



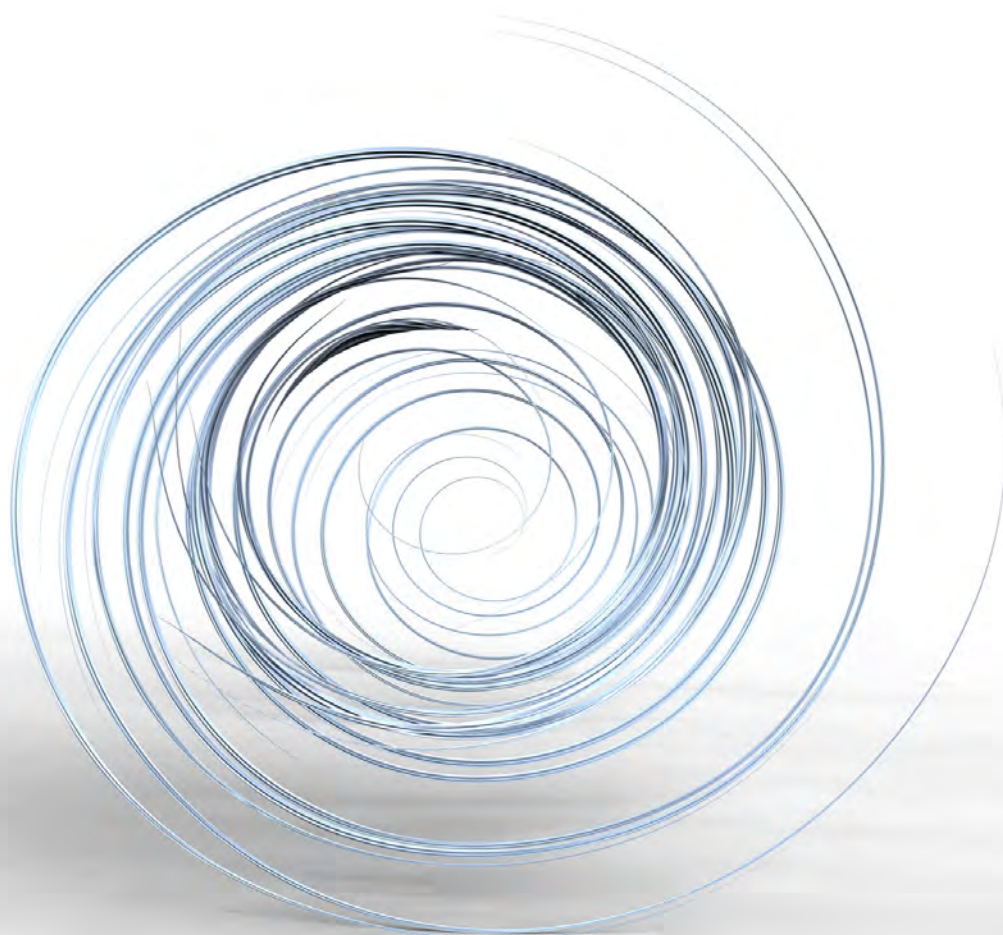
MARINE ESTATE MANAGEMENT STRATEGY

Quarterly snapshot

Reporting period – Year 2, Quarter 4

MARINE ESTATE MANAGEMENT AUTHORITY

INT20/108783



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Part A: Strategy snapshot

Reporting period

Stage	Year	Quarter	From	To
Stage 1 (2018-2020)	2	4	1 April 2020	30 June 2020

Purpose of this snapshot

The purpose of this snapshot is to provide key stakeholders and the community with regular (quarterly) progress updates on the implementation of the Strategy. It includes updates on notable initiative projects (actions) each quarter and what is planned for next quarter. A detailed update for all actions in each initiative is included in the Strategy Implementation Annual Report. This snapshot should be read in conjunction with the [Strategy Implementation Plan](#) and the [Strategy Implementation Annual Report](#).

This is the last report for Stage 1, next quarter will report on the commencement of Stage 2 (2020-2021).

Delivering long term outcomes


The Strategy's nine initiatives contribute to delivering healthy waterways and coastal habitats, sustainable land use practices, as well as planning for climate change, protecting Aboriginal cultural values of the marine estate, reducing impacts on marine life, delivering sustainable boating and fishing, enhancing social, cultural and economic benefits and delivering effective governance.





Stage 1, the first two years of the 10-year Strategy, has focused on addressing the most severe threats to the health of the marine estate. Particular attention and resources were allocated to improving water quality and reducing water pollution, which was identified as the greatest threat to the marine estate by the NSW community and through an evidence-based threat and risk assessment in 2017.

Implementation of Stage 2 will build on the foundations laid in Stage 1 to protect and enhance the marine estate for the benefit of the community. Collectively, the initiatives will improve water quality, reduce marine litter, improve the health of coastal habitats, reduce threats to marine wildlife, ensure sustainable foreshore development, sustainable fishing and aquaculture, promote safe and sustainable boating, prepare for climate change and protect the Aboriginal cultural values of the marine estate.

Program highlights this quarter

Of the 53 management actions contained in the Strategy, 41 are under way in Stage 1. Many actions have multiple projects within them, which means approximately 100 projects of varying scale are currently active this quarter. The highlights this quarter for each initiative are numerous; a selection of five highlights illustrating the breadth of work and accomplishments achieved this quarter are below.

