

MARINE ESTATE MANAGEMENT STRATEGY

Triannual snapshot

Reporting period – July – October 2021

MARINE ESTATE MANAGEMENT AUTHORITY

INT21/165520



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

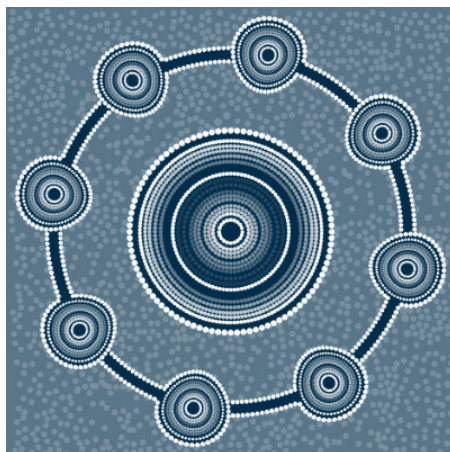


Image 1: Meeting place. Image: iStock.com-Kira

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Part A: Strategy snapshot

Reporting period

Year	Trimester	From	To
4	1	1 July 2021	31 October 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 key deliverables in the first trimester, Year 4. Additionally, activities planned for the next reporting period (1 November 2021 – 28 February 2022) are highlighted in the ‘What’s next’ sections.

The Program has moved from quarterly reporting to triannual reporting in 2021/22. For more updates follow us on [Instagram](#), visit the [Marine Estate website](#), or sign up to the marine estate newsletter through the link on this [page](#). This snapshot should be read in conjunction with the [Strategy Implementation Plan 2021-2022](#).

Delivering long term outcomes

The Strategy’s nine initiatives contribute to improving water quality, reducing marine litter, improving the health of coastal habitats, reducing threats to marine wildlife, ensuring sustainable foreshore development ensuring sustainable land use practices, planning for climate change, protecting Aboriginal cultural values of the marine estate 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.








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 2021/22 and good progress has occurred throughout the Program despite the impacts of COVID-19 restrictions this reporting period. In this triannual 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 Initiative 1 (Improving water quality and reducing litter) as a significant portion of Strategy resources is devoted to reducing the most significant threats to the marine estate, which contribute to poor water quality.

Significant work has been achieved this trimester across the nine initiatives in the Strategy; a selection of seven highlights illustrating the breadth of work and accomplishments achieved this quarter are in Table 1 below.

Table 1. Key highlights during July – October 2021.

Project	Project icon	Highlights
Risk-based framework for urban waterway health		All outputs related to the Risk-based Framework pilot were included in the publicly exhibited Development Control Plan for Wianamatta-South Creek , and Mamre Rd Precinct .
Reconnecting fish habitats		Removal of the Cooke's Weir, a high priority barrier, improving fish passage to over 250km of key upstream aquatic habitat in the Richmond River.
Sea Country Rangers		Tura Headland Boardwalk was completed with the help of Aboriginal Rangers from Bega Local Aboriginal Land Council (LALC) to enhance the cultural protection of this important site. The Tura Headland walking track is rich in Aboriginal cultural heritage and the construction of a path will prevent further damage to the site. This is part of a bigger project to improve the accessibility to coastal walking tracks around Tura Beach.
Education to protect and conserve marine wildlife		A new whale monitoring program that uses drone technology to monitor, track and identify southern right whales off the NSW coast was launched.
Harvest strategy development		Draft Trawl Whiting Harvest Strategy completed and released for public consultation during October 2021. Draft Lobster Harvest Strategy completed and to be released for public consultation during November 2021.
Economic benefits monitoring and research		Draft market-based valuation report for the NSW marine estate completed and made available for key stakeholder review.
Monitoring Program – program management		The baseline evaluation of the Strategy was completed and the final report delivered. Evaluation recommendations are being actioned.

Part B: Initiative summaries

Initiative summaries include updates on notable project highlights from the reporting period as well as what is planned for the next reporting period. A full update on all projects is reported in the Strategy's Implementation Annual Report for the 2021/22 financial year. For more information on the location of projects refer to the [Strategy Implementation Plan 2021-2022](#) 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 is identified as the greatest threat to the marine estate.




Significant progress has been made this period across Initiative 1. Foundational work for new projects has progressed well or have been completed, such as site selection and contract development for this year's on-ground-work projects. Further progress is expected to occur next period with the easing of COVID-19 restrictions allowing for greater community engagement and on-site work.




Triannual progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Risk-based framework for urban waterway health		DPIE-EES	Wianamatta-South Creek catchment, Sydney	All outputs related to the Risk-based Framework pilot were included in the publicly exhibited Development Control Plan for Wianamatta-South Creek , and Mamre Rd Precinct .
Risk-based framework for regional waterway health		DPIE-EES	Richmond River	Interviews held with local government, state agencies and selected stakeholder organisations to discuss barriers and opportunities for enhancing river health within the catchment. Higher levels of collaboration established with key stakeholders across the catchment.
Build capacity to implement the Risk-based Framework		DPIE-EES	Statewide	Registered training organisation, GEMS Pty Ltd, commenced stakeholder analysis and conducted interviews to develop a draft Professional Development Program to build capacity for stakeholders to implement the Risk-based Framework. Additional baseline data has been collected to determine the extent to which stakeholders use and understand the Risk-based Framework. Two internal capacity building workshops have been completed to begin the process of explicitly aligning the delivery of the Risk-based Framework with Coastal Management Programs. The first drafts of the stakeholder and practitioner guides on the Risk-based Framework have been



