



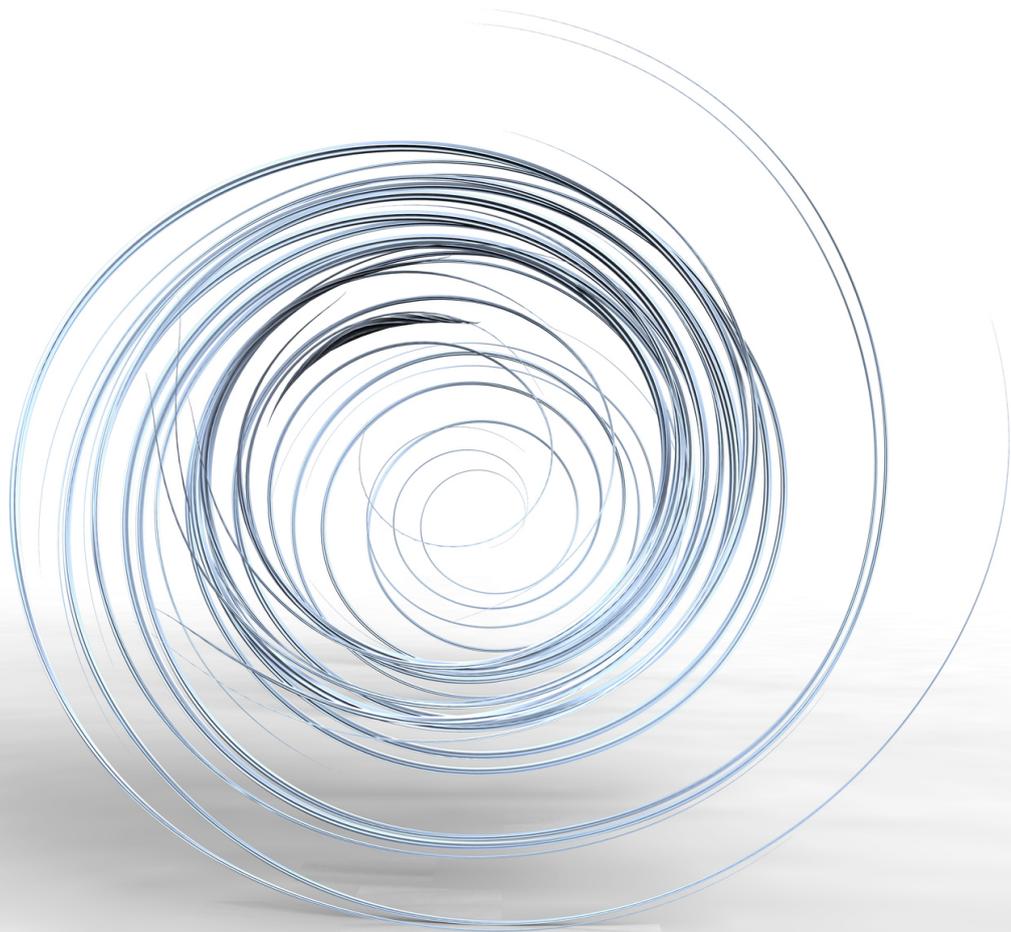
MARINE ESTATE MANAGEMENT STRATEGY

Quarterly snapshot

Reporting period – Year 3, Quarter 3 (January – March 2021)

MARINE ESTATE MANAGEMENT AUTHORITY

INT21/56516



Aboriginal people are the Traditional Owners
of the NSW marine estate and have a
continuing connection to their
Land and Sea Country



Image 1: Meeting place. Image: iStock.com-Kira_

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Part A: Strategy snapshot

Reporting period

Year	Quarter	From	To
3	3	1 January 2021	31 March 2021

Purpose of this snapshot

The purpose of this snapshot is to provide key stakeholders and the community with regular progress updates on the implementation of the Marine Estate Management Strategy (the Strategy). This snapshot includes updates on notable project highlights and informs stakeholders of planned deliverables in the third quarter, Year 3.

This snapshot should be read in conjunction with the [Strategy Implementation Plan](#).

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. Additionally, program management, monitoring, reporting and evaluation is an overarching component of the Strategy to provide assurance to the community and stakeholders that the program is implemented and monitored effectively and in a coordinated, integrated and transparent way.

Collectively, the initiative projects will improve water quality, reduce marine litter, improve the health of coastal habitats, reduce threats to marine wildlife, ensure sustainable foreshore development, fishing and aquaculture, promote safe and sustainable boating, prepare for climate change and protect the Aboriginal cultural values of the marine estate.

Detailed information on the Marine Estate Management Strategy is available [online](#) and should be referred to when reading this document.

Program highlights this quarter

There are over 100 projects underway in 2020/2021 and good progress has occurred throughout the Program. In the quarterly snapshot we focus on some of the most notable achievements as well as key challenges. The majority of updates provided in the report are found in initiatives 1 and 2 as over half of Strategy funding is devoted to the highest priorities of improving water quality and ensuring sustainable use and development of our marine estate, addressed by these initiatives respectively.

