



Marine Estate
Management Authority

Managing the NSW Marine Estate: Purpose, Underpinning Principles and Priority Setting

November 2013



Published by the Marine Estate Management Authority, NSW:

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Disclaimer

The principles in this document are the views of the Marine Estate Management Authority. The Authority's current status is as a non-statutory Ministerial advisory body. This document has not been endorsed by the NSW Government.

Acknowledgements

The Authority acknowledges the key contribution of experts and departmental officers:

- The Marine Estate Expert Knowledge Panel
 1. Dr Andrew Stoeckel, Chair
 2. Dr Kate Brooks
 3. Dr Neil Byron
 4. Dr Rick Fletcher
 5. Associate Professor Emma Johnston
 6. Peter McGinnity
- NSW Trade & Investment including the Strategic Policy & Economics Unit
- NSW Department of Primary Industries including Fisheries NSW
- NSW Office of Environment and Heritage
- NSW Department of Planning & Infrastructure
- Transport for NSW

Photos courtesy of Department of Planning and Infrastructure, Office of Environment and Heritage, Transport for NSW, Department of Primary Industries, Duncan Paterson and Simon Kaminskas.

ISBN 978 1 74256 567 5

Available on the internet at www.marine.nsw.gov.au

Enquiries regarding this document should be directed to contact.us@marine.nsw.gov.au

TRIM reference INT13/78219

JN12273 OCT2013



PREFACE

“The NSW Marine Estate is owned by all people and has to be managed for all people...this is not a simple task with simple solutions...” (Report of the Independent Scientific Audit of Marine Parks in NSW, 2012).

Almost six million people live within 50 kilometres of the NSW coastline. They and the rest of the NSW community plus the millions of domestic and international visitors enjoy the significant natural assets of the Marine Estate and generate billions of dollars each year for NSW and the Australian community. There are many varied commercial, recreational and lifestyle uses of the coast and adjacent seas – the Marine Estate.

To maximise its current and future economic, social and environmental value for the community as a whole, we need to keep the coast and sea healthy. To achieve this, the NSW Government accepted the intent of the Audit Report.

The Government established the Marine Estate Management Authority, which has direct access to independent expertise through the Marine Estate Expert Knowledge Panel, to advise on policies, priorities and directions for the NSW Marine Estate. The Marine Estate is to be managed as a single continuous system for the greatest well-being of the community.

The NSW Government has asked the Authority to develop an overarching Marine Estate Management Strategy and to undertake a number of specific projects on the way to developing that strategy. This paper outlines principles and processes that will be followed in providing advice to the NSW Government.

For each project, the Authority will seek the advice of the independent Expert Knowledge Panel. The Panel has economic, social and environmental as well as public policy and management expertise. The Panel’s advice to the Authority will be made public.

Each project will start by looking at the existing evidence. As the Marine Estate is largely a resource owned by the public, understanding the community’s values (economic, social and environmental) for the Estate is a critical early step. We understand that clarity and simplicity are essential in the analysis and communication of those values, the threats to those values and developing the most cost effective responses.

To assess the threats and risks to the community’s values, the Authority is developing a threat and risk assessment framework on the advice of the Expert Knowledge Panel. This framework will continue to be refined on the basis of experience and feedback.

Recognising that management arrangements are already in place in many areas, existing rights will be respected. Over time, however, they will be assessed to determine if they are delivering the best outcome for the community.

The multiple objectives enshrined in the NSW Government’s vision means that trade-offs will need to be made between activities. The best available evidence will be used, but where there are knowledge gaps, judgement will be still required. This will be assisted by analysis of the costs and benefits to the community of alternative activities. Identified knowledge gaps will guide future research to improve our decision making. Measuring the condition of the NSW Marine Estate will be critical to ensure accountability and to enable management to respond to changes in the environment.



The Authority will make recommendations to the NSW Government. These will relate to management, research and improved coordination. These will also be made public. The Government's response to these recommendations will be implemented by NSW agencies and departments.

The Authority and Expert Knowledge Panel look forward to working with the people of NSW to provide sound advice to the Government on how its valuable Marine Estate can best be managed for current and future generations.

Managing the Marine Estate as an integrated entity represents a new chapter in coastal and marine management in NSW.