Project	Project icon	Lead agency	Location	Progress
				<p>released for external review by industry and subject matter specialists.</p> <p>The draft online toolkit for the Risk-based Framework has been developed via the spatial collaboration portal and associated story maps.</p>
Review of the NSW Water Quality Objectives		DPIE-EES	Statewide	<p>Progressing the new design and development of the agreed icons for community values and uses for NSW and seeking endorsement through the Advisory Committee.</p> <p>Process for the consultant to fill data gaps in the community survey commenced.</p>
Water Quality Working Group		DPIE-EES	Statewide	<p>The Water Quality Working Group was reconvened in October 2021 to discuss NSW Government diffuse source water pollution management.</p>
Coastal floodplain study		DPI-F	Tweed, Richmond, Clarence, Macleay, Hastings, Manning, Shoalhaven	<p>Reports with survey findings were circulated to all seven local catchment authorities. Six of seven consultations with these authorities completed and the seventh underway. Preparations are underway to communicate results following final marine estate agency approvals.</p> <p>Additional floodgate survey results contributing to understanding of infrastructure functionality in Shoalhaven and Manning are complete and progressing in Hastings and Macleay.</p>
Fish friendly workshops for councils		DPI-F	<p>Northern NSW</p> <p>Shoalhaven, Eurobodalla and Bega</p>	<p>Audit of permit conditions in northern NSW completed and identified several areas for Councils to improve best practice. Audit results provided to Council General Managers and invitations sent to participate in Fish Friendly Council workshops.</p> <p>Audits of permits within South Coast local government areas (Bega and Eurobodalla) are progressing. Information will assist to identify areas to focus future Fish Friendly Council workshop information.</p>
Oyster reef restoration		DPI-F	<p>Port Stephens</p> <p>Eurobodalla</p>	<p>Port Stephens reef restoration sites showing positive monitoring and evaluation results.</p> <p>Wagonga Inlet Living Shoreline (WILS) project development progressing well, including significant oyster reef restoration works in two locations, in partnership with Eurobodalla Shire Council and The Nature Conservancy. Design concepts nearing finalisation and positive feedback from stakeholders to date. Incorporated in the plan are citizen scientist opportunities for</p>







Project	Project icon	Lead agency	Location	Progress
			Statewide	<p>local nature enthusiasts, bird watchers and recreational fishers.</p> <p>Mapping of current oyster reefs progressing with data for completed estuaries now available on Fisheries spatial data portal.</p>
Riverbank vegetation improvements		LLS	<p>Ballina, Lismore, Midcoast</p> <p>Kiama, Wollongong, Shoalhaven, Eurobodalla, Bega Valley</p>	<p>North Coast and Hunter Local Land Services site selections underway, with final contracts for monitoring and maintenance being completed.</p> <p>South East Local Land Services site selection and contract development underway. Maintenance work has commenced on 17 hectares and 3km of vegetation works completed in previous MEMS stages. Contract signed for monitoring in Wapengo, Crooked, Middle and Tilba Tilba catchments and to commence pre-work monitoring in the Congo Creek catchment.</p>
Clean coastal catchment on-ground works		LLS	<p>Clarence Valley, Manning, Coffs Harbour</p> <p>Bega Valley, Eurobodalla</p>	<p>North Coast Local Land Services - project scope and contracts negotiations underway with five growers.</p> <p>South East Local Land Services - four contracts have been signed and two are in development. Works are underway on beef and dairy properties to fence stock away from waterways and prepare revegetation activities. Local Land Services and DPI Agriculture have assessed irrigation systems on six dairy/beef farms and will provide detailed irrigation improvement designs for those wanting to adopt irrigation changes.</p>
Clean coastal catchments research		DPI-Ag	Ballina, Coffs Harbour, Kiama, Eurobodalla, Shoalhaven and Bega Valley LGAs.	<p>Macadamia Nutrient Replacement Values published in the Australian Macadamia Society news bulletin and Tree Crops magazine. Five social research surveys of macadamia growers completed.</p> <p>Pilot Fertcare agronomist training workshop - fertigation module accredited by Tocal College and piloted on the north coast.</p> <p>Dairy industry irrigation assessment reports completed with landholders and South East Local Land Services.</p> <p>Dairy farm scale monitoring and demonstration site agreement executed with DPIE-EES for monitoring at Crooked River and Tillba Tilba Lake.</p>
Riverbank stabilisation		LLS	Ballina, Midcoast	<p>North Coast and Hunter Local Land Services have commenced site selection and preparation for new works.</p> <p>South East Local Land Services progressing work in two priority sites including the Tilba Tilba and</p>






Project	Project icon	Lead agency	Location	Progress
			Kiama, Eurobodalla	Clyde River catchments. DPIE-EES has signed a contract to undertake post works sampling on the Clyde River catchment bank protection sites and measure the impacts of boat wash. This will include use of turbidity loggers and wave sensor monitoring at the site.
Improving roads and tracks		LLS	Ballina, Lismore, MidCoast, Shoalhaven, Bega Valley	Site selection for road upgrades underway in all Local Land Services regions. DPIE-EES has signed a contract with South East Local Land Services to complete post-sealing event sampling on Whittles Road and Wallagoot Track sites.
Marine Debris Working Group		DPIE-EES	Statewide	<p>The Marine Debris threat and Risk Assessment (MDTARA) summary report is in its final drafting stages. The report will undergo peer-review by the Marine Debris Working Group members, to be finalised by the end of 2021.</p> <p>DPIE-EES commissioned a report summarising the current management and policy settings in NSW which is being used in conjunction with the MDTARA results to suggest future management and research avenues.</p>
Mapping outflow events		DPIE-EES	Statewide	<p>The statewide habitat layers developed by DPIE-EES from marine LiDAR (Light Detection and Ranging) are currently being peer reviewed prior to public release in December 2021.</p> <p>Draft literature review and conceptual model completed by Griffith University is currently being reviewed by EES scientists for publication in early 2022.</p>

What's next?

