risk-based framework is identified in the guidance provided in Part B of the Coastal management manual as a risk management approach for assessing threats and risks to coastal management areas under the State Environmental Planning Policy (Resilience and Hazards) 2021. These coastal management areas and their management objectives are:

Coastal environment areas

- To protect and enhance the coastal environmental values and natural processes of coastal waters, estuaries, coastal lakes and coastal lagoons, and enhance natural character, scenic value, biological diversity and ecosystem integrity.
- To reduce threats to and improve the resilience of coastal waters, estuaries, coastal lakes and coastal lagoons, including in response to climate change.
- To maintain and improve water quality and estuary health.

Coastal wetlands and littoral rainforest areas

- To support ecologically sustainable development relating to environmental outcomes including the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or the quantity and quality of surface and groundwater flows to and from the adjacent coastal wetland or littoral rainforest.

We have identified where the key tasks to deliver the 5 steps of the risk-based framework overlap or directly align with the guidance for the 5 stages of developing coastal management programs (CMP), in the context of the two coastal management areas. These key tasks, and examples of how they can be integrated into the development of a CMP have been summarised in the tables on the following pages.

This information sheet is not a comprehensive list of all statutory and mandatory requirements for a coastal management program (CMP). The intent is to demonstrate how an application of the risk-based framework can align with the CMP development process in a broad sense. Please refer to the Coastal management manual – Part A and the *Coastal Management Act 2016* (or the Coastal management checklist) for the full statutory and mandatory requirements of a CMP.

Coastal management program stage 1/risk-based framework step 1

Stage 1 of your coastal management program and step 1 of the risk-based framework set out the scope or context for why you are developing a coastal management program or using the risk-based framework.

The first stage or step is designed to:

- establish the management purpose, vision and objectives for the waterways and the local area where the CMP or risk-based framework is being applied
- identify key management issues for coastal environment areas (CEA) and coastal wetlands and littoral rainforest areas (CWLRA)
- identify the scale of implementation
- identify current management requirements/options and alternatives.

The key tasks to deliver CMP stage 1 and the risk-based framework step 1 are summarised in Table 1.

Table 1 Summary of the key tasks to deliver coastal management program stage 1 and risk-based framework step 1

CMP stage 1: identify the scope	Risk-based framework step 1: establish context
Determine the context of coastal management in the local area	Determine the context for applying the risk-based framework by identifying the land use activities that pose a threat to CEA and CWLRA.
Establish the purpose, vision and objectives of a coastal management program	<ul style="list-style-type: none"> • The vision is the overall management goal or level of protection for the waterway (e.g. protect or restore a wetland, deliver community values, restore littoral rainforest area). • The purpose is the pressure or threat that needs to be managed to reduce or mitigate risk of impact to the waterway objectives. • The NSW Water Quality Objectives (WQO) provide guidance on the environmental standards required to achieve waterway conditions that support community environmental values and uses for the waterway. They should be used to develop local objectives that align with the management objectives of the CEA and CWLRA. The management objectives for each area are listed in the Coastal Management Act.
Determine the spatial extent of management areas within the coastal zone to be covered by the coastal management plan	The spatial extent within the coastal zone is the scale or area you are applying the risk-based framework to (i.e. whole catchment or a sub-catchment). This may be larger than the spatial extent to which the CMP applies but remains highly relevant to the specific management areas covered by a CMP.
Establish roles, responsibilities and governance arrangements	Identify the stakeholders that need to be involved in your application of the risk-based framework. These could be all stakeholders affected by your

management decision, or those impacted by the land-use pressure/threat.

Identify knowledge gaps and information needs

Collate best available data and information to inform your application of the risk-based framework. This often includes data and information to characterise the landscape and waterways.

Determine where action is required through a first-pass risk assessment

- A qualitative first-pass risk assessment includes identification of threats, stressors and potential impacts along with key locations, current and future risk, and existing management arrangements. This helps to develop a conceptual model of the waterway.
- It should also include assessing the suitability of data/information to inform the application of the risk-based framework.
- The conceptual model informs Step 2.

Coastal management program stage 2/risk-based framework steps 2 and 3

Stage 2 of your coastal management program and steps 2 and 3 of the risk-based framework are used to identify, analyse and evaluate risks and the effectiveness of related management responses to reduce the risks to coastal environment areas and/or coastal wetlands and littoral rainforest areas.

Key tasks for Stage 2 or Steps 2 and 3 include:

- understand key management issues
- undertake technical studies
- evaluate current and future risks through a detailed risk assessment
- identify scenarios for environmental, social and economic change and related opportunities for communities.

The key tasks to deliver CMP stage 2 and the risk-based framework steps 2 and 3 are summarised in Table 2 and Table 3.

