

MARINE ESTATE MANAGEMENT AUTHORITY

Marine Estate Management Strategy: **reflection and adaption**

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The Strategy

An overview

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A ten-year plan



- The Strategy is a 10-year plan to help protect and improve the health of the NSW marine estate.
- Created in 2018, it presents 53 actions to be implemented to reduce statewide threats facing our marine estate (i.e. beaches, coastal waterways and estuaries) whilst also ensuring social, cultural and economic benefits for the community.
- The Strategy includes over 100 projects to address priority threats to the NSW marine estate.

Marine Estate Management Strategy 2018-2028												
Stage 1			Stage 2			Stage 3						
2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
🚀 start			we are here 🚀									finish 🚀

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TABLE 1. Statewide priority threats to ENVIRONMENTAL assets

Identified as:
■ Moderate Risk
■ High Risk

LEGEND
■ Moderate-High Risk (A mix of moderate and high risk levels in the three regions statewide)
■ estuaries coast & marine

ACTIVITY/THREAT	ASSET										
	Estuaries & ocean waters	Shallow water	Estuarine & marine habitats, seagrasses & associated biota	Shallow water							
1. Urban stormwater discharge											
2. Estuary entrance modifications											
3. Agricultural diffuse-source runoff											
4. Clearing riparian & adjacent habitat including wetland drainage											
5. Climate change over the next 20 yrs											
6. Modified freshwater flows											
7. Foreshore development											
8. Recreation & tourism boating & boating infrastructure											
9. Navigation & entrance management & modification, including harbour maintenance											
10. Sewage effluent & septic runoff											
11. Stock grazing of riparian & marine vegetation in estuaries											
12. Four-wheel driving											
13. Recreational fishing - boat-based line & trap fishing											
14. Passive recreational use - swimming, surfing & dog walking											
15. Recreational fishing - shore-based line & trap fishing											
16. Beach nourishment & grooming											
17. Commercial fishing - ocean trawl											
18. Commercial fishing - ocean trap & line											
19. Commercial fishing - estuary general											
20. Deliberate introduction of pests & weeds											
21. Shipping - small commercial vessels											
22. Oyster aquaculture											
23. Commercial fishing - ocean haul											
24. Recreational fishing - hand gathering											
25. Whale & dolphin watching											

TABLE 2. Statewide priority threats to SOCIAL, CULTURAL and ECONOMIC benefits

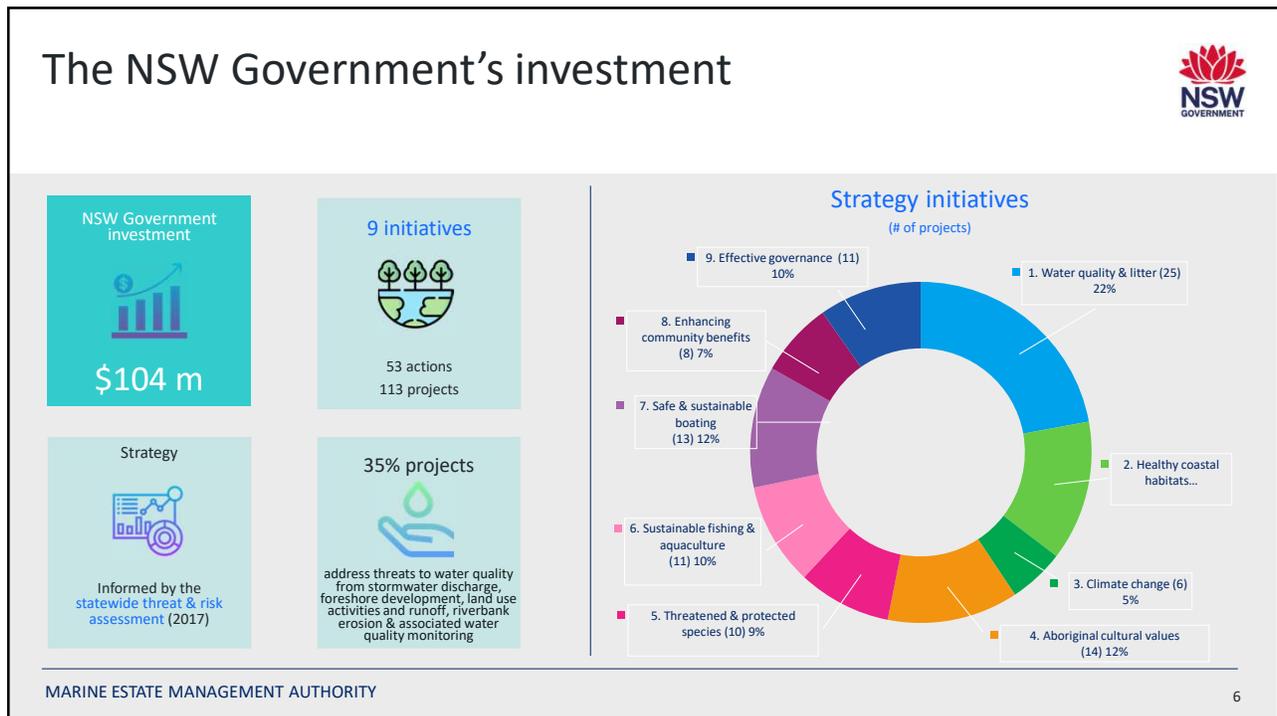
Identified as:
■ Moderate Risk
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LEGEND
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■ estuaries coast & marine