Wendy Craik AM
Chair, Marine Estate Management Authority



TABLE OF CONTENTS

Preface	i
1. The NSW Marine Estate	1
2. A Vision for the NSW Marine Estate	3
3. Underpinning Principles for Managing the NSW Marine Estate	4
4. Putting the Principles into Practice	8
4.1. A logical sequence of steps to maximise community benefits	8
4.2. The threat and risk assessment framework	9
4.3. Assessing and implementing management options	12
4.4. Being accountable	14



1. The NSW Marine Estate

The NSW Marine Estate is a valuable asset that belongs to the people of NSW. It comprises tidal rivers and estuaries, the shoreline, the submerged lands and the waters (out to three nautical miles) of the NSW coast from the Queensland to the Victorian borders and includes the offshore Lord Howe Island. The Estate is a narrow ribbon between Commonwealth waters to the east and the mainland to the west.

Nearly 6 million people or 85 per cent of the NSW population live within 50 kilometres of the NSW coastline. As well as three major cities - Sydney, Newcastle and Wollongong - and large urban developments in several regions on the north coast, the Estate includes hundreds of towns and villages scattered along the coast and hinterland.

The NSW Marine Estate is also a haven for domestic and international tourists, receiving over ten million visitors each year. It provides enjoyment for millions of people, including recreational boaters, divers, surfers, swimmers and fishers and supports a diverse commercial fishing industry.

The NSW Marine Estate has **multiple uses**¹ and associated benefits that contribute to the community's well-being. It offers a nationally significant source of commercial and research activity, resource conservation and social enjoyment. These uses, which involve various forms of access to the Marine Estate, generate significant economic, social and environmental benefits, including cultural and traditional use benefits.

Alternative uses can, however, compete with each other and come into direct **conflict**, such as commercial and recreational fishing, or boating and swimming. They can also present **threats** to the economic, social and environmental benefits of the Estate with the potential to impose costs on the broader community. For example, much of the water run-off from housing, industry and agriculture along the coastal strip ends up in the ocean. Other threats include rising water temperatures, ocean acidification and invasive species. Some of these threats can be managed, whereas others can only be observed and adapted to.



Stretching north-south for approximately 1250 kilometres, the NSW Marine Estate is home to a vast variety of marine life, ecosystems and natural resources. The coast has 755 ocean beaches that make up 62 per cent of the shoreline; the other 39 per cent is rocky outcrops and headlands. There are 5 major embayments and in total 179 large and medium-sized estuaries. There are currently six large marine parks, 12 smaller aquatic reserves and many marine and estuarine habitats within national parks and nature reserves that contribute to the NSW marine protected area system.

¹ This term also includes non-exploitive activities, such as biodiversity conservation.



Because the NSW Marine Estate is in many ways an 'open access' resource from which the community derives a wide variety of benefits at different times and places, several things follow:

- All NSW citizens are entitled to have a say in how the Estate is used and managed to achieve the best outcomes for the community as a whole. Broad **community input** is therefore vital, as well as input from special interest stakeholders.
- Without careful and effective management, impacts from unconstrained access to the Estate can be different from the outcomes desired by the broader community. For example, individuals or businesses using the Estate may not bear the full social cost of their activities, leading to parts of the Estate being damaged. Examples include over-fishing or pollution from water run-off. This problem is a frequent one for resources that are collectively owned and is often described as the '**tragedy of the commons**'. Furthermore, because the oceans and estuaries are complex biological systems, damage can be irreversible.
- Similarly, individuals or businesses will often be unable to capture sufficient value from investments aimed at enhancing the benefits the Estate provides. In the absence of effective management, this can lead to under-investment in maintaining and enhancing the NSW Marine Estate. This opens up opportunities for **coordinated government and community action to enhance economic, social and environmental outcomes**, such as investments in research to better understand factors influencing marine ecosystems, or investments in coastal infrastructure that enable more sustainable beach, estuary and ocean access by local communities and tourists.

Careful and effective management of the NSW Marine Estate is therefore required to align private incentives with broader community preferences and outcomes, to ameliorate threats and balance competing uses. Various government bodies and agencies already play a crucial role in providing this management function, including the Office of Environment & Heritage, the Department of Primary Industries, the Department of Planning & Infrastructure, Transport for NSW, the Environment Protection Authority and local government.