Table 2 Summary of the key tasks to deliver coastal management program stage 2 and risk-based framework step 2

CMP stage 2: determine risk, vulnerabilities and opportunities	Risk-based framework step 2: effects-based assessment
Refine understanding of key management issues	Undertake an effects-based assessment to identify magnitude of risk and effectiveness of management options in reducing the risks
Fill knowledge gaps by undertaking technical studies	Collect specific data to fill gaps in running the effects-based assessment
Identify scenarios for environmental, social and economic change and related opportunities for coastal communities	Identify the range of management options or scenarios for use in effects-based assessment

Table 3 Summary of the key tasks to deliver coastal management program stage 2 and risk-based framework step 3

CMP stage 2: determine risk, vulnerabilities and opportunities	Risk-based framework step 3: compare against waterway objective
Analyse and evaluate current and future risks (detailed risk assessment)	Compare outcomes of effects-based assessment against waterway objectives. This can be done through a risk analysis matrix, or other means, to inform decisions on levels of risk.

Coastal management program stage 3/risk-based framework step 4

Stage 3 of your coastal management program directly aligns with Step 4 of the risk-based framework. The aim of this stage/step is to identify and evaluate the management options or scenarios by analysing feasibility, viability and acceptability to stakeholders.

The key tasks to deliver CMP stage 3 and the risk-based framework step 4 are summarised in Table 4.

Table 4 Summary of the key tasks to deliver coastal management program stage 3 and risk-based framework step 4

CMP stage 3: identify and evaluate options	Risk-based framework step 4: strategic impact assessment
<p>Evaluate management actions, considering their feasibility, viability and acceptability to stakeholders</p>	<ul style="list-style-type: none"> Stakeholders consulted on feasibility and viability of implementing the management options or scenarios. A typical strategic impact assessment includes the costs and benefits of implementation and social conflicts.
<ul style="list-style-type: none"> Select preferred management actions and determine priorities Engage public authorities about implications for their assets and responsibilities 	<p>The preferred management option is selected, endorsed and progressed for implementation by the governing authority.</p>

Coastal management program stages 4 and 5/risk-based framework step 5

Stages 4 and 5 of your coastal management program align with step 5 of the risk-based framework. In both cases, the main purposes are to finalise and implement your CMP or other implementation plan, and to establish an ongoing monitoring, evaluation, and reporting program.

The key tasks to deliver CMP stages 4 and 5 and the risk-based framework step 5 are summarised in Table 5 and Table 6.

Table 5 Summary of the key tasks to deliver coastal management program stage 4 and risk-based framework step 5

CMP stage 4: prepare, exhibit, finalise, certify and adopt	Risk-based framework step 5: design and implementation
<ul style="list-style-type: none"> • Prepare a draft CMP • Exhibit the draft CMP and any related planning proposals • Review and adopt the draft CMP 	<ul style="list-style-type: none"> • Develop an implementation plan that identifies key resources, allocates actions to particular organisations, and outlines priorities to enable effective implementation of the actions. • In the context of CMPs, the outputs of the risk-based framework are best used to inform actions for CEA and CWLFAs that may be included within CMPs.

Table 6 Summary of the key tasks to deliver coastal management program stage 5 and risk-based framework step 5

CMP stage 5: implement, monitor, evaluate and report	Risk-based framework step 5: monitoring, evaluation and review
<ul style="list-style-type: none"> • Implement management actions as identified in the certified CMP • Implement an effective monitoring, evaluation and reporting program • Monitor indicators, trigger points and thresholds 	<ul style="list-style-type: none"> • Implement a monitoring, evaluation and reporting program. • Conduct field sampling of water quality and waterway health, and/or assessment of extent of restoration. • Identify and monitor your objectives (i.e. NSW water quality objectives) for any additional reviews required to respond to significant changes in land-use pressures. • Report on progress on management actions, ongoing funding, and changes to commitments/responsibilities.
<ul style="list-style-type: none"> • Review and update the CMP at least every 10 years 	<ul style="list-style-type: none"> • Review and update to align with other land-use planning updates such as updates of CMPs, community strategic plans and local strategic planning statements.

More information

- [Risk-based framework for considering waterway health outcomes in strategic land-use planning decisions \[PDF 1.4MB\]](#)
- [NSW Marine estate management strategy 2018–2028 \[PDF 12,613KB\]](#)
- [Our future on the coast: NSW Coastal Management Manual Part B: Stage 1 – Identify the scope of a coastal management program \[PDF 1,898KB\]](#)
- [State Environmental Planning Policy \(Resilience and Hazards\) 2021.](#)
- [Our future on the coast: NSW coastal management manual Part A \[PDF 4.8MB\]](#)
- [Coastal management program checklist](#)

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ISBN 978-1-923132-33-7; EHG 2023/0364; November 2023.