THREAT/STRESSOR	BENEFITS			
	Social benefits	Cultural benefits	Economic benefits	Other
1. Water pollution on environmental values - urban stormwater discharge				
2. Water pollution on environmental values - litter, waste, debris & microplastics - agricultural diffuse-source runoff				
3. Water pollution on environmental values - filter, waste, debris & microplastics				
4. Inadequate social & economic information				
5. Lack of compliance with regulations (users) or lack of compliance effort (agencies)				
6. Limited or lack of access infrastructure in the marine estate				
7. Reductions in abundance of species & trophic levels				
8. Artistic behaviour & unsafe practices				
9. Climate change over the next 20 years				
10. Loss of public access				
11. Inadequate, inefficient regulation or overregulation				
12. Pests & disease				
13. Sediment contamination				
14. Overcrowding & congestion				
15. Conflict over resource-use access				
16. Habitat disturbance (snowbirds, turtles, whales) - e.g. by dog walkers, four wheel drives, & vessels				
17. Loss or decline in marine industries				
18. Sealoff contamination				
19. Modified hydrology, hydraulics & flow regimes				
20. Water pollution of environmental values - septic runoff, point-source pollution & sewage overflows				
21. Wildlife disturbance (snowbirds, turtles, whales) - e.g. by dog walkers, four wheel drives, & vessels				
22. Lack of community awareness of the marine estate & associated threats & benefits				
23. Lack of, or ineffective community engagement or participation in, governance				
24. Other water pollution & contamination affecting human health & safety				
25. Excessive or illegal extraction				

Priority threats

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Achievements

Nearing 4 years of implementation, we reflect on our achievements

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Achievements



- An independent review for Treasury in 2020 rated Service Delivery, Sustainability, Governance and Risk Management as **STRONG** based on the first 18 months of delivery and gave an overall confidence rating of **HIGH**.
- A scheduled review of progress after two years was completed in 2021 which found all short-term outcomes were achieved and early progress against intermediate outcomes.
- Over **\$45 million** has been provided to partner agencies and organisations to reduce priority threats.
- Significant progress has occurred across all 113 projects, including: on-ground works; policy and strategy development; education; research and monitoring; reducing red tape.
- Outputs are informing development of Coastal Management Programs, and collaboration with Councils is strong.