The NSW Government has recently established the **NSW Marine Estate Management Authority** supported by a **Marine Estate Expert Knowledge Panel** (see diagram on page 15) to work with these agencies and the community toward a common **Vision**. The Authority and Expert Knowledge Panel will assist in ensuring that policies and programs address priority issues, are well-coordinated, efficient and evidence-based and result in positive outcomes. Management priorities will reflect *NSW 2021: A Plan to make NSW Number One*² objectives and be consistent with other key NSW Government initiatives, such as the new planning system being developed for NSW and the NSW transport master plan.³

Starting with a Vision for the NSW Marine Estate, this paper outlines the **principles** the Authority will use to formulate advice regarding the management of the Estate and associated **priority setting**. In establishing these principles, NSW partner agencies also recognise that the Estate cannot be managed in isolation from consideration of pressures from neighbouring coastal lands and Commonwealth waters.

2 <http://www.2021.nsw.gov.au/>

3 <http://www.planning.nsw.gov.au/a-new-planning-system-for-nsw> ; <http://www.transport.nsw.gov.au/sites/default/files/b2b/publications/nsw-transport-masterplan-final.pdf>



2. A Vision for the NSW Marine Estate

In light of the NSW Government's response to the findings of the 2012 Independent Scientific Audit of Marine Parks in NSW,⁴ the Vision for the Marine Estate is to have a **healthy coast and sea, managed for the greatest well-being of the community, now and into the future**. This Vision encapsulates the three key elements of managing the NSW Marine Estate to maintain and enhance the Estate's natural assets while allowing access and use in a way that maximises economic, social and environmental benefits to the people of NSW, over the long-term.

Healthy coast and sea,	→	<ul style="list-style-type: none"> ■ clean and safe waters ■ biologically diverse and resilient ecosystems
managed for the greatest well-being of the community,	→	<ul style="list-style-type: none"> ■ accessible to the community ■ maximum economic, social and environmental benefits
now and into the future	→	<ul style="list-style-type: none"> ■ key community benefits maintained and enhanced for current and future generations

The Vision and associated goals to be achieved – biologically diverse and resilient ecosystems and maximum social, economic and environmental benefits – provide the basis for developing performance measures against which progress toward our Vision can be assessed.

Multiple benefits are derived from the various forms of access that are allowed within the Estate and it is inevitable that to achieve the Vision, trade-offs will continue to be made between competing or mutually exclusive uses and outcomes. The **balance** struck may be different in different places and at different geographic scales (local, regional and state), but with the overall objective of maximising benefits to the people of NSW. Consideration of impacts on particular groups, such as an industry or a local community, will occur within this broader context.

Much of what follows focuses on how the NSW community will be engaged in these 'balance' decisions and how key knowledge gaps will be managed, such as uncertainty about how marine ecological systems work, the nature and extent of future environmental changes, the effectiveness of management regimes and the benefits society derives from different management options.

There is no escaping the fact that **judgement** will be required, but these judgements will be informed by the best available economic, social and environmental information at the local, regional and state-wide levels that can be brought to bear at the time.⁵ The principles and processes that will be used by the Authority to underpin management advice and recommendations are outlined in the following section. Applying these principles will give the best outcomes at least cost to the community.

4 Beeton, RJS, Buxton, CD, Cutbush, GC, Fairweather, PG, Johnston, EL & Ryan, R (2012) *Report of the Independent Scientific Audit of Marine Parks in New South Wales*, NSW Department of Primary Industries and Office of Environment and Heritage, NSW.

5 Determination of 'best available' will include consideration of matters such as relevance and scientific rigour.



3. Underpinning Principles for Managing the NSW Marine Estate

1. Effective community engagement to identify and prioritise benefits and threats

A feature of common property resources is that the incentives faced by individuals can lead to outcomes that are not in the interests of the broader community.

Two things follow. First, a thorough understanding of the key community benefits derived from the NSW Marine Estate at the local, regional and state level is required, as well as threats to those benefits. Information on these benefits and threats will be achieved through ongoing and effective **community engagement** and **expert input**. A critical component of this first step will be to fully understand the benefits that the Estate provides to indigenous communities and to identify the best engagement strategies.

Clear and accessible **analysis and interpretation** of these benefits and threats will build widespread community understanding of their relative importance and thereby encourage effective, ongoing, community input.

Second, a challenge for management is to align the incentives faced by individuals with desired community outcomes. This is further explained in Principle 8.

2. Identification of priority actions will be based on threat and risk assessment

Management resources are limited. Management effort will therefore focus on those areas that make the best improvement to economic, social and environmental benefits for the community. It follows that ongoing assessment of the **threats** and associated **risks** to key community benefits provided by the NSW Marine Estate is required.