Significant work has been achieved this quarter across the nine initiatives in the Strategy. Key highlights this quarter show on-ground works to address water quality are progressing, we continue to build capacity and engage with our stakeholders, and extensive research and monitoring continues. More information on each of the nine Strategy Initiatives and their projects can be found by visiting the [Marine Estate website](#), or by signing up to the marine estate newsletter through the link on this [page](#).

The highlights this quarter for each initiative are numerous; a selection of six highlights illustrating the breadth of work and accomplishments achieved this quarter are below.

Project	Project icon	Highlights
Riverbank vegetation improvements		<p>North Coast Local Land Services (LLS) - Seven landholder agreements in place. Over 1,600 trees planted. 3.92ha of bush regeneration along 1.87km work completed including 0.26ha of protective fencing. Completed maintenance works of 58.95ha over 33km. Contractor engagement for ongoing maintenance works for 2021/2022 is underway.</p> <p>South East LLS – Eleven landholder agreements are in place and site preparation and fencing has commenced.</p> <p>Hunter LLS – Three landholder agreements in place and on-ground work commenced. This will see over 13km of stream bank protected.</p> <p>Taree Indigenous Development and Employment (TIDE) and Midcoast Council engaged to deliver maintenance of weed control and riparian rehabilitation work.</p>
Marine litter campaign		Launched the Marine litter campaign in February 2021.
Elders as mentors		Launched the Elders as Mentors project with an on-Country meet and greet day at Batemans and Jervis Bay marine parks. Approximately 50 Elders were in attendance.
Partnerships to protect marine wildlife		Greater Sydney Branch training days for large whale disentanglement and general marine wildlife event preparedness were held with DPIE, external stakeholders including Gamay Rangers, ORRCA and Sydney Sea Life.
Community wellbeing framework		The fieldwork was completed for the NSW coastal residents and visitors' surveys, with over 3,300 participants, to monitor the ways people benefit from the marine estate and impacts to these benefits.
Better geographic information systems (GIS) for the marine estate		<p>The DPI Key Fish Habitat dataset was made available for public download through the Fisheries Spatial Data Portal. Key Fish Habitat is a core dataset for several MEMS initiatives.</p> <p>Completed remnant Oyster Reef Mapping including field surveys for Botany Bay and Georges River.</p> <p>Collated available bathymetry and processed newly acquired data to inform the Offshore Artificial Reefs project (southern region).</p>

Part B: Initiative summaries

Initiative summaries include updates on notable project highlights from the reporting quarter as well as what is planned for next quarter. A full update on all projects is reported in the [Strategy's Implementation Annual Report](#). For more information on the location of projects refer to the [Strategy Implementation Plan](#) or [Strategy project locations map](#) on the [marine estate website](#).

Initiative 1 – Improving water quality and reducing litter

Project summary

A wide range of projects coordinated by several collaborative government agencies are underway to improve water quality, reduce litter and manage diffuse water quality issues across coastal areas draining to the marine estate. Water pollution was identified as the greatest threat to the marine estate.

Several on-ground works have commenced this quarter, although recent flooding caused delays, particularly in the Hunter region. Local Land Services (LLS) monitoring to measure changes/benefits from works and maintenance is underway. Oyster reef restoration work continues in the Hunter region with one site now complete. Workshops for Fish Friendly Councils continues to build capacity with local councils.

Quarterly progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Review of the NSW Water Quality Objectives		DPIE-EES	Statewide	Survey on community values completed and data now being incorporated into mapping products.
Coastal floodplain study		DPI-F	Northern NSW	Coastal floodplain study draft reports circulated to participating local government and agencies. Water Research Laboratory (WRL) communication plan is in development.
Fish friendly workshops for councils		DPI-F	Northern NSW Statewide	Facilitated five fish friendly council workshops across Northern NSW. Additional quality educational videos are in production to ensure best practice on construction works for erosion and sediment control to assist local governments to understand their obligations when working near waterways. Over 135 audits of Fisheries Management Act permits issued for works in waterways completed across 12 local government areas.
Oyster reef restoration		DPI-F	Statewide	NSW Shellfish Reef Restoration Project Planning and Implementation Guidelines were endorsed by the Marine Estate Management Authority. The guidelines will be released at the International Conference on Shellfish Restoration in April 2021. On-ground works expanding the Post Stephens oyster reef restoration site got underway in February, with completion expected in May.

