

Threat and Risk Assessment and management initiatives

Frequently asked questions

Threat and Risk Assessment

What's the difference between **activities, stressors and threats in the Assessment?**

An **activity** is something occurring in the marine estate, such as recreational fishing, shipping, or foreshore development. An activity can be a community benefit and/or a threat to an environmental asset or social, cultural or economic values.

A **stressor** is a consequence of an activity (e.g. water pollution, overcrowding) that has an effect on an environmental asset (e.g. clean waters) or on a social or economic benefit (e.g. recreation and tourism activities at a local beach or waterway). Different activities may lead to the same stressors (e.g. foreshore development and dredging activities can produce different forms of water pollution if not managed effectively).

A **threat** is a broad activity, event or process that poses a potential level of risk to an environmental asset or social or economic benefit. Threats often affect multiple assets/benefits and similarly, an asset/benefit may be affected by multiple threats. Threats can also be called 'risk sources'.

Other terminology is explained in the [glossary](#) for the marine estate.

What is a Threat and Risk Assessment (TARA)?

A Threat and Risk Assessment (TARA) identifies, assesses and prioritises threats and their associated risks to the marine estate. It also highlights areas where information is lacking and research is needed.

MEMA has developed a [Threat and Risk Assessment \(TARA\) Framework](#) to formalise the process for undertaking a TARA for the NSW marine estate. The framework was applied in the Hawkesbury Shelf marine bioregion to determine the risk posed by threats to environmental assets and community benefits in the bioregion.

MEMA's approach to [marine estate management](#) involves 5-steps, with the first 3 steps directly relevant to the TARA:

Step 1 – identifies how the community benefits from the marine estate. The community's environmental, social and economic benefits for the Hawkesbury bioregion were identified through the [Marine Estate Community Survey 2014](#) and through [community and stakeholder engagement opportunities](#) for the bioregion in 2015. Bioregion engagement opportunities included a web portal survey, email submissions, workshops and meetings.

Step 2 – assesses the threats and risks to benefits. Threats were identified from stakeholder, community and expert input. An expert-led process prioritised the threats based on the risk to community well-being. Risk is a combination of the consequence of a threat and the likelihood of the consequence of that threat.

Step 3 – assesses the adequacy of current management and alternative options for addressing priority threats. Community, stakeholder and expert input have been used to develop eight suggested management initiatives to address the priority threats. These initiatives are currently being reviewed by stakeholders and the community to assist with finalising the initiatives recommended to Government.

How is the TARA evidence-based?

The TARA seeks to ensure all relevant and credible information sources are used to determine the risk of each threat. This includes multiple sources of information, for example scientific literature, expert opinion, community and stakeholder views, media reports, etc.

The [Hawkesbury Shelf TARA](#) drew on evidence from the following sources:

- Feedback from the community, stakeholders and experts, including from the following reports prepared by the MEMA agencies and external consultants.
 1. Marine Estate Community Survey (2014) – a statewide report with information extracted for the Hawkesbury Shelf marine bioregion.
 2. Summary of Hawkesbury Shelf community and stakeholder engagement (MEMA, 2015a)
 3. Hawkesbury Shelf environmental background report (MEMA, 2015b)
 4. Review of 15 pre-identified sites (MEMA, 2015c)
 5. Hawkesbury Shelf marine bioregion threat and risk assessment (TARA) report (BMW WBM, 2015)
 6. Social and economic background information report on the NSW marine estate (Vanderkooi Consulting, 2015)
 7. Sea countries of New South Wales: a benefits and threats analysis of Aboriginal people's connections with the marine estate (Feary, 2015)
 8. Peer review of 'Sea countries of New South Wales: a benefits and threats analysis of Aboriginal people's connections with the marine estate' (Schnierer, 2015).
- Research, academic papers and unpublished data and information identified by MEMA agencies and independent experts.
- Subject matter expert opinion – particularly from the independent experts that participated in the workshops.

How were risk levels determined?

The TARA process is set out in MEMA's [Threat and Risk Assessment Framework for the NSW Marine Estate](#). A series of workshops with MEMA agencies and independent environmental, social and economic experts were held to formally assess the consequence and likelihood to determine a level of risk (minimal, low, moderate, high, catastrophic) for each threat to each benefit, having regard to the evidence base contained in the background reports and from expert opinion. Risk was considered over a 20 year timeframe for all threats except climate change which was assessed at both 20 and 50 year timeframes.