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

Project	Project icon	Lead agency	Location	Anticipated work
Risk-based framework for urban waterway health		DPIE-EES	Wianamatta-South Creek catchment, Sydney	Publish four technical studies and three technical guidance papers to provide evidence base for new stormwater and waterway health controls and support for achieving compliance with controls.
Risk-based framework for regional waterway health		DPIE-EES	Richmond River catchment	<p>Stakeholder survey/interview results analysed, and events planned for the beginning February 2022 to commence.</p> <p>Continue to input into the Richmond River Coastal Management Program to enhance</p>

Project	Project icon	Lead agency	Location	Anticipated work
				water quality through the Risk-based Framework.
Review of the NSW Water Quality Objectives		DPIE-EES	Statewide	<p>Data collection to fill gaps completed and results mapped and available (as a spatial layer) for the second community uses and values survey - this will also be made available for stakeholders to use next period.</p> <p>Development of a new NSW Water Quality Objectives website to reflect new technology, data and objectives.</p> <p>Stakeholder workshops to finalise and confirm results of the community survey.</p>
Construction sediment management		DPIE-PA	Statewide	Finalise guidance to accompany erosion and sediment conditions.
Oyster reef restoration		DPI-F	Port Stephens	Port Stephens video completed, signs artwork QR code updated and printed. Signs installed at four prominent locations around Port Stephens. Media event planned.
			Shoalhaven, Eurobodalla, Bega	Wagonga Inlet Living Shoreline Project stakeholder and community consultation completed. Finalisation of concept designs. Citizen science project developed.
Riparian vegetation improvements		LLS	Ballina, Midcoast, Shoalhaven, Eurobodalla, Bega Valley LGAs	<p>Landholder/contractors will commence new on-ground works. Finalise remaining contracts and continue monitoring and maintenance activities.</p> <p>Continue on-ground works and maintenance for stag1 and 2 projects.</p>
Clean coastal catchment on-ground works		LLS	Clarence Valley, Tweed, Manning Valley, Coffs Harbour, Shoalhaven, Bega Valley, Eurobodalla	Landholders/contractors will commence on-ground works (protected cropping irrigation, fencing and site preparation for planting). LLS and DPI Agriculture to develop detailed irrigation improvement designs for three dairy/beef farmers committed to adopt irrigation changes.
Clean coastal catchments research		DPI-Ag	Ballina, Coffs Harbour, Kiama, Bega Valley LGAs.	<p>Continue blueberry research and expand into blackberries.</p> <p>Additional 10-15 social research surveys of macadamia growers to be completed.</p> <p>Fertcare Dairy Nutrient Management Plan training for coastal agronomists advising dairy farmers on Fert\$mart whole-farm plans to be</p>

Project	Project icon	Lead agency	Location	Anticipated work
				delivered in November to 50+ attendees via funded webinar series (four sessions). Fert\$mart program will be delivered for 55 dairy farms in the Bega and Eurobodalla LGAs with funding from Bega Cheese and the Federal Government (delayed by COVID-19 from last quarter).
Riverbank stabilisation		LLS	Ballina, Manning, Eurobodalla	Bank stabilisation works and monitoring commenced at all sites.
Coastal wetland rehabilitation		DPI-F	Rous, Ballina, Clarence, Kempsey, Shoalhaven	Engagement of contractors for numerous planning and valuation assessments required at various wetland restoration sites.
Improving roads and tracks		LLS	Ballina, Lismore, MidCoast, Shoalhaven, Bega Valley	Complete contracts and commence on-ground road improvement works. Complete post-sealing event sampling on Whittles Road and Wallagoot track sites.
Estuarine water quality monitoring		DPIE-EES	Statewide	Webpages on DPIE-EES Environment website as one-stop-shop for information on each NSW estuary. Report card grades for health of every NSW estuary that has been sampled, accessed through DPIE-EES Estuary webpages. NSW Health of our Estuaries interactive map will bring together estuary health scores and Beachwatch scores in a single access point on DPIE-EES website.
Mapping outflow events		DPIE-EES	Statewide	Statewide habitat layers published to the SEED portal . Conceptual model finalised and published to the marine estate website. Literature review completed for journal submission. NSW DataCube (CSIRO Data61) built to be a NSW statewide satellite imagery archive.

More information

More information on Initiative 1 projects is 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, and foreshore and waterway management, through various projects. A multiagency and local government collaborative approach is underway to better coordinate the prioritisation of rehabilitation works and funding, and strategies that facilitate streamlined approvals.

Several significant deliverables from Initiative 2 during this period included the removal of Cooke's Weir on the Richmond River, public release of the Estuarine Habitat Dashboard and finalisation of the First Pass Assessment of Blue Carbon Values. Some on-ground operations were delayed due to COVID-19 restrictions, although planning and preparation continued throughout the period and paves the way for implementation as restrictions ease.










Triannual progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Coastal design guidelines review		DPIE-PA	Statewide	Engagement materials prepared ahead of public exhibition of the new guidelines.
Reconnecting fish habitats		DPI-F	Statewide	Removal of the Cooke's Weir, a high priority barrier, improving fish passage to over 250km of key upstream aquatic habitat in the Richmond River.
Mapping seagrass, mangrove and saltmarsh		DPI-F	Statewide	Public release of the Estuarine Habitat Mapping Dashboard . Preliminary macrophyte habitat maps created for the Manning River, Hastings River, Nambucca River, Macleay River, South West Rocks Creek and Port Hacking with ground truthing planned for next period following easing of COVID-19 restrictions.
Threats to estuarine vegetation		DPI-F	Hastings, Nambucca, Sutherland	Preliminary maps of artificial structures have been compiled for Macleay, Hastings and Nambucca rivers, and Port Hacking is in preparation for ground truthing once COVID-19 restrictions ease.
Marine vegetation strategies		DPI-F	Wollongong, Shoalhaven, Eurobodalla	Completed mapping and analysis of estuaries from Bulli to Batemans Bay to indicate the potential sites for marine vegetation migration offsets to inform a Marine Vegetation Strategy for estuaries in this region.
Subtidal reef monitoring		DPI-F	Greater Sydney	Preparation of survey equipment and survey design to repeat baited remote underwater video sampling of rocky reef fishes in the Greater Sydney region.

What's next?