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2018-2022 delivering outcomes

Marine Estate Management Strategy achievements

Water quality & litter

OYSTER REEF RESTORATION
7,500 tonnes of rock & 180 m³ of shell substrate to rehabilitate 2.5 ha oyster reef Fort Stephens Great Lakes Marine Park

130+ km of riverbank vegetation rehabilitated to improve water quality

MONITORING
170+ estuaries measured for water quality & ecosystem health, 90% now have an 'estuary health grade' of A, B or C (good condition to moderate)

erosion control works on 50 macadamia orchards on the North Coast to reduce on-farm sediment runoff into waterways

REDUCING WATER POLLUTION
25% increase in community understanding that dropping litter in the street will hurt marine life

13% reduction in litter volume between 2018-2020

90% of NSW residents now agree that littering has a negative impact on waterways & beaches

213 ha of riverbank vegetation improved 16,300 native species

268 ha of riverbank protected by fencing

48 km of foreshore protected from stock access

4.8 km of riverbank stabilised to reduce erosion & sediment entering waterways

surveyed 3500 NSW residents to identify their environment values & uses of waterways

302 ha of coastal wetland now protected

\$10 m delivering on-ground works

Water quality & litter

assisting local government to keep fish & coastal habitats healthy

9 workshops

4 educational videos

Over 850 tonnes per year of sediment kept from entering Sullivans Lake by sealing 230 m of unsealed road

18 km of gravel roads sealed at 55 sites to reduce pollutants & erosion entering coastal waterways

improved extent & condition of protected saltmarsh following rehabilitation

development of cutting edge indicators to rapidly assess fish biodiversity in 63 estuaries

184 coastal catchments mapped for high ecological value aquatic ecosystems

Delivering healthy coastal habitat

DREDGING AUDIT
of commercial dredging & sand extraction activities in estuaries completed

COASTAL DESIGN GUIDELINES
prepared for exhibition

COASTAL FLOODPLAIN STUDY
700+ floodgate structures on coastal floodplains assessed for threats to water quality and 800 soil samples tested

Water quality & litter

RISK-BASED FRAMEWORK
adopted in strategic & local planning instruments as best practice for managing cumulative impacts of urban development + co-designed statewide capacity building program

IMPROVING FISH PASSAGE
3 barriers for removal to collectively reinstate 1,826 km

STREAMLINING ENVIRONMENTAL ASSESSMENTS
285 km in the Richmond River & 102 km in the Brunswick River assessed using an online mapping tool for suitable sites for jetties & pontoons

6,805 artificial structures made - jetties, pontoons, breakwalls, groynes in 9 estuaries

BLUE CARBON
70 priority fish barrier sites identified for removal to reinstate 61 km² of mangrove & saltmarsh to sequester carbon

CLIMATE CHANGE RESILIENCE
20 priority sustainable sites to rehabilitate 1254 km² of marine vegetation

Planning for climate change

CLIMATE CHANGE MONITORING
SEAGRASS, MANGROVE & SALT MARSH MAPS finalised for Botany Bay

early warning signs identified: distribution and abundance of kelp, coral and urchins monitored on reefs statewide

CITIZEN SCIENCE
using community data to map changes in marine species distributions due to climate change

predicted mangrove & saltmarsh response to sea level rise assessed in 110 significant estuaries

predicting the future impacts of climate change on underwater forests completed

2018-2022 delivering outcomes

Marine Estate Management Strategy achievements

Protecting Aboriginal cultural values of the marine estate

120 Aboriginal people trained, & obtained their boat licence

9 obtained commercial certification

Sea Country School Education Program extended to the Wonnamatta & Sarsfield Nations & released online to more than 2700 views

REVIVING TRADITIONAL CULTURAL PRACTICES
making boats & nets, Elders sharing knowledge with school children on the South Coast

ENGAGING WITH COMMUNITY
direct engagement with 500+ community members in Sea Country management + launched the Elders as Mentors project

20 Aboriginal people trained in marine wildlife responses & events 28 awarded Certificates II in Tourism

facilitating & promoting Aboriginal engagement across all Strategy initiatives

Reducing impacts on threatened & protected species

21 volunteer drone operators involved in the Bigwings or Conservation Science project pilot

\$50,000 in grants provided to support wildlife rescue & rehabilitation groups targeting welfare & survivorship

87% of seal event response training attendees reported an increase in confidence in responding to an event