Project	Highlights
Marine vegetation management strategies 	<p>Refined an approach to display estuarine vegetation, combining future inundation areas, historic distribution and constraints into a management tool for natural resource managers. This enables a more holistic approach to estuarine vegetation management for large areas and can inform the prioritisation of areas for protection or ongoing use.</p>

Project	Highlights
Monitoring priority environmental assets at risk from climate change	 <p>Researchers have identified three important biological indicators that will act as early warning signs of climate-driven changes to NSW’s marine environment. These are the size and spread of kelp and coral habitats; diversity of fish populations; and distribution of sea urchins.</p>
Estuary water quality monitoring	 <p>Commenced collaborative monitoring of bushfire impacts with Councils and provided ongoing advice.</p>
Improve reporting of interactions with marine wildlife – data and reporting	 <p>The NPWS online wildlife reporting system, Elements, has been expanded to allow groups that help look after injured marine wildlife to record their data. Dolphin Marine Conservation Park are the first to use the system real-time, to report wildlife being rescued and in care.</p>
Commercial fishing observer program	 <p>Extensive monitoring and sampling continued in quarter four with over 80 observed days at sea. Better understanding of interactions with non-target species, particularly threatened and protected species, is a high priority. Commercial fishers are testing and implementing new methods that could reduce whale and seabird interactions. Research to date has found that it is extremely rare for threatened and protected birds to be harmed by commercial trawl fishing operations in NSW.</p>

Part B: Initiative summaries

Initiative summaries include updates on notable individual actions each quarter and what is planned for next quarter. A full update on all projects will be reported in the Strategy's Implementation Annual Report. For more information on the location of projects refer to Figures 5-8 in Appendix B.

Initiative 1 – Improving water quality and reducing litter

Initiative 1 is split into two sections:

- **1a** reports on work led by Department of Planning Industry and Environment–Environment Energy and Science (DPIE-EES) primarily addressing water quality issues in the urban areas of the marine estate, and coordination of marine litter projects
- **1b** reports on the work led by Department of Primary Industries–Fisheries (DPI-Fisheries) which primarily focuses on improving diffuse source water quality in the regions, including on-ground works and coastal floodplain management.

The summary for Initiative 1 is split into 1a and 1b for reporting purposes.

1a – DPIE-Environment Energy and Science



Project summary

A wide range of projects are under way to improve water quality and reduce litter entering the marine estate. Water pollution was identified as the greatest threat to the marine estate and is a priority initiative under the Strategy. Two projects have been heavily impacted by COVID-19 restrictions: the Marine Litter Campaign; and the project to build capacity for stakeholders to implement the risk-based framework for waterway health, which was heavily dependent on the community engagement. These projects have been modified and will commence in Stage 2. The remaining projects have achieved their planned outcomes. Projects have been successful engaging with stakeholders and establishing foundational data, which will be built on in Stage 2.

Quarterly progress and highlights




A breakdown of progress is outlined below.

Project	Location	Progress
Risk-based framework for waterway health	South Creek Local Councils	Trials using the Risk-based Framework in urban areas are in their final stages, with the main outcome being a change to planning controls to improve waterway health and stormwater management.
Improved management of diffuse source water pollution	Statewide	Review of the NSW Diffuse Source Water Pollution Strategy is complete and recommendations provided to Government to effectively manage diffuse source water pollution.
Marine litter campaign	Statewide	Development of an integrated strategy and new animated works to support the " Don't be a Tosser " marine litter campaign has been completed and will be aired in Stage 2.

Project		Location	Progress
Marine litter working group		Statewide	The University of NSW has commenced a Marine Debris Threat and Risk Assessment. Experts are engaged providing advice on the social, economic and environmental stressors, threats, assets and values.
Estuary water quality monitoring		Statewide	<p>The estuary health monitoring program to provide Councils and the NSW community with information on the water quality in their estuaries has been completed. The data collected supports evidence-based decision making by councils for the management and protection of waterway values.</p> <p>Guidance on use of DNA analysis to help determine water quality suitability for recreational use provided to councils.</p> <p>Commenced collaborative monitoring of bushfire impacts with Councils and provided ongoing advice.</p>

What's next?

Work that is planned to occur in the following quarter is reported below, although unexpected changes to scheduling can occur and will be communicated to affected stakeholders.

Project		Location	Anticipated work
Build capacity to implement the Risk-based Framework		Statewide	<p>Engage a service provider to synthesise the findings of the consultations with stakeholders (first phase of this project).</p> <p>Develop practice notes to guide stakeholders implementing the Risk-based Framework.</p>
Estuary water quality monitoring		Eurobodalla	Finalise the Tilba Tilba Lake video showcasing a successful model for community to assist with water quality monitoring and get it ready for release.
Estuary water quality monitoring		Statewide	<p>Completion of the water quality database with historical estuary monitoring data. Data will be extracted from the database and made publicly available on SEED on a routine basis (i.e. monthly).</p> <p>Website to report information about each NSW estuary launched.</p>

1b – Department of Primary Industries-Fisheries





Project summary




A wide range of projects are under way to improve water quality and reduce litter entering the marine estate. Water pollution was identified as the greatest threat to the marine estate and is a priority initiative under the Strategy. The final quarter of Stage 1, Year 2 saw the culmination of two years of planning and on-ground works deliver some outstanding project outcomes. Significant progress was made in completing remaining works, with all Local Land Services (LLS) led projects meeting or exceeding their contracted two-year output requirements in riparian revegetation, bank protection and gravel road improvements. Integrated orchard management across 308ha and five demonstration farms under the Clean Coastal Catchment project with the macadamia and blueberry industries have been completed in a collaborative effort between North Coast LLS and DPI Agriculture.

Community engagement challenges due to COVID-19 have impacted some projects, while provided greater participation online in others. Policy related projects, including drainage management, biodiversity offsetting and catchment water quality risk management in the Richmond are all continuing to make significant progress, with ongoing collaboration between agencies and other stakeholders. Most projects are continuing into Stage 2, which enables the completion of any remaining projects (most on-ground expected in July 2020) and maintenance of project momentum, contacts and staff.