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

Project	Project icon	Lead agency	Location	Anticipated work
Breakwater audit		DPI-F	Statewide	Approval and public release of Fish Friendly Breakwater Maintenance reports on the marine estate website.
Coastal design guidelines review		DPIE-PA	Statewide	Ministerial approval and public exhibition of the guidelines.
Domestic Waterfront Structures Strategies		DPI-F	Statewide	Removal of three unauthorised, unclaimed, unsafe and environmentally impacting jetties at Sanctuary Point within St Georges Basin. Development of guidelines, procedures and lessons learned from this pilot project.
Marine vegetation strategies		DPI-F	Statewide	Approval and public release of The First Pass Assessment of Blue Carbon Values undertaken with the University of Wollongong. Tweed Estuary Marine Vegetation Strategy finalised. Safety Clearance Code for Marine Vegetation finalised.
Estuary Bank Management Strategies		DPI-F	Statewide	Estuary Bank Management Strategy Decision Support Tool refinement workshop held.
Coastal floodplain drainage management		DPIE-W DPI-F	Statewide	Public release of "What We Heard" coastal floodplain document to the marine estate website and sent to contributing agencies and stakeholders.
Mapping seagrass, mangrove and saltmarsh		DPI-F	Newcastle and Lake Macquarie LGAs	Preliminary macrophyte habitat and artificial structures maps for Hunter River and Lake Macquarie.
Subtidal reef monitoring		DPI-F	Greater Sydney	Submission of a paper on kelp distributions across Greater Sydney to a scientific journal.
Reviewing jetty designs		DPI-F	Shoalhaven LGA	Fieldwork assessing the jetty design features that preserve seagrass in several NSW estuaries (for example, St Georges Basin where three unauthorised, unclaimed, unsafe and

Project	Project icon	Lead agency	Location	Anticipated work
				likely environmentally impacting jetties are planned for removal).

More information

More information on Initiative 2 projects is 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.



During this period the statewide monitoring of kelp forest and benthic habitats was completed, despite delays due to COVID-19. Sampling on the impacts of severe flooding on kelp loss in Port Stephens was also completed and recovery of kelp measured. The outputs from the citizen science project are to be extended and a workshop to design a report card for NSW to communicate species range extension to stakeholders planned for next period.



Triannual progress and highlights

Project	Project icon	Lead agency	Location	Progress
Climate change threats to seagrass, mangrove and saltmarsh		DPIE-EES	Statewide	Progress made on developing the method for the second-pass assessment of mangrove and saltmarsh vulnerability to climate change in targeted estuaries. Development of method for remote sensing changes in mangrove and saltmarsh extent due to sea level rise underway.
Climate change research		DPI-F	Statewide	Data on climate change adaptability of harvested species (i.e., <i>Turbo militaris</i>) processed and ready for analysis.
Climate change monitoring		DPI-F	Statewide Port Stephens	2021 monitoring data collected statewide and ready for analysis. Impacts of extreme flooding on kelp forests measured and recovery assessed.

What's next?

Work that is planned to occur in the following reporting period is highlighted 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 threats to seagrass, mangrove and saltmarsh		DPIE-EES	Statewide	Fieldwork planning finalised in readiness for the lifting of COVID-19 restrictions.
Climate change research		DPI-F	Statewide	Data on climate change adaptability of harvested species analysed.

Project	Project icon	Lead agency	Location	Anticipated work
Climate change monitoring		DPI-F	Statewide Port Stephens	Published scientific paper on future distribution of kelp forests finalised and publicly available. Scientific paper on impacts of flooding on kelp forests submitted for peer review. Conversation article on future proofing kelp forests published.
Climate change citizen science		DPI-F	Statewide	Workshop held to develop report card for NSW on species range expansions.

More information

More information on Initiative 3 projects is 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.

A number of projects and planned on Country engagement was delayed by ongoing COVID-19 restrictions this period. With restrictions easing most projects have been rescheduled to occur next period. Despite the challenges of COVID-19 the Sea Country ranger projects in northern and southern NSW have progressed and continue to provide opportunities for local Aboriginal people to work on Sea Country.







Triannual progress and highlights



A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Aboriginal Engagement		DPI-F	Statewide	Construction of three purpose built Aboriginal cultural education trailers commenced. Trailers will be wrapped in Aboriginal branding, providing a new experience between DPI and Aboriginal communities that aims to improve cultural awareness and engagement.
Sea Country Rangers		DPI-F	Nambucca Valley	As part of the Clean Rivers, Clean Sea project at Bowraville, funding enabled engagement of Sea Country rangers in the delivery of environmental monitoring (in conjunction with Southern Cross University) as part of the business recycling initiative at Bowraville. Sea Country rangers will receive training and ongoing support to monitor and remove all types of litter from 12–18 sites along the Nambucca River including, riverbanks, stormwater drains, mangrove habitat and ocean beaches, over four sampling periods every three months.
			Bega Valley	Tura Headland Boardwalk completed by Aboriginal rangers from Bega Local Aboriginal Land Council (LALC) to enhance the cultural protection of this important site. The Tura Headland walking track is rich in Aboriginal cultural heritage and the construction of a path will prevent further damage to the site. This is part of a bigger project to improve the accessibility to coastal walking tracks around Tura Beach.

What's next?