300+ people attended marine wildlife stranding & disentanglement training

ENGAGING WITH FISHING INDUSTRY
to improve innovative fishing gear to reduce interactions with threatened & protected species

monitoring of turtle nests 200+ successful hatchlings from seven nests

Protecting Aboriginal cultural values of the marine estate

9 threatened seahorse hotels installed in Sydney harbour housing 1400 bred & tagged seahorses

600+ days, 40,000 hook deployments

12,600 trap lifts monitored

COMMERCIAL FISHING OBSERVER PROGRAM

fabrication of marine wildlife rescue gear including dolphin slings, turtle mats & satellite tracking buoys for entangled whales

80 vets trained in marine wildlife to improve survivorship & understanding of threats

Sustainable fishing & aquaculture

130+ commercial fishers completed best-practice training

22,568 kg of waste removed in oyster industry-led clean up

TIDE TO TIP CAMPAIGN

EAT MORE NSW SEAFOOD PROGRAM
\$1.2m+ in grants delivered to NSW Seafood Industry for marketing & promoting local seafood

PARTNERING WITH NSW RECREATIONAL FISHING TRUITS PROJECTS
to release 175,000+ fingerlings into recreational fishing havens

NSW FISHERIES HARVEST STRATEGIES
Policy and guidelines developed through extensive consultation and guiding robust & transparent decision-making rules

Protecting Aboriginal cultural values of the marine estate

THE FISHING STREAM

670,000+ views of live events promoting NSW fishing businesses & responsible fishing practices

8,000 newly designed crab traps & lift nets to reduce fishing footprint

MARINE WATERS SUSTAINABLE AQUACULTURE STRATEGY
developed to guide effective and sustainable business growth

MARINE BIOSECURITY AWARENESS
statewide survey completed informing behaviour change campaign

Enabling safe & sustainable boating

NSW BOATING NOW PROGRAM
round 3 funding available for marine infrastructure & facilities needed across NSW for safe, accessible & enjoyable recreational & commercial boating

258+ projects delivered since the program was launched

950+ commercial vessel inspections undertaken in 2020-21 for safety & environmental standards

4 hybrid environmentally friendly moorings installed at Shoal Bay. Training innovative moorings to protect sensitive seagrass communities while keeping boaters safe

MARITIME INFRASTRUCTURE PLAN 2019-2024
released to guide future investments in maritime infrastructure

2018-2022 delivering outcomes

Marine Estate Management Strategy achievements

Enabling safe & sustainable boating

- NSW BOATING HANDBOOK** updated to make boating rules & regulations clearer
- PRIVATE MOORING MAP** launched streamlined online platform to search & apply for a mooring
- ABORIGINAL MARITIME SAFETY PLAN 2020-2022** promoting boating safety in NSW Aboriginal communities

Enhancing social, cultural & economic benefits

- COMMUNITY WELLBEING FRAMEWORK** developed to guide the strategic collection of social, cultural & economic data
- MARINE EDUCATION STRATEGY** draft developed
- MARINE INTEGRATED MONITORING & EVALUATION FRAMEWORK** completed to track the Strategy's success
- SUPPORTING COMMUNITIES** 90+ jobs created, 65+ in regional NSW, 50+ Aboriginal rangers caring for Sea Country
- 3,300+** participants in the NSW coastal residents & visitors' surveys
- BUSTER SHIPWRECK** Threats assessed & developing management strategies for marine historic heritage
- SEA COUNTRY SURVEY** statewide baseline data on the ways Aboriginal people value & culturally connect to Sea Country

Delivering effective governance

- 100+** projects implemented cross-agency governance and collaboration rated STRONG
- RICHMOND RIVER CATCHMENT** governance & funding framework finalised
- \$45 m** to partner agencies through MOUs
- IMPROVING FISHERIES COMPLIANCE** 1300+ inspections through education & agency collaboration
- IMPROVING PROJECT GOVERNANCE** 26 projects reducing red tape, 34 projects aimed at improving governance

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Lessons learnt

Nearing the end of 4 years of implementation, we reflect on lessons learnt

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NSW GOVERNMENT

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Lessons learnt



Strengths:

- Governance, project management & risk management
- Cross-agency collaboration
- Advice from Marine Estate Expert Knowledge Panel
- Extent of project delivery (113 projects) across the marine estate
- Reducing 50 statewide priority threats
- Short-term outcomes achieved after 2 years.