Quarterly progress and highlights







A breakdown of progress is outlined below.

Project		Location	Progress
Risk-based framework for waterway health		Richmond River	Final version of Richmond River Water Quality Monitoring Strategy released by DPIE-EES and being implemented by Southern Cross University.
Clean coastal catchments		Lismore, Ballina and Coffs Harbour	The Fertiliser Stewardship Group (FSG) forums moved successfully online with extended interest and additional professionals contributing to the discussion. The May FSG Newsletter was distributed to over 280 professionals. Registered Training Organisation contracted to develop Fertcare accredited course for advisors to the north coast horticultural industry.
Erosion and sediment management		Statewide	Research completed on the current state of erosion and sediment controls utilised by 30 councils across NSW. Gap analysis completed by the Soil Conservation Service evaluating current council controls against industry best practice. Draft model conditions developed by the Soil Conservation Service , including factsheets to aid implementation.
Oyster reef restoration		Statewide; Port Stephens	Project video on oyster reef restoration project produced. Targeted recreational fishing survey on oyster reef restoration knowledge released. Oyster reef mapping criteria technical fact sheet developed. Development of restoration suitability model for NSW coast in progress.

Project		Location	Progress
Riparian vegetation rehabilitation		MidCoast, Ballina, Bega Valley, Eurobodalla, Shoalhaven, Kiama and Wollongong council areas	<p>North Coast Local Land Services (LLS) have worked in the Emigrant Creek catchment to deliver bush regeneration works along 23.5km of stream line protecting 42 Ha of riparian area this financial year.</p> <p>South East LLS has completed another 72 ha of protected vegetation along 18.5 km of stream length, plus 22.7 ha of revegetation. Two short videos have been completed promoting works completed in the Crooked River catchment.</p> <p>31 projects have been completed by Hunter LLS. Once 2 more sites are completed in July, these will have provided protection of 305 ha of wetlands (270 ha estuarine), 153.2 ha of riparian native vegetation protected, 11.6 ha of riparian native vegetation planted (over 6000 tube stock planted), and 53 kms riparian native vegetation protected or enhanced.</p>
Clean coastal catchments		Lismore, Ballina & Coffs Harbour	The Wollongbar Blueberry Nutrition Research Facility was commissioned. Water and nutrient monitoring networks are fully operational on 5 demonstration farms (3 blueberry farms and 2 macadamia farms). Farming technology trials on 2 blueberry demonstration farms fully commissioned. Incentive program of 50 macadamia farms for integrated orchard management to reduce erosion over 308ha completed. 5 blueberry farms received grants to complete on-farm works to improve water, nutrient and erosion management.
Estuary bank protection works		Bega Valley, Eurobodalla, Shoalhaven, MidCoast, Ballina	<p>North Coast LLS have completed an 800m bank protection project in Emigrant Creek. It is estimated that over 600 tonnes of bank material will be conserved annually because of these works.</p> <p>South East LLS have completed two bank protection projects of 530m and 10m in the Bega and Shoalhaven Catchments. An additional 10m of bank protection was contracted on Wapengo Creek.</p> <p>Completed 355m of rock fillets and 65m of revetment in the Wallamba River. This site also included 370 m of fencing plus planting 2,000 native tube stock.</p>
Reducing erosion from roads & tracks		MidCoast,	4.7km of road was surfaced with a substantial number of rock check dams installed and drains rock lined and re-configured on The Branch Lane.

What's next?

Work that is planned to occur in the following quarter is reported below, although unexpected changes to scheduling can occur and will be communicated to affected stakeholders.

Project		Location	Anticipated work
Fish friendly workshops		Statewide	Completion of audits for all remaining North Coast Local Government Area regions. Postponed workshops, dependent on COVID-19 restrictions. Key contacts made with priority Local Government in Central and South region.
Clean coastal catchments		Lismore, Ballina and Coffs Harbour	Fertiliser Stewardship Webinars planned for July, August and September and Newsletter in August. Draft report on findings of Clean Coastal Catchments social marketing approach aiming to change farmer behaviours, to reduce fertilisers (nutrients) leaving the farm. Finalise and pilot Fertcare accredited course for horticultural advisors.
Erosion and sediment management		Statewide	Undertake consultation on model Council erosion and sediment control conditions, seek input and refine proposed conditions. Finalise model conditions in preparation for publication.
Oyster reef restoration		Statewide	Complete the NSW Oyster reef and restoration planning and implementation guide. Receive the historical study report and communicate findings. Close recreational fisher survey, collate results and communicate to the stakeholder community. Deliver additional promotional products.
Wetland restoration		Bellingen, Mid-coast, Shoalhaven	Begin remediation options assessment at Jones Island, Lansdowne River.
Reducing erosion from roads & tracks		Ballina, Shoalhaven, Bega Valley,	North Coast LLS - sealing last outstanding 550m in Emigrant Creek catchment; Ginn St, Erowal Bay; and new site Currumbene. Plan for Stage 2 works.

More information

More information on Initiative 1 projects are on the marine estate web site: [strategy-implementation/water-quality-and-litter](#).

Initiative 2 – Delivering healthy coastal habitats with sustainable use and development







Project summary

Initiative 2 seeks to improve marine habitats as well as foreshore and waterway management through various projects. A multiagency and local government collaborative effort is underway to prioritise rehabilitation works and funding, while providing strategies that facilitate streamlined approvals.