Project	Project icon	Lead agency	Location	Progress
				Site inspections completed at Merimbula, Wagonga and Twofold Bay and site development is progressing.
Clean coastal catchments research		DPI-Ag	South Coast, Ballina, Ourimbah Statewide	The livestock component of the project was launched on the South Coast. Creation of a Livestock Fertiliser Stewardship Group (FSG) was endorsed and will collaborate quarterly. Tilba Tilba Lake livestock on-farm demonstration water quality and quantity monitoring site was established and water sampling is occurring. Clean Coastal Catchments results showcased online and within industry publications.
Riverbank vegetation improvements		LLS	Ballina, Midcoast, Shoalhaven, Bega Valley, Eurobodalla	North Coast - Seven landholder agreements in place. Over 1,600 trees were planted. 3.92 ha of bush regeneration along 1.87 km work completed including 0.26 ha of protective fencing. Completed maintenance works of 58.95 ha over 33 km. Contractor engagement for ongoing maintenance works for 2021/2022 is underway. South East – Eleven landholder agreements are in place and site preparation and fencing has commenced. Hunter – Three landholder agreements in place and on-ground work commenced. This will see over 13 km of stream bank protected. Taree Indigenous Development and Employment (TIDE) and Midcoast Council engaged to deliver maintenance of weed control and riparian rehabilitation work.
Clean coastal catchment works		LLS	Coffs Harbour, Clarence Valley, Bega Valley, Eurobodalla	North Coast LLS – 17 applicants received a Hort360 assessment of their blueberry / vegetable farms. South East LLS – Six landholder agreements are now in place on dairy and beef properties, with another one in development for improved property management. Fencing work has commenced and revegetation planning is underway.
Riverbank stabilisation		LLS	Kiama, Eurobodalla, Midcoast, Ballina	North Coast – Approvals have been received and 35 out of 100 log bank protection structures have been completed. Hunter – Design works and permit applications are in progress with Soil Conservation Service.
Coastal wetland rehabilitation		DPI-F	Midcoast, Tweed, Kempsey, Shoalhaven	Wetland rehabilitation work is continuing with Tweed Shire Council in Christies Creek. Planning is underway to monitor Clybucca Wetland

Project	Project icon	Lead agency	Location	Progress
				and assess Kinchella Swamp. Engagement with Shoalhaven Council for a project on the Crookhaven River and preparing to engage a consultant to deliver works on council and private property.
Improving roads and tracks		LLS	Shoalhaven, Bega Valley, Midcoast, Ballina	North Coast – Two road improvement projects were completed this quarter. South East – Agreements are in place for five sites with Bega Valley Shire Council, Shoalhaven Council and NPWS.
Marine litter campaign		DPIE-EES	Statewide	Launched the Marine litter campaign in February 2021.
Marine Debris Working Group		DPIE-EES	Statewide	Results of the marine debris threat and risk assessment (TARA) are being finalised by University of New South Wales (UNSW).

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	Project icon	Lead agency	Location	Anticipated work
Fish friendly councils		DPI-F	Byron, Tweed, Lismore, Kyogle Statewide	Complete four additional fish friendly council workshops. Complete fish friendly council videos on erosion and sediment control, remediation orders temporary crossings and dewatering.
Construction sediment management		DPIE-PA	Statewide	Publish erosion and sediment control conditions online, followed by a best practice guide to assist implementation.
Oyster reef restoration		DPI-F	Port Stephens	Host International Conference on Shellfish restoration . Finalise Port Stephens on-ground works.
Riparian vegetation		LLS	Bega Valley, Shoalhaven, Eurobodalla, Ballina, Midcoast	North Coast – Complete on-ground works and monitoring program. South East and Hunter – Continue to develop and finalise remaining agreements to commence site preparation for planting.
Clean coastal catchment works		LLS	Coffs Harbour, Clarence Valley, Bega	South East – continue to engage with landholders to monitor progress of on-ground works. North Coast – Complete irrigation assessments. Allocate seven funding grants to selected

Project	Project icon	Lead agency	Location	Anticipated work
			Valley, Eurobodalla	applicants.
Clean coastal catchments research		DPI-Ag	Eurobodalla, Bega Valley Coffs Harbour, Ballina	Pilot Fertcare agronomist training workshop on North Coast. Complete irrigation assessment reports and provide to producers. Industry training with growers in Coffs Harbour area and at the blueberry research facility at Wollongbar.
Riverbank stabilisation		LLS	Kiama, Eurobodalla, Manning, Ballina	North Coast– Complete bank stabilisation work and baseline monitoring. South East and Hunter LLS – Commence on-ground works and continue monitoring.
Improving roads and tracks		LLS	Shoalhaven, Bega Valley, Midcoast, Ballina	North Coast - Complete sealing of final road site. South East– Complete on-ground works and commence monitoring.
Marine Debris Working Group		DPIE - EES	Statewide	Receive final report from University of NSW summarising threats and risks posed by marine debris.
Estuarine water quality monitoring		DPIE- EES	Statewide	Continue annual sampling for estuary water quality and health.

More information

More information on Initiative 1 projects are on the marine estate web site [here](#).

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

Project summary

Initiative 2 seeks to improve coastal and 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 is progressing well with some key strategies and guidelines developed and commencing or nearing consultation. This includes consultation with 11 coastal Councils to discuss key issues with the current regulatory approval processes for coastal floodplain drainage management.