Risks:

- External factors – drought, bushfires, floods and pandemic
- Investment received to date - limiting allocations to climate change; research and monitoring; scale of projects (primarily pilots) and 6 actions not commenced.

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Adapting for the future

After 4 years of implementation, we are adapting for the future

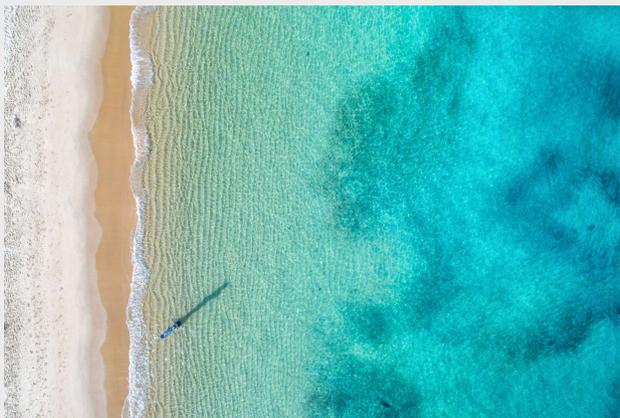
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Where to next?



<p>seeking Govt funding</p> <p>to continue to deliver projects that reduce threats and achieve intended outcomes</p>	<p>sustained focus</p> <p>improving water quality, reducing litter and improving habitat to benefit community and industry</p>
<p>review threats and risks</p> <ul style="list-style-type: none"> ★ emerging threats ★ current risk levels ★ adapt management 	<p>strengthen</p> <ul style="list-style-type: none"> ★ partnerships ★ communication ★ monitoring



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Adapting for the future



How will the Strategy be measured?

- Strategy deliverables are managed via a project management system and reported on each trimester and in an annual report.
- Achievement of Strategy outcomes are evaluated after 2, 5 and 10 years of delivery.
- Over the life of the Strategy, the Marine Integrated Monitoring Program (MIMP) guides: monitoring condition and trend of assets and benefits; periodic evaluation of program delivery and filling knowledge gaps.

Adapting to future needs

- A review of threats and risks based on new information will occur in 22/23 to inform the focus of the Strategy in future years.
- A five-year health check of the Strategy will occur in 23/24, to respond to new / emerging threats, changed risk levels and other relevant information.
- A scheduled independent evaluation of how the Strategy is achieving intended intermediate outcomes is due in 23/24 (after 5 years).
- Enhancing research and monitoring, as well as communication and engagement with partners and community, are priorities over the next 6 years.

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Where to find out more

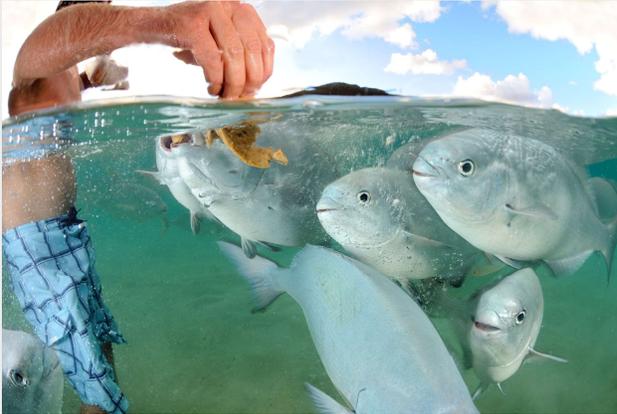


Photo: fish feeding Neds Beach, LHIMP. Justin Gilligan DPI

- www.marine.nsw.gov.au
- project profile web pages
- triannual reports
- Instagram [NSW Marine Estate](#)
- monthly marine estate newsletter
- Initiative and project leads
- local agency staff

contact.us@marine.nsw.gov.au

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