Overall delivery of Initiative 2 has tracked very well with several policies, management strategies and key on-ground works now nearing completion. The increasing cross agency collaboration and coordination has enabled the endorsement of the statewide policy for the Management of Coastal Crown Lands by the Crown Lands Commissioner and the NSW Coastal Design Guidelines prepared for consultation. Significant progress on the Jerrys Plains Fishway and Cookes Weir removal has occurred as well as completion of key macrophyte mapping, sea-level rise modelling and offsetting policies which now enables linkages to be developed with other projects. Minor delays to the completion for some projects are attributed to the initial delay in project commencement and actual recruitment, further compounded by bush fires, fish kills and COVID-19 restrictions providing limited travel and inspection opportunities.









Quarterly progress and highlights

A breakdown of progress is outlined below.

Project		Location	Progress
Coastal design guidelines review		Statewide	Extensive consultation undertaken with councils along the NSW coast with Draft Coastal Design Guidelines now developed for internal consultation.
Coastal Crown Lands policy development		Statewide	Draft statewide policy for the management of coastal Crown Lands endorsed by Crown Lands Commissioner. Guidelines developed to accompany the policy for interpretation and implementation.
Bank management strategies		Statewide / Tweed and Brunswick Rivers	A decision support tool to inform best management practice in bank erosion developed. Two priority estuaries in NSW have been piloted including Tweed River and Brunswick River.
Marine vegetation management strategies		Statewide	Refined an approach to display estuarine vegetation, combining future inundation areas, historic distribution and constraints into a management tool for natural resource managers. This enables a more holistic approach to estuarine vegetation management for large areas and can prioritise areas for protection or ongoing use.
Catchment and floodplain management		Statewide with current emphasis on North Coast	Review of current catchment and flood plain management legislation and approval pathways for a number of scenarios have been identified. The information has informed the development of several options for an improved regulatory framework.
Macrophyte mapping		Statewide	Macrophyte maps completed for Minnamurra River and Jervis Bay. Extent of 2019/2020 bushfire impacts to mangroves and saltmarshes completed for all affected estuaries mapped.

What's next?

Work that is planned to occur in the following quarter is reported below, although unexpected changes to scheduling can occur and will be communicated to affected stakeholders.

Project		Location	Anticipated work
Training wall enhancements		Statewide	Multi-Use and Eco Features Conceptual Guideline completed, including a world-wide literature review and the audit of existing breakwater structures across NSW.
Commercial dredging audit		Statewide	Commercial dredging audit report and recommendations reviewed by internal and external stakeholders and finalised.
Coastal Crown Lands policy development		Statewide	Draft reviewed and endorsed by NSW Coastal Council. Draft Coastal Crown Lands Policy and Guidelines endorsed by Deputy Secretary DPIE-Lands and distributed to relevant Ministers for their respective review and endorsement.
Estuary domestic foreshore structure strategies		Ballina and Byron Shire LGAs	Domestic Foreshore Structure map made available online and booklet for the Richmond River to Coraki and Brunswick River estuary ready for endorsement by the inter-agency working group.
Marine vegetation management strategies		Statewide	Commencement of consultation with authorities regarding the draft marine vegetation safety clearance code. Provision of written report to compile the marine vegetation strategy aims, objectives and, methods document.
Catchment and floodplain management		Statewide with current emphasis on North Coast	Engagement with key stakeholders is expected to resume in Stage 2 in accordance with relevant COVID-19 restrictions.
Restore fish passage		Singleton	Jerrys Plains Weir fishway design complete; tender process held and contractor procured.
Estuarine disturbances mapping		Statewide	Draft interactive webpage showing changes in macrophytes in each NSW estuary ready for internal distribution.

More information

More information on Initiative 2 projects are on the marine estate web site: [strategy-implementation/delivering-healthy-coastal-habitats-with-sustainable-use-and-development](#)



Initiative 3 – Planning for climate change

Project summary

Key projects underway are mapping vulnerable estuarine ecosystems and monitoring rocky reefs, to increase resilience and mitigate the effects of climate change. Data to examine change in rocky reef biota (animal and plant life of rocky reefs) has been collected for a second year to provide a robust baseline from which to measure change. Additional monitoring was completed to examine the roll of periodic cold-water “upwelling” as climate refugia (area of improved survival of cooler water species). Models of current wetland distribution were completed for 110 NSW estuaries. Future sea level rise vulnerability assessments for three scenarios have been completed for all estuaries with significant wetlands north of Sydney.



Quarterly progress and highlights

A breakdown of progress is outlined below.

Project	Location	Progress
Model intertidal wetlands at threat from future sea level rise	 Tweed River to Sydney	Predicted distribution of estuarine wetlands under three sea level rise scenarios completed for all major estuaries north of Sydney.
Monitoring priority environmental assets at risk from climate change	 Statewide Cape Byron/ Smokey Cape	Monitoring of NSW habitat distributions for 2020 has been completed and reporting on any distributional changes commenced. Paper on identified biological indicators that will act as early warning signs of climate-driven changes to NSW’s marine environment published. Data collection on potential refugia for kelp completed and analysis of data commenced.

What’s next?

Work that is planned to occur in the following quarter is reported below, although unexpected changes to scheduling can occur and will be communicated to affected stakeholders.

Project	Location	Anticipated work
Model intertidal wetlands at threat from future sea level rise	 Statewide	Final estuarine community maps will be made publicly available via the NSW Government’s central resource for Sharing and Enabling Environmental Data (SEED) by Dec 2020.
Monitoring priority environmental assets at risk from climate change	 Statewide	Complete reports on any changes to NSW marine habitats, from 2019-2020, and upwelling sites as refugia. Develop species distribution model examining drivers behind current kelp distributions and examining potential distributional changes driven by climate change.