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

Project	Project icon	Lead agency	Location	Anticipated work
Aboriginal engagement		DPI-F	Statewide	The National Aboriginal Design Agency has been contracted to develop an Aboriginal brand/identifier for the department that will include freshwater and saltwater designs for multipurpose corporate use. The final artwork will be delivered next period.
Elders as mentors		DPI-F	Byron Bay and Port Stephens	On Country meet and greet days to be held at Cape Byron and Port Stephens-Great Lakes marine parks. Elders will share local Aboriginal cultural values of the marine estate and sites of significance with NSW marine park staff by spending time together on Sea Country and ongoing engagement led by local Elders.
Sea Country Rangers		DPI-F	Coffs Harbour	<p>Hold flat water canoe training for 15 participants from the Darrunda Wajaarr Rangers, operated by the Coffs Harbour and District Local Aboriginal Land Council (CHDLALC) team through local provider Nymboida Camping and Canoe. Flat water training is part of a larger project to improve accessibility to coastal estuaries linked to Solitary Islands Marine Park for weed control and for future development of cultural tourism businesses for CHDLALC.</p> <p>Fund the engagement of the Darrunda Wajaarr Rangers to implement a targeted weed control program to restore the condition of riparian habitat and improve the environmental values of the coastal and estuarine reserve in Woolgoolga extent of the Coffs Coast Regional Park. The rangers will focus on environmental management to increase the conservation values of Gumbaynggirr Country and use this ongoing program to facilitate cultural land management practices across the riparian zone.</p>
Sea Country Rangers		DPI-F	Kempsey Shire	Partner with other lead agencies on the Nulla Nulla Creek Healing Landscape project with the Thunghutti Local Aboriginal Land Council.
Cultural economic development		DPI-F	Coffs Harbour	Support Yaegl people to obtain their Certificate II in Tourism.
Cultural economic development		DPI-F	Eurobodalla, Bega Valley and Shoalhaven LGAs	Build capacity of eight south coast Aboriginal tourism operators in partnership with South Bound Tourism. Employment of local expert to assess business needs and ensure tourism opportunities following COVID-19 are capitalised on.

Project	Project icon	Lead agency	Location	Anticipated work
Cultural research and monitoring		DPI-F	Bega Valley	Hold a Sea Country Science Camp in Eden.
Climate change on culture		DPI-F	Coffs Harbour	Partner with NPWS, traditional owner representatives, NSW Heritage and EES Coastal Management Program to identify options to remediate/protect culturally significance sites at Moonee Beach NSW where coastal erosion exacerbated by climate change impacts has exposed burial remains. Discuss the most appropriate way to care for these remains and respond to climate driven events in the future.

More information

More information on Initiative 4 projects is 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.

Good progress occurred this period, for example a statewide workshop was held online to develop a NPWS Operating Model for marine wildlife response and the Southern Right Whale ID project was launched by the Minister for Environment and volunteer drone pilots were trained and inducted into the program.

Several milestones were met with regard to bycatch reduction and whale entanglement mitigation work, however, observer programs were put on hold during COVID-19 lockdowns in NSW. More detail on project progress is included below.

Triannual progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Planning to protect marine wildlife		DPIE-EES NPWS	Statewide	<p>Hosted an online statewide workshop to develop a NPWS Operating Model for marine wildlife response including criteria and key performance indicators for when responses should occur.</p> <p>Delivered NPWS Marine Wildlife Response Operating Model staff survey.</p> <p>Marine wildlife operating response models and coordination in interstate jurisdictions reviewed.</p> <p>Commenced development of the NPWS Draft Operating Model for marine wildlife response.</p> <p>Draft guidelines and matters of consideration for triggering NPWS marine wildlife response incident conditions have been developed and were presented to the Marine Wildlife Working Group in August.</p>
Partnerships to protect marine wildlife		DPIE-EES NPWS	Statewide	<p>MoUs with NSW Marine Rescue and DPI Fisheries progressed. In the interim, agreements have been made to provide case by case support consistent with the intent of the relevant MoU.</p> <p>Training mapped for marine wildlife response and large whale disentanglement to align with national units of competency and a pilot is scheduled for November. Developed materials to deliver the training including pre-course learning module, learner's workbook, theoretical and practical scenarios and assessors guide.</p> <p>Cultural practices shared through consultation with Aboriginal staff and community to inform protocols. The use of location specific experience and</p>



Project	Project icon	Lead agency	Location	Progress
				<p>lessons learnt from contemporary event responses is guiding development.</p> <p>Reports received from recipients of grants provided in June 2021 to support wildlife rescue and rehabilitation groups to improve outcomes for threatened and protected species. Turtle slings have been manufactured and will be delivered in November.</p> <p>From 1 July to 31 October 2021 NPWS and partner organisations responded to 317 marine wildlife Elements events (2.6 per day average), with some events involving multiple staff and extending for several days.</p> <p>Coordinated workshop to discuss cold turtle nesting intervention protocols with key stakeholders.</p> <p>Facilitated development of a draft Code of Practice for injured, sick and orphaned marine mammals with all wildlife rehabilitation providers licensed for marine mammals.</p> <p>Coordinated draft seal sampling document with Australian Registry for Wildlife Health to improve sampling of pinniped carcasses.</p> <p>Progressed online training packages for internal and external stakeholders in marine wildlife awareness, evaluation and response.</p>
Education to protect and conserve marine wildlife		DPIE- EES NPWS DPI-F	Statewide	<p>A new whale monitoring program, that uses drone technology to monitor, track and ID southern right whales off the NSW coast launched.</p> <p>Attended coastal council workshops and liaised with local government staff to scope coastal management planning resources based on the threat and risk assessment.</p> <p>Prioritised and commenced development of resources to support local government coastal management planning.</p> <p>Commenced scoping a project to develop resources to address threats to marine threatened and protected species.</p> <p>School resource for <i>Posidonia australis</i> completed by DPI Fisheries.</p> <p>Production of an educational video for threatened species (e.g. Greynurse Shark) and advice on actions to take if they are accidentally caught.</p> <p>Production and delivery of signs for White seahorses. Signs were delivered to DPI Fisheries offices in Tuncurry, Port Stephens, Wollstonecraft, San Souci and Bateman's Bay.</p>