What is our level of confidence in the risk rating?

The following ratings were adopted for use in the TARA to reflect the level of confidence in the evidence base used to assign risk:

- Adequate – there is adequate high quality evidence in the bioregion (A)
- Limited – there is limited evidence, for example, there may be limited evidence for the bioregion but evidence for other parts of the state (L)
- Inferred – there is very limited evidence, for example, there may be limited evidence for the state, but evidence from elsewhere (I).

MEMA has identified 'inferred risk ratings' as key knowledge gaps. Because of the limited amount of information available, the suggested management initiatives include recommendations for further research on these issues.

What is the difference between a 'threat' and a 'risk'?

A threat is an activity, event or process that poses a potential level of risk to an environmental asset or social or economic benefit. A risk is the consequence of a threat occurring and the likelihood of the consequence having an impact on the achievement of environmental, social or economic objectives.

How can I have my say about the evidence used and the findings of the Hawkesbury Shelf TARA?

If you have any comments on the evidence used and the findings of the Hawkesbury Shelf TARA you are invited to make a submission and [Have Your Say](#).

You can provide new evidence (environmental, social or economic) in relation to threats and risks. This may include for example scientific research or reports, unpublished data/research or supporting background reports. This information will be reviewed and assessed as the Assessment is finalised.

Management Initiatives

How do the suggested management initiatives relate to the Hawkesbury Shelf TARA?

The Hawkesbury Shelf TARA identifies the level of risk associated with each threat to environmental assets and social and economic benefits. For the purposes of the Assessment, any threat that generated a moderate or high risk to an environmental asset or social and economic benefit were prioritised. These 'priority' threats were further assessed, including considering:

- the level and trend of each risk
- the geographic and temporal scale at which the threat operates, and
- current management arrangements.

This further assessment has found that:

- Several high and moderate threats are being addressed by existing NSW Government programs or will be mitigated through imminent reforms.
- Some priority threats exist at the statewide scale and will be addressed by the Marine Estate Management Strategy (under development).

Suggested management initiatives were developed to focus on the remaining priority threats. Eight initiatives have been developed that are expected to enhance marine biodiversity conservation while maximising community benefits. These include on-ground works, education and research, developing strategies and guidelines, and reviewing regulation, policy or planning instruments. The suggested new initiatives have been designed to expand or complement current management.

The eight suggested management initiatives are outlined in a [Discussion Paper](#) that is now available for community and stakeholder review.

Will the initiatives require new funding to be implemented? If so, how will they be funded?

Yes, some of the suggested initiatives will require new funding, while others may be funded from existing programs. Further assessment of each initiative will be undertaken following community engagement including more detailed assessment of costs and funding requirements.

What are the next steps for the suggested management initiatives?

The suggested management initiatives require further evaluation. MEMA is evaluating the effectiveness and efficiency of the initiatives while considering stakeholder and community input, and will provide final advice to the NSW Government in mid-2016.

Additionally, many priority threats that also have an impact at a state-wide scale need to be managed across NSW. These threats will be further considered as MEMA develops the 10-year Marine Estate Management Strategy (by late 2016).

Will there be further opportunities to comment on the initiatives?

Yes, some proposed initiatives will involve further public or targeted engagement as they are implemented. For example any proposals for new marine protected areas or State Environmental Planning Policies (SEPPs) would be subject to additional community engagement.

Where can I find more information?

More information is available at www.marine.nsw.gov.au and will be updated as the project continues.

Hawkesbury Shelf marine bioregion assessment: www.marine.nsw.gov.au/key-initiatives/hawkesbury-shelf-marine-assessment

If you would like to receive updates on the Hawkesbury Shelf assessment or other marine estate initiatives please advise us via contact.us@marine.nsw.gov.au and provide your name, email address and postcode.

Feedback requested

We would appreciate feedback on these Frequently Asked Questions: Was it useful information? Was it easy to understand? What other questions would you like answered? Please email your comments to contact.us@marine.nsw.gov.au

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (February 2016). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the Secretariat of the marine estate or the user's independent adviser.

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