More information

More information on Initiative 3 projects are on the marine estate web site: [strategy-implementation/planning-for-climate-change](#)


Initiative 4 – Protecting the Aboriginal cultural values of the marine estate

Project summary

There are high-risk threats that cumulatively affect Aboriginal cultures and cultural heritage associated with Sea Country. There are also significant knowledge gaps relating to Aboriginal cultural values. Aboriginal people and their cultural values are not yet appropriately represented or engaged in management of the marine estate. Initiative 4 aims to increase the broader community's understanding of Aboriginal Sea Country values. It also aims to increase the economic opportunities and employment for Aboriginal people, as well as increase their ownership and active involvement in managing the marine estate.

Quarterly progress and highlights

A breakdown of progress is outlined below.

Project	Location	Progress
Aboriginal management of Sea Country – cultural values	 Shoalhaven and Eurobodalla	Online curriculum developed for Sea Country School education project (including video series). This will enable primary school students remote access and increase opportunity to learn about Aboriginal culture and values of the marine estate.

What's next?

Work that is planned to occur in the following quarter is reported below, although unexpected changes to scheduling can occur and will be communicated to affected stakeholders.

Project	Location	Anticipated work
Aboriginal management of Sea Country – participation	 Statewide Shoalhaven and Eurobodalla	Commence scoping and implementation of the Aboriginal Engagement Framework for the marine estate. Finalise second round of coxswains training in Southern region.
Aboriginal management of Sea Country – cultural values	 Byron Bay & Coffs Harbour	Develop Arakwal cultural interpretation signage with Cape Byron Marine Park. Develop Yaegl cultural interpretation signage with Solitary Islands Marine Park.
Aboriginal management of Sea Country – cultural values and participation	 Coffs Harbour	Deliver Sea Custodians project with the Gumbaynggirr people and Dolphin Marine Rescue Centre to document local Aboriginal cultural protocols for responses to marine wildlife events such as whale stranding, and to build Aboriginal people's capacity to participate in wildlife responses.
Aboriginal management of Sea Country – management	 Kempsey Shire Statewide	Delivery of South West Rocks Sea Country regeneration project. Implement Stage 2 of the Safe and Sustainable Sea Country Harvest of Bivalve Shellfish for Cultural purposes project.

More information

More information on Initiative 4 projects are on the marine estate web site: [strategy-implementation/protecting-the-aboriginal-cultural-values-of-the-marine-estate](#)

Initiative 5 – Reducing impacts on threatened and protected species

Project summary




Taking action to protect threatened and protected species in the marine estate (for example Humpback whales) by working with the community, partners, industry and government partners to share information and resources to respond to marine wildlife events, undertake monitoring programs and ensure people using the marine estate minimise interactions with threatened and protected marine species.




Preparedness for emergencies continued this quarter with the commencement of the whale migration and increasing numbers of seals. Seven Humpback whale entanglements as well a number of endangered Southern Right Whales coming into coastal embayment's this quarter has kept response teams on high alert. Additional seal signage, dolphin rescue slings and carriers were all produced and delivered to priority coastal locations. COVID-19 restrictions provided opportunity to explore more online and digital content. Dolphin Marine Conservation Park were actively involved online reporting through Elements.

The observer-based monitoring program continues to describe the total number and circumstances of interactions (including the life status at the time of the interaction) between the line fishing sector of the NSW Ocean Trap and Line Fishery and protected, threatened and endangered species. During 80 observed fishing trips from the ports of Brunswick Heads, Ballina, Evans Head, Coffs Harbour, South West Rocks and Forster, no interactions with threatened, endangered or protected species have been recorded.

Quarterly progress and highlights





A breakdown of progress is outlined below.


Project		Location	Progress
Protect and conserve marine wildlife – strategic planning		North Coast	Ongoing monitoring of turtle nests and hatching events with community citizen science program under the Saving Our Species program.
		Statewide	Continued improvements to the Marine Wildlife Management Manual (internal) to guide operational responses to marine wildlife interactions.
Protect and conserve marine wildlife – strategic planning		Statewide	Information on management of deceased whales is now publicly available.
Protect and conserve marine wildlife – partnerships		Statewide	<p>Purchased two alternative satellite tracking buoys for large whale entanglements to trial.</p> <p>Review of gear shortages along the coast resulted in the fabrication of dolphin rescue mats and turtle slings.</p> <p>Training to improve response to wildlife strandings and entanglements were held in Greater Sydney and North Coast NSW.</p> <p>Digital training materials were developed on seal haul outs and shared with key partners and responders.</p>

Project		Location	Progress
Improve reporting of interactions with marine wildlife – data and reporting		North Coast / Statewide	The NPWS online reporting system, Elements, has been expanded to allow groups that help look after injured marine wildlife to record their data. The first group, are now using the system real time to report wildlife being rescued and in care.
Commercial fishing observer program – ocean trap and line		Brunswick Heads to Forster	80 sampling trips completed, totalling 140 to date, from the ports of Brunswick Heads, Ballina, Evans Head, Coffs Harbour, South West Rocks and Forster. No interactions with threatened, endangered or protected species recorded during observed handline and setline fishing trips.
Commercial fishing observer program – reducing threats		Forster to Batemans Bay Statewide	Partnered with OceanWatch Australia to assist NSW fish trawl vessels develop vessel specific seabird management systems to limit interactions. Working alongside OceanWatch Australia and Professional Fishers Association to trial modified gears in the NSW Ocean Trap Line Fishery as a first step to minimising interactions between whales.

What's next?

Work that is planned to occur in the following quarter is reported below, although unexpected changes to scheduling can occur and will be communicated to affected stakeholders.