3. Values will be assigned to enable trade-off decisions between alternative uses of the Marine Estate

A range of approaches will be used to make informed trade-offs between alternative uses of the Estate. When a trade-off is made, implicitly different values have been assigned to those alternative uses. It is important therefore that there be openness and transparency about these values. Furthermore, it will be imperative to have a common 'value' basis for comparison across the economic, social and environmental benefits associated with alternative uses.

Many of the social and environmental benefits provided by marine ecosystems are crucial, but do not have an obvious value to enable 'like for like' comparison. Several dangers arise, decisions may favour outcomes which do have an obvious value, or community benefits that do not have an obvious value may be arbitrarily assumed to have a very high value and unnecessarily constrain alternative uses, or may be undervalued and therefore mistakenly considered not necessary to manage.

To make informed and transparent trade-off decisions, **values should therefore be made explicit** from the outset, as well as the assumptions behind those valuations. Valuation techniques for biodiversity are subject to ongoing development and now enable us to assign values to benefits that are not obvious. This also applies to social benefits.⁶ However, where values cannot be quantified, qualitative assessments will be provided.

6 A technical paper on valuation techniques and their appropriate use will be developed by the Marine Estate Expert Knowledge Panel.



4. Best available information will be used in trade-off decisions, but judgment will still be required

Changes to the NSW Marine Estate's biodiversity and the community benefits it delivers may not be immediately obvious, particularly in the short-term. There are also considerable current knowledge gaps and uncertainties about ecosystems, threats and the effectiveness of alternative management options. It follows that the valuation process outlined above can only ever provide part of the answer, and while best available evidence will be used in trade-off decisions, judgment will still be required.

5. The well-being of future generations will be considered

Assessment of community benefits and costs will explicitly consider the **well-being of future generations**. An important overarching **sustainability principle** is that future generations have a stake in inheriting an asset that is at least as valuable as it is for today's users.

6. Existing access arrangements will be respected

While the NSW Marine Estate is largely a common property resource, various access rights and arrangements to the Estate already exist including but not limited to seascapes, diving, indigenous access and cultural heritage including sacred sites and shipwrecks, shipping routes, ports and infrastructure, recreational boating access and infrastructure, commercial fishing licences and other entitlements including aquaculture leases and recreational fishing access including recreational fishing havens. Future management of the Estate will **recognise and respect existing rights and arrangements**, but retain the option to modify them over time to maximise community benefits.⁷

7. The precautionary principle will be applied

In response to uncertainty and information gaps, the **precautionary principle** will be applied and measures will be taken to avoid threats of unacceptable environmental damage. However, lack of full scientific certainty will not be sufficient reason for postponing action.

This does not equate to a 'no risk' approach, but will involve careful evaluation to avoid serious and irreversible damage to the environmental values of the Estate and an assessment of the risk associated with alternative management options.

Underlying a precautionary approach is the changing nature of the marine environment, either naturally or from man-made causes, which the people of NSW can do little about. A healthy and **resilient** marine ecosystem will, however, be better able to **adapt** to change and in so doing provide more benefit options for future generations.

⁷ Any changes would be consistent with government policy and legislative and legal frameworks associated with defined and legally recognised property rights.



8. Efficient and cost-effective management to achieve community outcomes

Addressing challenges such as over-exploitation of the Estate will be a priority. Preference will be given to addressing these challenges through efficient and cost-effective management programs that **align private incentives and behaviours** with results desired by the community at relevant scales.

Where government intervention is deemed appropriate, the best policy will be the one that meets policy goals **most efficiently** and at **least cost**. This will favour policies that directly address the causes of threats and which offer choice and flexibility in how outcomes can be achieved. Consistent with best practice, policies that are simple and involve **less regulation will be favoured**.

9. Management decisions will be transparent and adjust in response to new information

To ensure transparency in management settings and the balance of community benefits they aim to achieve, **clear and transparent analyses** of management options will be made available to inform community input. Furthermore, because decisions will often be made under conditions of uncertainty and imperfect information, management settings will be responsive to new information as it becomes available. Authority and Expert Knowledge Panel advice will be made public.

10. Management performance will be measured, monitored and reported and information pursued to fill critical knowledge gaps

Appropriate **accountability** for management performance will be critical. This will require **monitoring, measurement of change** and public **reporting** of the economic, social and environmental benefits derived from of the Estate. Monitoring the condition and use of the Estate will be necessary. This will be complemented by recommending **strategically targeted research** to fill critical knowledge gaps.