Significant seagrass, mangrove and saltmarsh mapping has been achieved with updated mapping completed for priority estuaries and the now automated process of mapping of artificial structures and disturbances. Work is also underway on analysing a large underwater video data set to produce maps of reef fish assemblages throughout the Greater Sydney region.

Quarterly progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Coastal design guidelines review		DPIE-PA	Statewide	Guidelines reviewed by targeted internal stakeholders, including MEMS agency partners and targeted coastal councils.
Domestic waterway structure strategies		DPI-F	Richmond Valley, Byron	Domestic Waterfront Structure Strategies and associated mapping finalised by MEMS agency partners and completed documents to be published.
Mapping seagrass, mangrove and saltmarsh		DPI-F	Statewide	Data dashboard with all DPI estuarine mapping being trialled internally prior to release to the public.
Innovative technology research		DPI-F	Greater Sydney, Midcoast, Port Stephens	Deep learning has been applied to four estuaries. Mangrove (<i>aegiceras</i> and <i>avicennia</i> sp.) spectral signatures have been developed as well as saltmarsh habitats.
Threats to estuarine vegetation		DPI-F	Greater Sydney, Central Coast, Port Stephens	Artificial structures mapped in Botany Bay, Brisbane Water and Port Stephens.
Subtidal reef monitoring		DPI-F	Greater Sydney	Submission of a draft scientific paper on assessing habitat associations and multiple stressors on the distribution of pink snapper along Australia's most populated coastline to Estuarine, Coastal and Shelf Science.

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	Project icon	Lead agency	Location	Anticipated work
Coastal design guidelines review		DPIE-PA	Statewide	Complete the final draft for exhibition and prepare communication materials for exhibition.
Domestic waterfront structure strategies		DPI-F	Statewide	Publish an audit of trained river entrances, armoured harbours and groynes and their multi-use and eco features in NSW.
Marine vegetation strategies		DPI-F	Ballina	Co-hosting the Australian Mangrove and Saltmarsh Network conference in Ballina in August 2021.
Marine vegetation strategies		DPI-F	Richmond Valley, Wollongong	Domestic Waterfront Structure Strategies and associated mapping finalised by MEMS agency partners and completed documents to be published.
Subtidal reef monitoring		DPI-F	Greater Sydney region	Finalisation of maps of reef fish assemblages across Greater Sydney region.

More information

More information on Initiative 2 projects are on the marine estate web site [here](#).

Initiative 3 – Planning for climate change

Project summary

Initiative 3 aims to incorporate climate change impacts into adaptation planning, strategies and decision making. Progress is being made to monitor and report on the ongoing and likely effects of climate change in the NSW marine estate. The aim is to fill knowledge gaps in climate change impacts. Improving our knowledge of climate change impacts contributes to increasing the capacity of coastal and marine managers and communities to anticipate climatic impacts.

Two new projects commenced this quarter and progress will be reported as research gets underway to investigate climate impacts on mangrove and saltmarshes, identify the scope for developing adaptation responses for key values in the marine estate, and support managers to identify climate risks and responses.

Monitoring and research is improving scientists understanding of the impacts of climate change on the marine estate. Baseline data is being collected for the third year on rocky reef biota and has formed the basis of new scientific publications.

Quarterly progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Climate change monitoring		DPI-F	Statewide	Monitoring at 12 of the 19 sites in the 2021 fieldwork plan for NSW statewide habitat monitoring has been completed. Modelling of the future impacts of climate change on kelp distributions along the NSW coast has been completed and is being prepared for publication.

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	Project icon	Lead agency	Location	Anticipated work
Climate change monitoring		DPI-F	Statewide	Collection of 2021 habitat and fish assemblage data in NSW will be completed. Monitoring data from the 2019 and 2020 statewide habitat monitoring programs upload to a public web portal.
Climate change citizen science		DPI-F	Statewide	Maintenance and communication of Redmap website and smartphone application.

More information

More information on Initiative 3 projects are on the marine estate web site [here](#).

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 the 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.

Engagement of local Aboriginal people and communities was a focus for this quarter. The Elders as Mentors project was launched at two south coast locations and will be expanded across other locations in the next quarter. Significant investment by Parks Australia (Federal Government) enabled expansion of the Sea Country education project. The project was piloted on the South Coast in 2020. Additional funds will see the project expanded to the Solitary Island Marine Park (Yaegl Nation) and Port Stephens Great Lakes Marine Park (Worimi Nation). Online resources have been developed for the South Coast project.

Quarterly progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Elders as mentors		DPI-F	Byron, Coffs Harbour, Port Stephens, Shoalhaven, Eurobodalla and Bega	Launched the Elders as Mentors project with an on Country meet and greet day at Batemans and Jervis Bay marine parks. Approximately 50 Elders were in attendance.
Reviving culture		DPI-F	Statewide	Secured additional funding from Parks Australia to extend the Sea Country school education program with the Worimi and Yaegl nations.