Project		Location	Anticipated work
Protect and conserve marine wildlife – strategic planning		Statewide	Saving Our Species annual reporting for threatened marine species completed.
Protect and conserve marine wildlife – partnerships		Statewide	First meeting of Marine Wildlife Working Group including initial review of revising Marine Wildlife Management Manual and Memorandum of Understanding with Marine Rescue and DPI– Fisheries.
Protect and conserve marine wildlife: species education		Statewide	Delivery and review of draft online training modules in marine wildlife rescue.
Improve reporting of interactions with marine wildlife – data and reporting		Statewide	Two additional agreements completed with key partners, providing training and access to the Elements marine wildlife emergency response database and reporting system. Review the trials with partners on the use of the Elements database so far and provide access to other partners.

Project		Location	Anticipated work
Commercial fishing observer program – reducing threats		Statewide Brunswick Heads to Batemans Bay	Draft observer prioritisation to inform future observer priorities. This ensures future sampling designs are representative, effective and statistically robust. Analyses of bycatch (non-target species) data collected from the NSW Ocean Prawn Trawl observer program to address threats to Fish assemblages (harvest and bycatch stressors) in the Central and Northern Bioregions.

More information

More information on Initiative 5 projects are on the marine estate web site: [strategy-implementation/reducing-impacts-on-threatened-and-protected-species](#)

Initiative 6 – Sustainable fishing and aquaculture

Project summary





Ensuring viable recreational, Aboriginal and commercial fisheries now and into the future. Enhancing fishing opportunities with fish stocking and installing artificial structures, ensuring best practice across DPI-Fisheries through policy reviews and education programs, and exploring new business opportunities.

Projects under initiative 6 produced meaningful results this quarter despite uncertainty in funding and COVID-19 restrictions. Draft Harvest Strategy Policy and Guidelines have been developed and are the subject of consultation with Ministerial advisory councils, while the team progressed monitoring and assessment research components. Customer focused fishery and aquaculture measures included providing data to prospective aquaculture ventures and stock enhancement. Sustainable harvest improvements included research into seagrass friendly aquaculture and collaborative work with partners to reduce pollution.

Communications and stakeholder relationships remains a high priority across initiative projects and several [website project profile pages](#) were created to assist this effort going forward.

Quarterly progress and highlights




A breakdown of progress is outlined below.

Project	Location	Progress
Harvest strategies (fishing) 	Statewide	<p>Draft Harvest Strategy Policy and Guidelines have been developed and presented to Ministerial advisory councils. Stakeholder working groups are being formed to guide the development of harvest strategies.</p> <p>An inventory of all recreational fishing data sources available to service harvest strategy development in NSW has been completed.</p> <p>New research collaborations to support harvest strategy development with Commonwealth Scientific and Industrial Research Organisation (CSIRO) and University of Tasmania.</p>
Oyster aquaculture: best practice 	Port Stephens	<p>Desktop and fieldwork on research project led by University of NSW examining the impacts of how shading and bio-deposition processes from different oyster infrastructure can affect important seagrass habitat determine how to minimise potential impacts.</p>
Seafood industry training 	Statewide	<p>OceanWatch Australia launched a social media campaign in April, contributing to multiple efforts to promote the Master Fisherman Program and the successful graduates.</p> <p>Master Fisherman Program training modules and assessment materials updated to align with most recent NSW Ocean Trap and Line Fishery Code of Practice for Reducing Whale Entanglements to inform best practice in the field to reduce whale interactions.</p>
Mobile Compliance Squad 	Greater Sydney Region	<p>Officers from the Greater Metropolitan Mobile Squad conducted at least 400 inspections of recreational fishers and shellfish collectors resulting in the issue of 95 written warnings, 62 penalty notices, initiated 8</p>

Project	Location	Progress
		prosecution actions and seized 3460 fish including invertebrates and 17 items of fishing gear.

What's next?

Work that is planned to occur in the following quarter is reported below, although unexpected changes to scheduling can occur and will be communicated to affected stakeholders.

Project	Location	Anticipated work
Harvest strategies (fishing) 	Statewide	<p>Public consultation on Draft Harvest Strategy Policy and Guidelines.</p> <p>Formation of harvest strategy working groups for priority species and progress development of harvest strategies.</p> <p>Progress development and analysis of potential harvest strategies using Fishpath and involving external expert consultation.</p>
Recreational fishing environmental assessment and review of rules 	Sydney	A new TAngler bin project in Sydney with Transport for NSW and a number of Sydney Councils will result in new installations in key fishing locations next quarter.
Fisheries enhancements 	Tweed	Continue preparations to have Tweed offshore artificial reef ready for deployment by end of 2020.

More information

More information on Initiative 6 projects are on the marine estate web site: [strategy-implementation/ensuring-sustainable-fishing-and-aquaculture](#)


Initiative 7 – Enabling safe and sustainable boating

Project summary

Projects are achieving safer and sustainable boating by developing new mooring technology to minimise seagrass impacts, improving infrastructure including boat ramps and navigational aids, and delivering education campaigns to reduce environmental impacts.


Quarterly progress and highlights

A breakdown of progress is outlined below.

Project		Location	Progress
Safe and sustainable boating		Statewide	Assessment of applications received for round three of the Boating Now Program has been completed.

What's next?

Work that is planned to occur in the following quarter is reported below, although unexpected changes to scheduling can occur and will be communicated to affected stakeholders. The below list is not exhaustive.

Project		Location	Anticipated work
Safe and sustainable boating		Statewide	Announcement of successful projects from round three of the Boating Now Program totalling up to \$28 million.

More information

More information on Initiative 7 projects are on the marine estate web site: [strategy-implementation/enabling-safe-and-sustainable-boating](https://www.marineestate.com.au/strategy-implementation/enabling-safe-and-sustainable-boating).