Principles for Managing the NSW Marine Estate

Facts	Implications/Challenges	Principles Applied
The Estate is largely an open access resource	Identify key community benefits (what the community wants) from the Estate and threats to those benefits	1. Effective community engagement, to identify and inform key benefits and threats
Management resources are limited	Management effort needs to be directed to where it produces most benefit to the community, for now and into the future	2. Identification of management priorities will be based on threat and risk assessment
Multiple benefits are derived from the Estate	Trade-offs between non-complementary uses will be necessary to maximise overall benefits to the community, now and into the future	3. To evaluate trade-offs, values will be placed on alternative uses of the Marine Estate
		4. Best available evidence will be used in trade-off decisions, but judgment will still be required
	Some access rights have already been assigned	5. The well-being of future generations will be considered 6. Existing access rights will be respected



Facts	Implications/Challenges	Principles Applied
Knowledge gaps and uncertainty exist about ecosystems, threats and the effectiveness of management	Marine ecosystems can be damaged irreversibly	7. The precautionary principle will be applied
Management should be efficient, transparent and accountable	<p>To maximise community benefits, management programs will align private incentives and behaviours with preferred community outcomes and be as light-handed and least cost as possible</p> <p>Monitoring, measurement and clear reporting of change in community benefits is required</p> <p>Management will need to adjust to new information as it emerges</p>	<p>8. Efficient and cost-effective management to achieve community outcomes</p> <p>9. Management decisions will be transparent and adjust in response to new information</p> <p>10. Management performance will be measured, monitored and reported and information pursued to fill critical knowledge gaps</p>



4. Putting the Principles into Practice

4.1 A logical sequence of steps to maximise community benefits

To put the Authority's principles into practice, a logical sequence of steps will be followed. The starting point will be to identify **the benefits the community wants** from the NSW Marine Estate. These economic, social and environmental benefits will be established through community engagement, supplemented with expert input.

Once key benefits are established, the second step is to identify how and where these benefits are **under threat**. Again, this will be established by community input, advice and evidence from experts with specialist knowledge of coasts, waterways and marine ecosystems as well as economic and social systems. Community engagement and information gathering and sharing activities will be a key focus for the Authority and Expert Knowledge Panel.

Having identified potential threats to the NSW Marine Estate that might prevent key benefits from being realised, it will be necessary to **assess the risk** these threats pose so that management effort can be focused on the **most important issues**. This step is outlined in more detail in the following section, but involves assessing, for each threat, (i) the **consequence** of it occurring and (ii) the **likelihood** that it will occur.

The third step will be to assess the adequacy of **current management settings** in managing the most significant risks. A consideration will be whether the risks can in fact be managed (e.g. habitat damage due to coastal development), or can only be observed and reacted to (e.g. sea temperature rise). The principles outlined earlier will be applied, but in simple terms it means that the **least cost management** regime that delivers maximum community benefits will be used. It also means that in a world of incomplete knowledge, **management will adapt** over time as new information arises.

The final step is to ensure **management is accountable** for performance. This will require measurement of community benefits and reporting of progress.



Maximising Community Benefits Derived from the NSW Marine Estate

<p>HOW THE COMMUNITY BENEFITS FROM THE ESTATE</p> <p>↓</p>	<p>Identify key economic, social and environmental benefits derived from the Estate</p>	<p>Develop ongoing engagement strategy:</p> <ul style="list-style-type: none"> ■ community consultation ■ expert input ■ stakeholder surveys
<p>ASSESS THREATS AND RISKS TO BENEFITS</p> <p>↓</p>	<p>Assess threats in terms of reduced economic, social and environmental benefits</p>	<p>Prioritise threats based on their likelihood and consequence and consider relevant scale:</p> <ul style="list-style-type: none"> ■ local ■ regional ■ state-wide
<p>ASSESS MANAGEMENT OPTIONS TO MAXIMISE BENEFITS</p> <p>↓</p>	<p>Identify and assess current and potential management settings</p>	<p>Apply values to economic, social and environmental benefits of alternative uses.</p> <p>Assess which options deliver maximum community benefit.</p>
<p>IMPLEMENT PREFERRED MANAGEMENT OPTIONS</p> <p>↓</p>	<p>Implement options which maximise overall benefits to the NSW community as a whole</p>	<p>Identify the most efficient and cost-effective management options.</p> <p>Design measurable performance indicators.</p>
<p>BE ACCOUNTABLE</p>	<p>Monitor, measure and report on performance</p>	<p>Develop strategic monitoring program to measure outcomes relative to the Vision.</p> <p>Report transparently to community.</p> <p>Promote strategic research to inform management and enhance future outcomes.</p>