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	Project icon	Lead agency	Location	Anticipated work
Sea country rangers		DPI-F	Nambucca Heads LGA	Monitor progress of the Clean River Sea Country project.
Elders as mentors		DPI-F	Mid North Coast, North Coast	Expand Elders as Mentors meet and greet days to Cape Byron, Solitary Islands and Port Stephens Great Lakes marine parks.
Pipi harvest		DPI-F	Tweed Heads, Byron Bay, Ballina, Yamba/Maclagan, Port	Commence community consultations across several NSW coastal areas.

Project	Project icon	Lead agency	Location	Anticipated work
			Macquarie/Hastings, Port Stephens and Shoalhaven	

More information

More information on Initiative 4 projects are on the marine estate web site [here](#).

Initiative 5 – Reducing impacts on threatened and protected species

Project summary

Taking action to protect threatened and protected species in the marine estate 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.

This quarter has focussed on finalising and progressing arrangements and partnerships, training events, and animal response. Quarter three was peak turtle nesting along the northern NSW coastline. An unusual mortality event was witnessed in beaked whale in NSW with a focus on post-mortem and sampling in collaboration with partners. MEMS has facilitated significant improvements in response.

Field based observations continued, and historical observer and fishery data analysis to examine and understand ways to mitigate threats and risks to fish assemblages and threatened and protected species resulting from commercial fishing operations.

Quarterly progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Planning to protect marine wildlife		NPWS	Statewide	<p>Significant update of the Marine Wildlife Management Manual to improve marine wildlife response for release next quarter.</p> <p>Updated the Interagency Whales Entering Sydney Harbour, Ports and River Operations Procedure.</p> <p>Marine wildlife operations community of practice meetings held with NPWS Program and Operations Branches staff involved in marine wildlife response.</p>
Partnerships to protect marine wildlife		NPWS	Greater Sydney	<p>Whale disentanglement and marine wildlife event preparedness held with staff and Gamay Rangers, ORRCA and Sydney Sea Life.</p> <p>Taronga Conservation Society delivered seal training for 34 NPWS staff.</p> <p>Facilitated sampling and investigation of Beaked Whale mortality event including collaboration with Dolphin Marine Rescue, Australian Registry for Wildlife Health, Australian Antarctic Division, Wildlife Health Australia and interstate conservation agencies.</p>
Education to protect and conserve marine wildlife		NPWS	Greater Sydney	<p>Assessed seal colony at Barrenjoey Head to assess impact on visual amenity of a proposed compliance sign.</p> <p>Signs produced as part of a trial for temporary use on pontoons and public spaces deployed to address ongoing seal haul outs.</p>

Project	Project icon	Lead agency	Location	Progress
Improve reporting of interactions with marine wildlife		NPWS	Statewide	Improvements are being made to the online wildlife reporting system, Elements, based on feedback provided. Rehabilitation group data prepared for import into Elements.
Ocean Trap and Line Fishery observer survey		DPI-F	Statewide	33 observed sea days completed. 2020/2021 sampling now completed 115 observed sea days. To date, a total of over 250 observed sea days have been completed.
Strategies for mitigating species interactions		DPI-F	Statewide	Participated in a whale entanglement workshop with NPWS partners. Workshop facilitated by OceanWatch Australia and Professional Fishers Association.

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	Project icon	Lead agency	Location	Anticipated work
Planning to protect marine wildlife		NPWS	Statewide	Publish the updated NPWS Marine Wildlife Management Manual on public website. Deliver statewide workshop to develop an Operating Model for marine wildlife response. Develop Coastal Management Program technical documents for marine species for use by MEMS staff and councils. Deliver training for marine wildlife response and large whale disentanglement training. EOI closes for grants to support wildlife rescue and rehabilitation groups to improve outcomes for threatened and protected species.
Partnerships to protect marine wildlife		NPWS	Statewide	Deliver additional marine preparedness days on the North Coast, Hunter Coast and Far South Coast.
Education to protect and conserve marine wildlife		NPWS	Greater Sydney	Finalise seal approach distance signs for foreshores. Launch Southern Right Whale ID - using drones for citizen science.
Improve reporting of interactions with marine wildlife		NPWS	Statewide	Import rehabilitation dataset to Elements improving overall records by over 50% to improve conservation planning.

Project	Project icon	Lead agency	Location	Anticipated work
wildlife				
Observer survey prioritisation		DPI-F	Statewide	Finalise prioritisation of the NSW commercial fisheries scientific observer program report.
Ocean Trap and Line Fishery observer survey		DPI-F	Statewide	Complete 25 observed-sea days.
Estuary General Fishery observer survey		DPI-F	Statewide	Submit manuscript summarising project findings to peer-reviewed journal for publication.