Initiative 8 – Enhancing social, cultural and economic benefits

Project summary

This initiative has a major research and monitoring component, working with research institutions and government agencies to increase understanding of how we all use and value the marine estate, to maximise community benefits. A monitoring and evaluation framework has been developed to measure the effectiveness of the Strategy as it aims to achieve better social, cultural, economic and environmental outcomes for the community.



Quarterly progress and highlights

A breakdown of progress is outlined below

Project		Location	Progress
Marine education strategy		Statewide	Marine Estate Education Strategy drafted and reviewed internally.
Community wellbeing monitoring program		Statewide	Community wellbeing framework illustration completed. Final draft of coastal resident and visitor questionnaire to undergo cognitive testing. Cultural and heritage working group conducted and data for cultural indicators collected in accordance with the Marine Integrated Monitoring Program (MIMP).
Resource use management and activity mapping		Statewide	Marine Estate Activity Mapping (MEAM) metadata database and data portal specifications completed to capture data on human uses in the marine estate.

What's next?

Work that is planned to occur in the following quarter is reported below, although unexpected changes to scheduling can occur and will be communicated to affected stakeholders.

Project		Location	Anticipated work
Marine education strategy		Statewide	Targeted consultation with key local government educators, Aboriginal organisations and other relevant environmental educators to review the draft NSW Marine Estate Education Strategy.
Community wellbeing monitoring program		Statewide	Draft Public Community wellbeing framework and community wellbeing indicator report. Community wellbeing data for coastal residents, visitors, and marine estate agency staff collected. Complete community consultation for the Aboriginal people's survey. Seek ethical clearance for the Sea Country (marine estate) community wellbeing survey.

More information

More information on Initiative 8 projects are on the marine estate web site: [strategy-implementation/enhancing-social,-cultural-and-economic-benefits](#)


Initiative 9 – Delivering effective governance

Project summary

This initiative ensures good governance and project management processes are in place, enabling a coordinated approach to deliver the range of projects under way in the Strategy. Initiative 9 has made significant progress during quarter 4, with an increase in adoption of systems and process for project and risk management and reporting. Work has now also commenced to formally close Stage 1 projects and systems and processes established to prepare for commencement of Stage 2 implementation.


Quarterly progress and highlights

A breakdown of progress is outlined below.

Project		Location	Progress
Strategy governance and project management		Statewide	<p>Ongoing project management support provided across all Strategy agencies. Risk assessments, rescheduling and reprioritising in response to impacts of extreme events (fires, floods, drought, COVID-19).</p> <p>Released Strategy Quarter 2 and 3 snapshots via Marine estate website.</p> <p>Preparation of project management and reporting for Stage 2.</p>

What's next?

Work that is planned to occur in the following quarter is reported below, although unexpected changes to scheduling can occur and will be communicated to affected stakeholders.

Project		Location	Anticipated work
Strategy governance and project management		Statewide	<p>Update communications and engagement material for Stage 2.</p> <p>Finalise the Stage 2 Strategy Implementation Plan.</p>

More information

More information on Initiative 9 projects are on the marine estate web site: [strategy-implementation/delivering-effective-governance](#)

Appendix A – List of abbreviations

Abbreviation	Definition
Authority	Marine Estate Management Authority
COVID-19	Coronavirus
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DPI-Agriculture	Department of Primary industries - Agriculture
DPI-Fisheries	Department of Primary Industries – Fisheries
DPIE-EES	Department of Planning, Industry and Environment – Environment, Energy and Science
DPIE-Lands	Department of Planning, Industry and Environment – Crown Lands
DPIE-Planning	Department of Planning, Industry and Environment – Planning and Assessment
DPIE-Water	Department of Planning, Industry and Environment – Water
FSG	Fertiliser Stewardship Group
GIS	Geographic Information System
Knowledge Panel	Marine Estate Expert Knowledge Panel
LGA	Local Government Area
LLS	Local Land Services
MASC	Marine Estate Agency Steering Committee
MEAM	Marine Estate Activity Mapping
MEMS	Marine Estate Management Strategy
MIMP	Marine Integrated Monitoring Program
MoU	Memorandum of Understanding
NPWS	DPIE- EES: National Parks and Wildlife Service
NSW	New South Wales
RRWQMS	Richmond River Water Quality Monitoring Strategy
SEED	Sharing and Enabling Environmental Data
SEPP	State Environmental Planning Policy
Strategy	Marine Estate Management Strategy

Abbreviation	Definition
TARA	threat and risk assessment
TfNSW	Transport for NSW
WRL	Water Research Laboratory
QLD	Queensland

Appendix B – Key actions the Strategy will deliver



Figure 1. Map illustrating the spatial extent of the Strategy projects by local government area.