4.2 The threat and risk assessment framework

The NSW Government has committed to developing a NSW Marine Estate Management Strategy. This strategy will recognise that effective coastal and marine management needs to be underpinned by evidence in regard to human activities and other factors that impact on the Estate. That evidence will be brought together in a **threat and risk assessment framework**.⁸

Many threats and risks to the NSW Marine Estate and the community benefits it delivers will be apparent to affected stakeholders. A primary strategy for identifying threats and risks will therefore be **community engagement**. Not all threats and risks are, however, obvious to the casual observer, such as ocean acidification or climate change. The processes for identifying threats and risks will therefore also include consultation with local and international **experts** and strategic scientific **observation and measurement**.

⁸ This approach is used by other marine authorities, such as the Great Barrier Reef Marine Park Authority, and has been endorsed by the NSW Government.



The threat and risk assessment framework will incorporate the current state of knowledge and will define the most important threats and associated risks, as well as the management measures currently in place to address them.

The risks that threats present to any of the economic, social and environmental benefits provided by the Estate will be defined on the basis of the ‘likelihood’ and ‘consequence’ of threats.⁹ Likelihood refers to the expected frequency of a given threat under current management settings. Consequence refers to the extent of the impact of that threat under current management settings.

Risk Matrix

LIKELIHOOD	LEVEL OF RISK				
ALMOST CERTAIN					HIGH
LIKELY					
POSSIBLE			LOW	MODERATE	
UNLIKELY					
RARE	MINIMAL				
CONSEQUENCE LEVEL	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC

The risk matrix above illustrates that where a threat has a high consequence and is also likely to occur, it results in a high risk threat. However, where the impact of a threat is very low and/or the likelihood of it being realised is very low, the threat will be considered a low risk.

The outcome of the threat and risk assessment will be the identification of those **problems that matter the most** and pose the greatest risk to the benefits that the Estate provides to the citizens of NSW. It will be applied at local, regional and state-wide levels, as well as over the short, medium and long-term. Priorities identified through application of the threat and risk assessment framework will change over time and be modified in response to new information and ongoing community input.

This will be critical information to underpin judgments about priorities for government, community and industry action, and where trade-offs between alternative uses may be required. For illustrative purposes, outcomes from the application of this approach to the Great Barrier Reef are outlined in the following two charts. Similar information will be developed for the NSW Marine Estate.

Importantly, this Framework will enable **stakeholders to work together** in understanding the major threats to the NSW Marine Estate and where effective management settings are required. It will also enable community-wide understanding of where we have knowledge gaps and where there might be opportunities for productive and sustainable new investment.

9 Alternative approaches to threat and risk assessment are being assessed and a technical paper will be prepared by the Expert Knowledge Panel.



Illustrative Example 1: Threats to the Great Barrier Reef¹⁰

RARE	UNLIKELY	POSSIBLE	LIKELY	ALMOST CERTAIN	
			Sea level rise	Sea temperature rise, Ocean acidification	CATASTROPHIC
	Altered ocean currents, Fishing herbivores, Large oil spill, Large chemical spill	COTS outbreaks	Bycatch of species of conservation concern	Nutrient runoff, Pesticides runoff, Fishing top predators	MAJOR
	Exotic species – imported bait	Altered cyclone activity, Grounding large vessels, Exotic species – hull fouling, Exotic species – ballast water, Exotic species – aquaculture	Poaching species of conservation concern, Marine debris, Fishing spawning aggregations	Clearing coastal habitats, Sediment runoff, Death of discarded catch, Illegal fishing	MODERATE
		Coral disease outbreak, <i>Drupella</i> outbreak	Traditional hunting, Boat strike, Dredging and spoil dumping	Barriers to river flow, Anchoring on coral, Vessel waste discharge, Physical fishing impacts, Fishing low order predators, Fishing filter feeders, Fishing detritivores	MINOR
			Grounding small vessels	Snorkelling and diving activity, Small chemical spill, Small oil spill	INSIGNIFICANT

Level of risk



10 Great Barrier Reef Marine Park Authority (2009), Great Barrier reef Outlook report 2009, Figure 8.1, p166.



Illustrative Example 2: Timeframes and Scope of Threat¹¹

WHEN IS AN EFFECT LIKELY TO START?				WHAT IS THE LIKELY EXTENT OF THE EFFECT?
CURRENT OR NEXT 1–2 YEARS	NEXT 10 YEARS	NEXT 20 YEARS		
Sediment runoff	Ocean acidification		STATEWIDE	WHAT IS THE LIKELY EXTENT OF THE EFFECT?
Pesticide runoff			REGIONAL	
Physical fishing impacts			REGIONAL	
Snorkelling and diving			LOCAL	