Project	Project icon	Lead agency	Location	Progress
			Greater Sydney	Developed a coastal vessel survey for pre and post installation of seaward-facing approach distance signs at trial sites to assess vessel compliance.
Improve reporting of interactions with marine wildlife		DPIE-EES NPWS	Statewide	Wildlife rehabilitation data imported into Elements. This has added 1236 new marine wildlife records to the database.
Estuary General Fishery observer survey		DPI-F	Statewide	Detailed analyses of observer-based survey of the Estuary General Mud Crab fishery completed and scientific paper titled "Disparity among recommended and adopted escape gaps and their utility for improving selection in an Australian portunid trap fishery" submitted to DPI Fisheries Research for review.
Ocean Trap and Line Fishery observer survey		DPI-F	Statewide	Detailed analyses of 2020-2021 Ocean Trap and Line field observer data sampling and commercial logbook data commenced.
Strategies for mitigating species interactions		DPI-F	Statewide	<p>Assisted OceanWatch Australia to develop a detailed survey to collect information on gear specifications and operational practices in the NSW Ocean Trap and Line Fishery.</p> <p>OceanWatch with guidance from DPI Fisheries have commenced a gear survey to assess common gear configurations and materials used in commercial fish trap and spanner crab fisheries. This information will help to assist the identification of reported whale entanglements and to identify potential problematic gear configurations.</p> <p>OceanWatch have assisted commercial fish trap and spanner crab fishers to attain permits to trial modified gear configurations to reduce potential of entanglement with migratory whales, using techniques such as grappling and galvanic time release (GTR) to retrieve gear.</p> <p>Partnered with the Professional Fisher's Association and Coffs Harbour Fisher's Cooperative and commercial trawl fishers to design and fabricate bycatch reduction devices to test during fishing operations.</p>
Species monitoring		DPIE-EES	Statewide	Research prospectus initiated using findings from 2020/21 research and partnership workshops.



Project	Project icon	Lead agency	Location	Progress
				<p>Commenced discussions with the Sydney Institute of Marine Science to scope biotoxin research to further understand turtle health.</p> <p>Commenced discussions with the Australian Registry for Wildlife Health to complete a health assessment of New Zealand fur seals in NSW.</p> <p>Initiated internal discussions to scope standardising seabird post mortems in NSW to improve understanding of threats to seabirds and shorebirds.</p> <p>Discussions with cetacean acoustic expert to study noise levels under Forster Bridge in response to a Southern Right Whale in Wallis Lake that travelled under the bridge and triggered the first ever marine mammal special protection in NSW.</p>

What's next?

Work that is planned to occur in the following reporting period is highlighted 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	<p>External publication of the updated NPWS Marine Wildlife Management Manual on the public EES website.</p> <p>Finalise marine incident condition guidelines.</p> <p>Finalise NPWS Draft Operating Model for marine wildlife response.</p> <p>Attend the Federal Cetacean Roundtable.</p>
Partnerships to protect marine wildlife		NPWS	Statewide	<p>Deliver training for large whale disentanglement and general marine preparedness along the NSW Coast.</p> <p>Finalise MoUs with NSW Marine Rescue. Circulate to staff and provide briefings on procedures to follow.</p> <p>Complete pilot of marine wildlife response and large whale disentanglement accredited training and commence delivery to staff and partner organisations.</p> <p>Draft cultural protocols and provide initial document for consultation with Aboriginal staff and community.</p> <p>Commence audit of lighting infrastructure in prioritised coastal National Parks in alignment with the National Light Pollution Guidelines for Wildlife.</p> <p>Write project report for grants provided in June 2021 to support wildlife rescue and rehabilitation</p>

Project	Project icon	Lead agency	Location	Anticipated work
				<p>groups to improve outcomes for threatened and protected species. Deliver turtle slings to partners.</p> <p>Develop and release turtle nesting intervention protocols.</p> <p>Finalise seal sampling document with Australian Registry for Wildlife Health to improve sampling of pinniped carcasses and circulate to NPWS Operational staff involved in marine wildlife response.</p> <p>Finalise online training packages for internal and external stakeholders in marine wildlife awareness, evaluation and response.</p>
Education to protect and conserve marine wildlife		NPWS DPI-F NPWS	Statewide Greater Sydney	<p>Collate and report data and share with partners for Right Whale ID project.</p> <p>Develop resources to support local government coastal management planning.</p> <p>Consultation with local council, NPWS local staff and other stakeholders to commence development of seal related communications at an initial trial site to increase public awareness and understanding, with broader application including social media.</p> <p>Volunteer induction and training completed for shore bird nesting season.</p> <p>Report on initial findings of a coastal vessel survey in assessing compliance with approach distances.</p>
Improve reporting of interactions with marine wildlife		DPIE-EES NPWS	Statewide	<p>Scope requirements for Marine Wildlife reporting dashboard.</p> <p>Scope analysis of historical Elements data.</p>
Ocean Trap and Line Fishery observer survey		DPI-F	Central Coast and Sydney	On-board observer program monitoring commercial line fishers in the central bioregion (subject to COVID-19 risk assessments).
Estuary General Fishery observer survey		DPI-F	Statewide	<p>Detailed analyses of observer-based survey of the Estuary General Blue Swimmer Crab fishery completed and scientific paper submitted.</p> <p>Implementation of field sampling program for Estuary General Meshnet fishery.</p>
Ocean Trawl Fishery		DPI-F	Statewide	Spatio-temporal discarded bycatch community structure: A model based multivariate investigation of the NSW Ocean Prawn Trawl Fishery. The study aims to determine if there are

Project	Project icon	Lead agency	Location	Anticipated work
observer survey				space (fishing zone), time, and depth differences in discarding in the NSW Ocean Prawn Trawl (OPT).
Strategies for mitigating species interactions		DPI-F	Statewide	<p>Gear survey of Ocean Trap and Line fishers completed.</p> <p>Data collection (period 1) of Ocean Trap and Line gear trials.</p>
Species monitoring		DPIE-EES	Statewide	<p>Research prospectus finalised, approved and circulated to relevant stakeholders.</p> <p>Finalise research plan for a NSW penguin health project in partnership with EES stakeholders and Taronga Conservation Society.</p> <p>Finalise research plan with the Sydney Institute of Marine Science to scope biotoxin research to further understand turtle health.</p> <p>Finalise research plan to research impacts of the East Australian Current on humpback whale migratory pathways.</p> <p>Finalise research plan with the Australian Registry for Wildlife Health to complete a health assessment of New Zealand fur seals in NSW.</p> <p>Complete a NSW seal census in partnership with the Australian Registry for Wildlife Health.</p> <p>Finalise research plan with Peter Shaughnessy to develop research into swim with seal programs to inform management actions.</p>

More information

More information on Initiative 5 projects is 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.