More information

More information on Initiative 5 projects are on the marine estate website [here](#).

Initiative 6 – Sustainable fishing and aquaculture

Project summary

This initiative aims to deliver viable recreational, Aboriginal and commercial fisheries now and into the future. Actions include enhancing fishing opportunities with fish stocking and installing artificial structures, ensuring best management practice through policy reviews and education programs, and exploring new business opportunities.

Significant achievements to ensure sustained health in fisheries and the marine environment while promoting business growth in fishing and aquaculture sectors. Harvest strategies for key fisheries and species are progressing with Policy and Guidelines in final review and several representative working groups providing valuable input to the development of robust management measures. Ethical angling and responsible fishing methods are being promoted across NSW while enhancement programs continue to replenish and build important recreational stocks. Biosecurity awareness surveys are complete and project leads are working to deliver novel approaches to understanding why accidents occur and minimising risk by influencing good behaviour through education.

Quarterly progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Harvest strategy development		DPI-F	Statewide	<p>Consultation on the draft Policy and Guidelines completed.</p> <p>The Trawl Whiting harvest strategy working group held another two meetings, finalised its preliminary advice to Fisheries Management and agreed on a target reference point.</p>
Harvest strategy research		DPI-F	Statewide	<p>Developed preliminary harvest strategy research components through collaboration with CSIRO for Eastern School Whiting, Silver Trevally, Pipi, Spanner Crab, Mulloway, Yellowtail Kingfish and Abalone.</p> <p>Completed a review of available data sources for recreational fisheries in NSW with University of Tasmania (UTas) to develop performance indicators. Initial focus is on Yellowtail Kingfish and Bream.</p>
Recreational fishing environment assessment		DPI-F	Statewide	<p>Livestream The Fishing Stream events held at local tackle shops highlighting Kingfish and responsible family fishing for Easter and reaching thousands of viewers.</p>
Best practices in oyster aquaculture		DPI-F	Statewide	<p>Preliminary review of NSW Oyster Industry Sustainable Aquaculture Strategy undertaken prior to the NSW Aquaculture Steering Committee (a whole of government entity) to undertake a review of the document.</p>
Wild catch fish stocks		DPI-F	Statewide	<p>Industry consultation and stock assessment reports completed for hand gathering quota managed species. For more information visit Status Reports.</p>

Project	Project icon	Lead agency	Location	Progress
Fisheries enhancements		DPI-F	Shoalhaven	Approximately 50,000 juvenile dusky flathead released into St Georges Basin, Lake Conjola and Burrill Lake Recreational Fishing Havens. 25,000 fingerlings were released into St Georges Basin and 14,000 fingerlings into both Lake Conjola and Burrill Lake.

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	Project icon	Lead agency	Location	Anticipated work
Harvest Strategy development		DPI-F	Statewide	<p>Consultation with advisory councils on Policy and Guidelines.</p> <p>Trawl Whiting working group meetings to seek agreement on additional elements of harvest strategy.</p> <p>Lobster meeting to review draft harvest strategy.</p> <p>Circulate Expression of Interest for membership of the Mulloway Harvest Strategy Working Group.</p>
Harvest strategy research		DPI-F	Statewide	Progress identification and prioritisation of recreational fishing objectives developed in NSW Recreational Fishing Research projects.

More information

More information on Initiative 6 projects are on the marine estate web site [here](#).

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	Project icon	Lead agency	Location	Progress
Marine pollution legislation		TfNSW	Statewide	The Marine Pollution Amendment (Review) Bill 2021 has passed Parliament with amendments on 18 March 2021 and has been given Assent by the Governor and commenced on 26 March 2021.
Mooring strategy		TfNSW	Statewide	Since its launch in November 2020, over 900 applications received up to the end of March 2021 for available and priority wait list mooring areas through Transport for NSW Moorings .
Recreational boater education		TfNSW	Statewide	An updated Boating Handbook was published to make boating rules and regulations clearer for boaters.
Review of offshore anchoring		DPI-F	Wollongong	Collection of 90% of the underwater video surveys to assess large commercial vessels anchoring impacts.

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	Project icon	Lead agency	Location	Anticipated work
End of Life Vessels		TfNSW	Statewide	Development of a policy options paper is underway, to enhance the management of End of Life Vessels over the short, medium and longer term.
Review of offshore anchoring		DPI-F	Wollongong	Preliminary analysis of possible effects of large ships anchoring on reef biodiversity.

More information

More information on Initiative 7 projects are on the marine estate web site [here](#).

Initiative 8 – Enhancing social, cultural and economic benefits

Project summary

This initiative has a major education, research and monitoring component, working with institutions and government agencies to increase understanding of how we all use and value the marine estate, to maximise community benefits.

Key pieces of work such as the Marine Estate Education Strategy conducted targeted consultation in this quarter, and the fieldwork for the coastal residents and visitors surveys have been completed. The Sea Country (marine estate) survey gained final ethics approval from Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) Ethics Committee. The Sea Country survey design has been finalised with in-depth engagement with the internal Aboriginal Technical Working Group. Approval granted to commence design of a youth survey.