Level of risk



4.3 Assessing and implementing management options

To ensure an effective public policy response, threats and risks to the Estate will be considered in the context of **aligning private incentives and behaviours with desired community outcomes**. The NSW Marine Estate Management Authority will promote and support ongoing review of the current portfolio of government and non-government management initiatives that focus on correcting the Estate’s open access resource issues to ensure they are clearly focussed on the most important threats and that they are complementary, efficient and equitable.

The first step in developing effective policies and programs to manage key threats will be to clearly identify the cause of the problem. As previously discussed, the cause will often be a market failure in the form of over-exploitation of the Estate’s resources, or conflict between competing uses because of the Estate’s open access characteristics.

Potential management options to address threats at the local, regional or statewide level will then be developed and evaluated. These options may involve not just government regulatory and non-regulatory measures, but may also include community and industry based programs and campaigns.

Evaluation of the best management options to address identified threats will involve assessing the extent to which those options maximise **net benefits** to the community at **least cost**. For example, direct regulation by government can often cause unintended and unforeseen costs. Consequently, modern public policy principles favour non-regulatory approaches, with regulation being a last resort. **Light-handed intervention** is preferred.

¹¹ Great Barrier Reef Marine Park Authority (2009), *Great Barrier Reef Outlook Report 2009*, adapted from Figure 8.2, p168.



In selecting and implementing the most efficient and equitable management option, it will not always be possible to achieve improvements in all economic, social and environmental benefits at the same time and in the same place and hence trade-off decisions will be needed. In addressing trade-offs between alternative uses of the Estate and the benefits they provide, the NSW Marine Estate Management Authority will seek to ensure that community benefits are maximised now and into the future. These trade-off situations are represented by management initiatives that fall in the top left and bottom right quadrants of the diagram below.

It is in these circumstances where the application of values to the benefits generated by the Estate will be essential. In conjunction with transparent analysis and community input, this information will enable adjustments consistent with the Vision for the NSW Marine Estate.