A number of key achievements this reporting period despite considerably strict COVID-19 restrictions hampering operations.

Triannual progress and highlights



A breakdown of progress is outlined below.




Project	Project icon	Lead agency	Location	Progress
Harvest strategy development		DPI-F	Statewide	<p>Draft Trawl Whiting Harvest Strategy completed and released for public consultation during October 2021.</p> <p>Draft Lobster Harvest Strategy completed and to be released for public consultation during November 2021.</p> <p>Introductory workshops to introduce harvest strategies and fish stock assessment were held for both the Spanner Crab and Mulloway Harvest Strategy Working Groups.</p>
Harvest strategy research		DPI-F	Statewide	<p>In partnership with CSIRO finalised documents describing viable harvest strategy components, using the decision support tool 'FishPath', for priority species, including data monitoring, assessment and management measures.</p> <p>In partnership with University of Tasmania completed a review of available data sources for recreational fisheries in NSW to develop performance indicators from NSW Recreational Fisheries data sources. Research is ongoing, with generic measures from these data, to inform possible performance indicators, being investigated, with initial outputs having been focused on Yellowtail Kingfish, Snapper, Mulloway and Bream to understand data limitations and uncertainty.</p> <p>Ecological Risk Assessment development is ongoing, with specific application to non-targeted species in the Ocean Trawl fishery, mulloway across all fisheries and sectors, Ocean Trap and Line to support harvest strategy development and meeting export approval conditions.</p>
Recreational fishing environment assessment		DPI-F	Statewide	<p>Finalised Request for Quote (RFQ) for consultants to assist in the completion of the risk assessment of the environmental impacts of recreational fishing</p>

Project	Project icon	Lead agency	Location	Progress
				<p>in NSW (saltwater) which will form part of the environmental assessment of recreational fishing.</p> <p>Received and commenced distribution of responsible fishing gear to the community to reduce environmental impacts from recreational fishing - including educational and advisory materials.</p> <p>A Gone Fishing Day special on DPI Facebook, which attracted 50k people. In addition, approximately 50 Facebook posts and two Newscast editions distributed to anglers to communicate fishing rules, improve responsible fishing and enhance social licence.</p>
Fisheries enhancements		DPI-F	<p>Lake Macquarie, Newcastle</p> <p>South coast</p> <p>Eurobodalla</p>	<p>1,000 advanced sized (15-20cm) Mulloway stocked into each of Lake Macquarie and Hunter River.</p> <p>Contract secured with commercial fish supplier to produce dusky flathead for stocking into South Coast estuaries in late summer/autumn.</p> <p>Completion of fabrication of the Batemans offshore artificial reef. Preparations for deployment underway.</p>
Marine biosecurity awareness		DPI-F	Statewide	Communications Working Group established to guide development, approval and distribution of communication materials.

What's next?

Work that is planned to occur in the following reporting period is highlighted 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	Trawl Whiting Harvest Strategy submitted for adoption by the Minister.
Harvest strategy research		DPI-F	Statewide	<p>Present outputs from research to define viable harvest strategy components and draft harvest strategy options to internal stakeholders to support development of prioritised fisheries/specific species harvest strategies.</p> <p>Progress development and application of ecological risk assessment for ecological components for fisheries related to priority harvest strategies. Delivery of an expert workshop on the application of ecological risk assessment method to harvest strategy roll out.</p>

Project	Project icon	Lead agency	Location	Anticipated work
				<p>Progress identification and prioritisation of recreational fishing objectives developed in NSW Recreational Fishing Research projects.</p> <p>Progress investigations into performance indicators from NSW Recreational fishing data to inform harvest strategy development for multi-sector fisheries.</p>
Recreational fishing environment assessment		DPI-F	Statewide	<p>Distribution of responsible fishing gear to continue, crab traps and nets, release weights and catch and release mats currently being distributed to DPI Education Officers for broader statewide roll out.</p> <p>Risk assessment workshop on the environmental impacts of recreational fishing in NSW (saltwater) held.</p>
Fisheries enhancements		DPI-F	Eurobodalla	Installation of Batemans offshore artificial reef.
Marine biosecurity awareness		DPI-F	Statewide	<p>Print marine pest species ID cards and finalise poster production.</p> <p>Finalise biofouling and marine pest reporting merchandise range.</p> <p>Finalise and publish online short biofouling and marine pest graphic videos and interactive posters.</p>

More information

More information on Initiative 6 projects is 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.

Initiative 7 is continuing to progress in its implementation of projects for safe and sustainable boating. Projects relating to Environmentally Friendly Moorings and Boating Now are progressing well. The annual mooring audits are now complete with Mooring Bay inspections integrated into business as usual activity.


Triannual progress and highlights

A breakdown of progress is outlined below.

Project	Project icon	Lead agency	Location	Progress
Boating Now		TfNSW	Statewide	Nine out of 69 projects funded by Boating Now Round 3 have been completed.
Mooring audits		TfNSW	Statewide	Inspected all ~22,000 moorings over the last two years. Mooring bay inspections now integrated into business as usual activity.
Review of offshore anchoring		DPI-F	Wollongong	Completed statistical analysis on the ecological effects of anchoring on seafloor biodiversity.

What's next?

Work that is planned to occur in the following reporting period is highlighted 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
Review of offshore anchoring		DPI-F	Wollongong	<p>Submission of an article to a scientific journal on the ecological effects of large ships anchoring on seafloor biodiversity.</p> <p>Social science surveys of fishers on possible social effects of offshore anchoring.</p>

More information

More information on Initiative 7 projects is 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.

The focus for Initiative 8 in this period has been on interagency engagement and planning to ensure that long-term outcomes are delivered over the life of the Strategy. This has involved significant scoping work to build on existing projects and initiate new projects for future stage/s. Our understanding of community benefits derived from the marine estate continues to improve through the results from the Statewide community surveys and implementation of new research. In particular, the initiation of the economic valuation project is providing novel insight into the market value of the marine estate and laying the foundations for long-term monitoring of economic benefits. Blue economy is a new project starting in 2021-2022.