Quarterly progress and highlights

A breakdown of progress is outlined below

Project	Project icon	Lead agency	Location	Progress
Marine estate education strategy		DPI-F	Statewide	Targeted consultation with stakeholders on the draft Marine Estate Education Strategy. Finalising the Education Strategy continues.
Maritime heritage review		DPI-F	Coffs Harbour	<p>Temporary signage produced and installed at Buster shipwreck site at Woolgoolga Beach to help protect the now exposed wreck.</p> <p>Continue work on the Woolgoolga Jetty Pile display. Mapping of the Woolgoolga rock platform jetty slide site commenced with drone footage being taken of the site with markers in place to show key reference sites.</p>
Community wellbeing framework		DPI-F	Statewide	<p>The fieldwork completed for the NSW coastal residents and visitors' surveys, with over 3,300 participants to monitor the ways people benefit from the marine estate and impacts to these benefits.</p> <p>Sea Country (marine estate) survey has gained final ethics approval from Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) Ethics committee to understand the ways Aboriginal people value and culturally connect to Sea Country.</p>
Economic benefits monitoring		DPI-F	Statewide	Work is underway to re-convene an economic technical working group and scoping commenced for an economic valuation study.

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	Project icon	Lead agency	Location	Anticipated work
Marine estate education strategy		DPI-F	Coffs Harbour	Draft Marine Estate Agents project plan reviewed by interagency working group. Marine Estate Education Strategy is prepared for finalisation with Marine Educators Steering Committee.
Maritime heritage review		DPI-F	Coffs Harbour	Complete Woolgoolga jetty pile installation and interpretation. Complete Buster shipwreck interpretive signage. Complete YouTube video and project report and recommendations.
Community wellbeing framework		DPI-F	Statewide	Complete the design of a marine estate youth survey. Deliver coastal residents and visitors surveys report and complete Sea Country (marine estate) statewide survey.

More information

More information on Initiative 8 is on the marine estate web site [here](#).

Initiative 9 – Delivering effective governance

Project summary

Initiative 9 has expanded its scope to include marine planning projects that are critical to the delivery of NSW Government commitments and community expectations for the delivery of improved protected area planning and management planning for the five coastal marine parks in NSW, aquatic reserve management, and compliance in the Greater Sydney region.

Quarterly progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Improved management of aquatic reserves and high value sites		DPI-F	Statewide	Consultant engaged to develop a program logic for improving the management of aquatic reserves in NSW.
Better geographic information systems (GIS) for the marine estate		DPI-F	Statewide	<p>The DPI Key Fish Habitat dataset made available for public download through the Fisheries Spatial Data Portal. Key Fish Habitat is a core dataset for several MEMS initiatives.</p> <p>Completed remnant Oyster Reef Mapping including field surveys for Botany Bay and Georges River.</p> <p>Collated available bathymetry and processed newly acquired data to inform the Offshore Artificial Reefs project (southern region).</p>
Greater Sydney region compliance focusing on marine protected areas		DPI-F	Newcastle to Wollongong	<p>A total of 402 offences reported which included 4 verbal cautions, 222 written warnings and 175 penalty notices and 1 prosecution.</p> <p>A total of 13,023 invertebrates and fish were seized including 7078 cockles, 4702 mixed shellfish, 353 whelks, 318 sea urchins, 190 turban snails and 113 saltwater nippers.</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	Project icon	Lead agency	Location	Anticipated work
Improved management of aquatic reserves and high value sites		DPI-F	Statewide	Deliver the program logic for the improved management of aquatic reserves.

Project	Project icon	Lead agency	Location	Anticipated work
Better geographic information systems for the marine estate		DPI-F	Statewide	Provide input to habitat classification of Oyster Reefs at a Federal level.

More information

More information on Initiative 9 is on the marine estate web site [here](#).

Part C: Additional program requirements

Program management, monitoring, reporting and evaluation

Project summary

At a strategic level there are several objectives we are seeking to achieve to support the Strategy, including: continued implementation of a governance structure and program management framework to support delivery of the Strategy statewide and provide MEMA agencies and staff with the tools and training to ensure robust governance and project management is coordinated, integrated and transparent:

improve communication, engagement, and education to increase community awareness of the marine estate and associated threats and benefits and enable effective community participation; implementing a monitoring program to fill key knowledge gaps; and facilitate centralised and efficient integration of environmental, social, cultural and economic data into the management of the NSW marine estate.