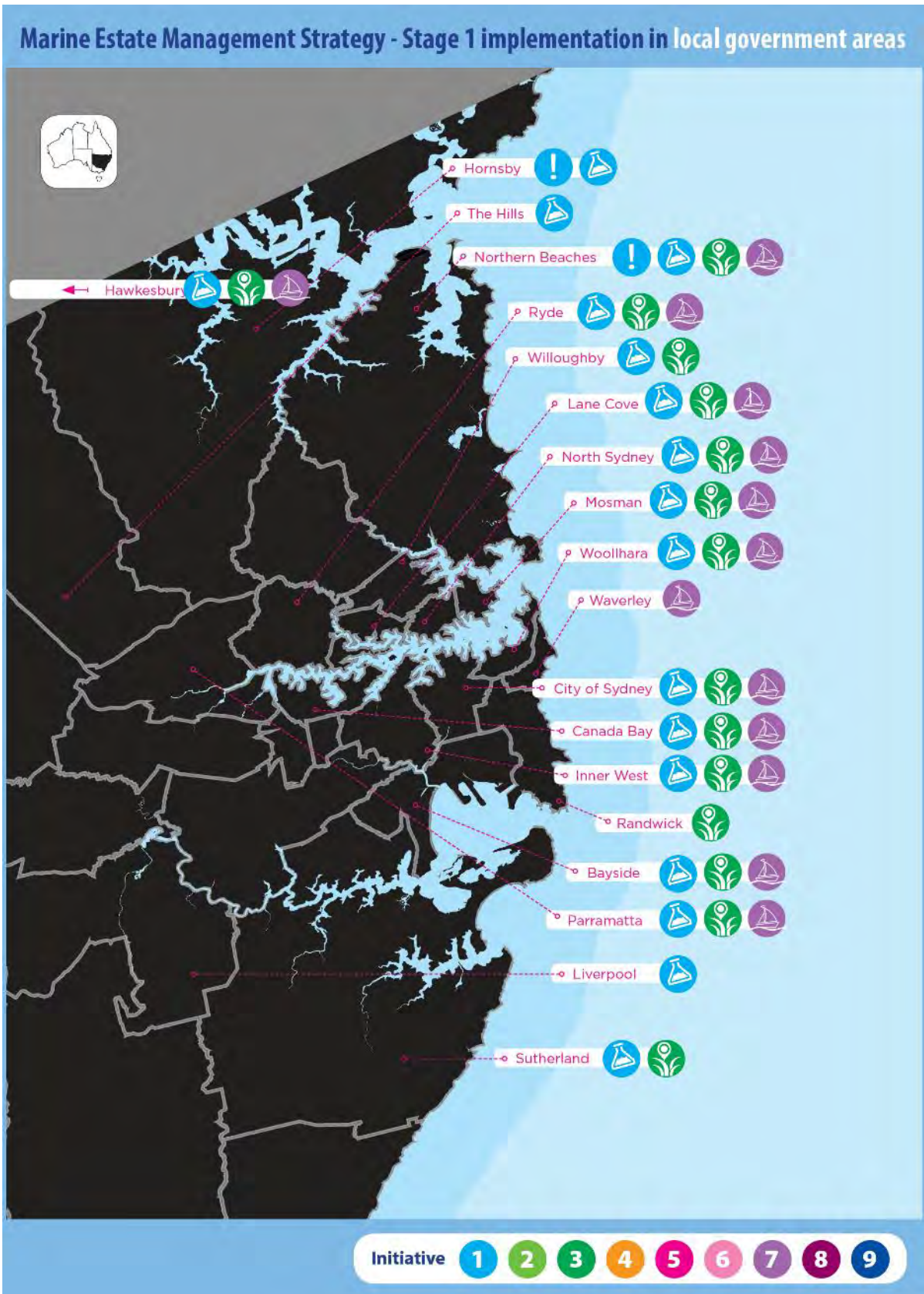


Figure 2. Map illustrating the spatial extent of the Strategy projects in the Greater Sydney area.



Figure 3. Strategy project icons that are being implemented in specific areas.



Figure 4. Statewide Strategy projects that are not specific to an area.

Appendix C – Communication and engagement

Communication and engagement with a wide variety of stakeholders and the community about the Strategy was challenged this quarterly reporting period due to COVID-19 restrictions. A number of engagement activities and their related projects have been delayed into Stage 2 as a result. Key communication and engagement activities are listed below:

Table 1. Communication and engagement with stakeholders during the quarter 1 April – 30 June 2020

Date	Stakeholder	Activity	Initiative	Communication and engagement
April	NSW community	Media release	1	Shellfish Reef Restoration Survey Recreational Fishing Community
			4	Applications Close Soon - Support for Aboriginal cultural fishing and economic development
			1	Blueberry trials soon to expand into new greenhouse site
			5	eNewsletter - Marine Estate Management Authority - April 2020-2020
				Five-star seahorse hotels open in Sydney
				Marine estate benefits from Aboriginal knowledge and expertise
				Looking for new life on artificial oyster reefs
				Brains trust meets to discuss breakwaters
Farm projects help create a cleaner water catchment				
Volunteers remove tonnes of waste from Dowadee Island				
5	Successful rescue operation saves a shark's eyesight			
May	NSW community	Media release	7	Environmental win worthy of celebration: YM Efficiency container retrieval success
			1	Oyster Reef Restoration Pilot Builds One Hectare of Habitat
			6	Calls for applications for Total Allowable Fishing Committee
			7	NSW coastal communities on high alert for debris and containers
			7	Five shipping containers wash ashore near Norah Head
			6	Six illegal fishers apprehended on NSW Central Coast

Date	Stakeholder	Activity	Initiative	Communication and engagement
	NSW community	Media release	7	Scale of container clean up expands
	NSW community	Newsletter	1	Fertiliser Stewardship Group Newsletter
	NSW community	Media release	8	NSW 'living museum' celebrates milestone achievement (Long Reef Aquatic Reserve)
June	NSW community	Media release	6	Harvest strategies to drive NSW fishing management decisions
	NSW community	Media release	7	Hazardous weather impacts NSW coastline but does not hamper clean up effort
	NSW community	Media release	6	Fishing in Sanctuary Zones not tolerated
	NSW community	Media release	7	Coastal flights to determine effects of this week's wild weather on containers and debris
	NSW community	Media release	5	Two hundred sea turtle hatchlings cause for shellebration
	NSW community	Media release	5	Critically endangered shorebirds at risk from off-leash dogs in Byron Shire
	NSW community	Media release	6	\$9 million to support NSW Seafood Industries
	NSW community	Marine estate news		eNewsletter - Marine Estate Management Authority - June 2020
			5	Research finds NSW commercial fishing is seabird-friendly
			2	Restoring natural water levels to Tomago Wetlands
			3	Researchers find climate change indicators