Trade-offs between alternative uses of the Marine Estate

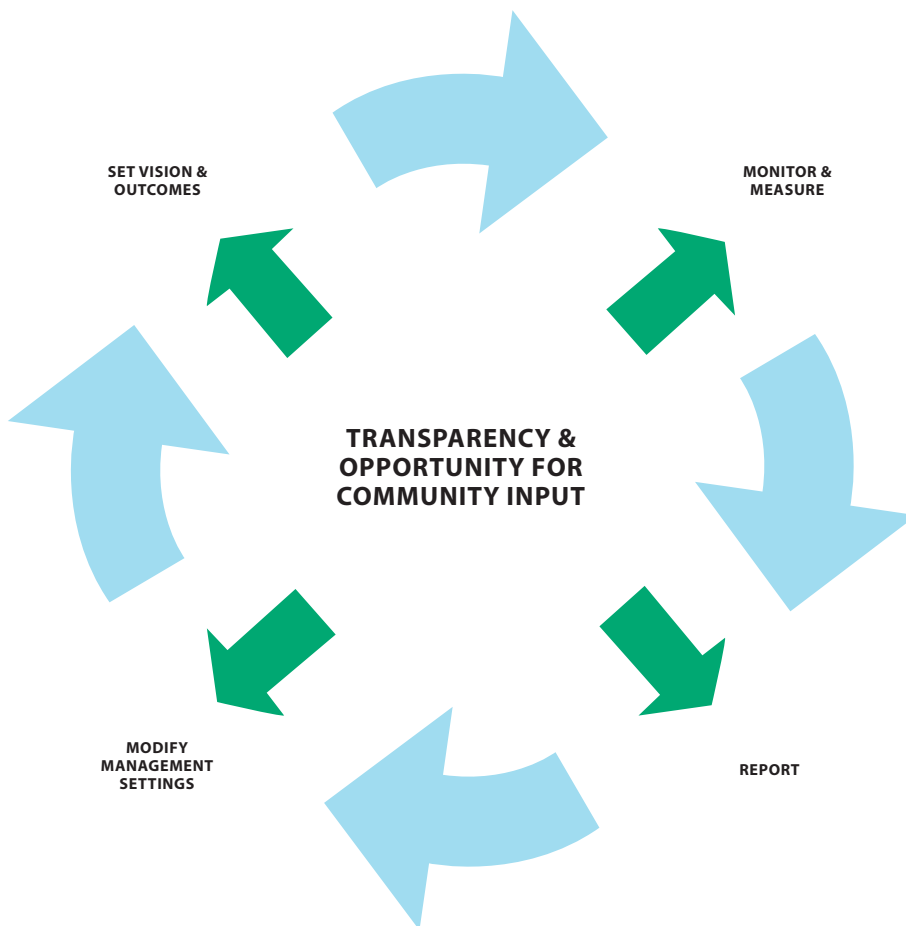




4.4 Being accountable

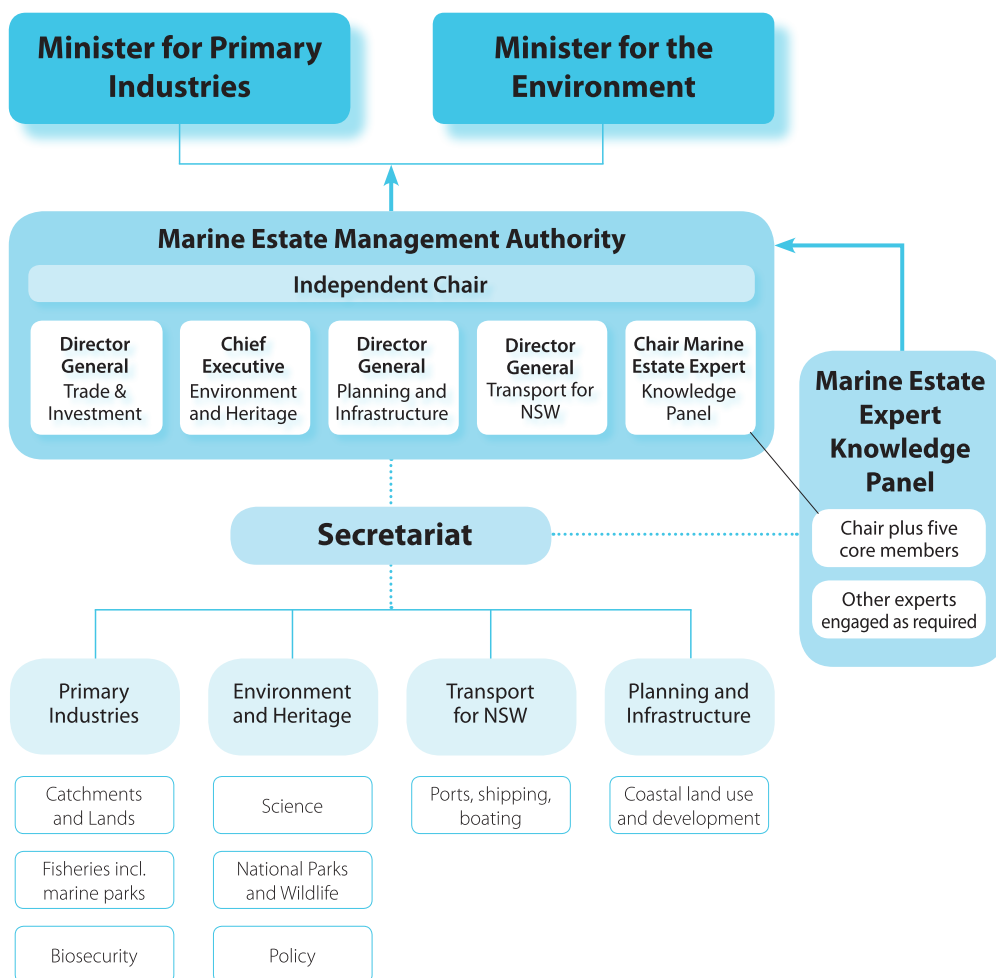
To achieve real change consistent with community preferences and the NSW Marine Estate Vision, it will be essential to consider where we want the Estate to be in 1-2, 10 and 20 years time, to **monitor and measure progress** toward achieving our key goals and to **modify management** settings over time, as appropriate. It will be important for there to be community transparency and opportunity for input at each stage of the management cycle.

Continuous Management Cycle





Marine Estate Advisory Bodies and Reporting Relationships



The NSW Marine Estate Management Authority welcomes comment and suggestions in relation to the principles and priority setting processes outlined in this paper
contact.us@marine.nsw.gov.au



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