Quarterly progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Strategy program management		DPI-F	Statewide	<p>Program efficiencies introduced including new project proposals, prioritisation of ongoing work, and budget builds for next financial year underway with extensive internal and external consultation to ensure the best outcomes.</p> <p>Ongoing project management support provided across all Strategy agencies.</p> <p>Published MEMS quarterly snapshot for year 3 quarter 2.</p>
Strategy education, communication and stakeholder liaison		DPI-F	Statewide	<p>NSW Marine Estate Instagram channel launched. There were 61 posts made this quarter and the account has 506 followers.</p> <p>Increased frequency of NSW Marine Estate newsletters from quarterly to monthly. Delivered to over 1100 subscribers. Subscribe here.</p> <p>Major redesign of the NSW Marine Estate website underway to improve accessibility and functionality.</p>
Monitoring program – program management		DPI-F	Statewide	<p>Development of technical reports outlining monitoring of community wellbeing and environmental condition are underway.</p> <p>Program evaluation process is in the final stages. 23 interviews of MEMS delivery staff and coordinating bodies completed. Preliminary findings provided to Evaluation Working Group.</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	Project icon	Lead agency	Location	Anticipated work
Monitoring program – program management		DPI-F		Complete the Strategy program evaluation report with consultants.

More information

More information on Program management, monitoring, reporting and evaluation is on the marine estate web site [here](#).

Appendix A – List of abbreviations

Abbreviation	Definition
Authority	Marine Estate Management Authority
COVID-19	Coronavirus
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DPI-Ag	Department of Primary industries – Agriculture
DPI-F	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-PA	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 – Communication and engagement

Date	Stakeholder	Activity	Initiative	Communication and engagement
January	NSW community	Instagram	1	It is time for a clean start
	NSW community	Instagram	1	Summertime blues
	NSW community	Instagram	1	Hiding in plain sight
	NSW community	Instagram	1	Dive right in!
	NSW community	Instagram	1	Macquarie Light station
	NSW community	Instagram	1	Leaf oysters
	NSW community	Instagram	6	Did you know harvest strategies are world's best practice?
	NSW community	Instagram	2	The grass is always greener
	NSW community	Instagram	3	Deep dive on the health of NSW's coast
	NSW community	Instagram	8	Living on the edge
	NSW community	Instagram	8	Wash over me
	NSW community	Instagram	5	A giant among cuttlefish

Date	Stakeholder	Activity	Initiative	Communication and engagement
	NSW community	Instagram	8	NSW Marine Estate
	NSW community	Instagram	5	Saving soft coral
	NSW community	Instagram	5	Go the blues!
	NSW community	Instagram	2	It's a long stretch
	NSW community	Instagram	5	A living museum
	NSW Community	Instagram		Macquarie Light Station
	NSW community	Instagram	2	Dive right in!
	NSW community	Instagram	5	Hiding in plain sight
February	NSW community	Instagram	1	Today is World Wetlands Day!
	NSW community	Instagram	1	Putting the 'wet' back into wetlands
	NSW community	Instagram	3	Climate of knowledge
	NSW community	Instagram	1	Improving water quality for our ocean, estuaries and coastal wetlands
	NSW community	Instagram	7	NSW Boating Now
	NSW community	Instagram	2	Marine Biosecurity awareness survey
	NSW community	Instagram	1	Emigrant Creek - stopping sediment pollution at its source
	NSW community	Instagram	2	You're a star!
	NSW community	Instagram	4	Volunteers clean up
	NSW	Instagram	1	Have your say on water quality

Date	Stakeholder	Activity	Initiative	Communication and engagement
	community			
	NSW community	Instagram	1	Have your say on water quality
	NSW community	Instagram	8	Paddle power
	NSW community	Instagram	2	Soldier on
	NSW community	Instagram	8	Lord Howe Island
	NSW community	Instagram	8	Galapagos sharks
	NSW community	Instagram	8	Anemone fish at Lord Howe Island
	NSW community	Instagram	8	Discover the underwater world at Lord Howe
	NSW community	Website	1	Tilba: A community partnership
March	NSW community	Instagram	1	“Don’t be a tosser”
	NSW community	Instagram	1	Growing blueberries webinar
	NSW community	Instagram	1	Port Stephens clean up
	NSW community	Instagram	3	Have you seen any bull kelp?
	NSW community	Instagram	1	Oyster reef restoration project
	NSW community	Instagram	1	Baby oysters
	NSW community	Instagram	1	A new rock oyster settlement
	NSW community	Instagram	4	Closing the Gap
	NSW community	Instagram	1	Oysters filter and clean our water
	NSW	Instagram	1	What next for the Port Stephen’s pilot shellfish

Date	Stakeholder	Activity	Initiative	Communication and engagement
	community			reef restoration?
	NSW community	Instagram	7	Online map streamlines NSW mooring service
	NSW community	Instagram	1	Fish friendly council workshops
	NSW community	Website	1	Works completed on Bega River log wall
	NSW community	Website	1	Don't be a tosser
	NSW community	Website	2	NSW boating access dredging program launched
	NSW community	Website	1	Research into macadamia erosion
	Subscribers and stakeholders	Newsletter	1	Marine estate newsletter March 2021