Triannual progress and highlights

A breakdown of progress is outlined below

Project	Project icon	Lead agency	Location	Progress
Marine estate education Strategy		DPI-F	Statewide	The Marine Estate Education Strategy is now in the final stages of revision and is due to be publicly released in early 2022.
Maritime heritage review		DPI-F	Statewide	Scoping began to expand maritime heritage work piloted in Coffs Harbour to other sites located within the NSW marine park network.
Social and cultural benefits monitoring and research		DPI-F	Statewide	<p>Youth surveys launched via Facebook and Instagram with 646 surveys completed at 28 October 2021.</p> <p>Recommencement of fieldwork for the Sea Country survey project following COVID-19 restrictions.</p> <p>Draft report on the results of the 2021 NSW coastal resident and visitor survey results completed.</p>
Economic benefits monitoring and research		DPI-F	Statewide	<p>Re-established the economic technical working group to inform economic benefits monitoring and economic valuation work.</p> <p>Draft market-based valuation report for the NSW marine estate completed and made available for key stakeholder review.</p>

What's next?

Work that is planned to occur in the following reporting period is highlighted 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	Statewide	Public release of the Marine Estate Education Strategy.
Maritime heritage review		DPI-F	Coffs Harbour	Initiation of a maritime heritage project/s at selected site/s within the NSW marine park network.
Social and cultural benefits monitoring and research		DPI-F	Statewide	<p>Draft report on results of the coastal youth survey complete.</p> <p>Draft report on results of the Sea Country survey complete.</p> <p>Public release of report on the results of the 2021 NSW coastal resident and visitor surveys.</p> <p>Implementation of an internal MEMA staff agency survey to improve understanding of the effectiveness of the Strategy.</p>
Economic benefits monitoring and research		DPI-F	Statewide	Public release of the market-based valuation report for the NSW marine estate.
Blue growth economy		DPI-F	Statewide	<p>Establish a blue economy working group to steer the project.</p> <p>Develop a blue economy detailed requirements scoping report to inform a request for quote inviting consultants to tender for the first phase of project implementation – A high level blue growth strategy for NSW.</p>

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 holistic governance. The Initiative is now embedding protected area planning and management for the five coastal mainland marine parks in NSW, aquatic reserve management, and compliance in the Greater Sydney region.

Individual projects are proceeding according to approved scope.


Triannual 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	Key actions from aquatic reserve program planning include a focus on research and on communications with stakeholders and the public. Working with University of Wollongong to access existing research data on aquatic reserves, particularly around social values. Collating materials and information for use in communications, including signage and webpages.
Greater Sydney region compliance focusing on marine protected areas		DPI-F	Newcastle to Wollongong	<p>COVID lockdowns saw a significant increase in new recreational fishers. Fisheries Officers undertook education of these new fishers to increase awareness of recreational fishing size and bag limits. Extended surveillance including night operations, were successfully conducted in key coastal locations to track locations of high-risk offenders.</p> <p>A total of 16 offences were reported by officers comprised of 13 penalty notices and 3 written cautions. These offences arose from 71 inspections that resulted in an observed compliance rate of around 95%.</p>

What's next?

Work that is planned to occur in the following reporting period is highlighted 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	<p>Finalise contract with Wollongong University to assess existing social and ecological data on some aquatic reserves and intertidal protected areas.</p> <p>Continue delivery of community engagement.</p>

Project	Project icon	Lead agency	Location	Anticipated work
Improved Marine Park Management Planning		DPIF	NSW Marine Parks	Release draft Management Plan for the NSW Mainland Marine Park Network for public consultation. Provide briefings for the five mainland Marine Park Advisory Committees.

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. We are also seeking to improve communication, engagement and education to increase community awareness of the marine estate, associated threats and benefit, and enable effective community participation. In addition, at the strategic level we are implementing a monitoring program to fill key knowledge gaps, evaluate the effectiveness of the Strategy, and monitor condition and trend of environmental, social, cultural, and economic benefits derived from the marine estate. This contributes to a 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>Establishment of year 2021/22 financial year budgets and project management processes.</p> <p>MEMS Stage 2 (2021/22) Implementation plan is live on the web.</p> <p>Standardised metrics and spreadsheet developed to capture project reporting consistently.</p> <p>Updated Stage 1 achievements infographic to reflect MEMS achievements to date.</p>
Better geographic information systems (GIS) for the marine estate		DPI-F	Statewide	<p>Prepared dataset assessing grazing land use adjacent to estuarine vegetation for Fisheries Compliance.</p> <p>Launched updated maps for the FishSmart app, including a change of mapping software (Mapbox).</p> <p>Published remnant Oyster Reef mapping data to the Fisheries Spatial Data Portal for public access.</p> <p>Compiled online spatial information package to assist marine park advisory committee members.</p> <p>Digitised over 3500 points from paper topographic maps to contribute to Fish Passage Database.</p>
Monitoring Program – program management		DPI-F	Statewide	<p>Technical reports outlining monitoring of community wellbeing and environmental condition are being prepared by MIMP Technical Working Groups.</p>

Project	Project icon	Lead agency	Location	Progress
				<p>A MIMP data management strategy, communication and engagement strategy, and reporting materials are under development.</p> <p>The baseline evaluation of the Strategy is complete and the final report has been delivered. Evaluation recommendations are being actioned.</p> <p>MEMS initiative monitoring plans refined through extensive consultation with initiative and project leads. These plans will be made available via an updated Integrated Monitoring and Evaluation Framework to be uploaded to the marine estate website.</p> <p>Threat and Risk Assessment Five-Year Review: Technical working groups are developing specific criteria that will be used to guide the review process. Scoping and reviewing background information has commenced. A list of additional/emerging threats are being identified.</p> <p>The internal MIMP team held a workshop in Oct 2021 on how to consolidate and best present information through the MIMP. The workshop focused on identifying the overarching themes to report on the condition of the marine estate, discussing key audiences and how they will engage with the material, how we want to visualise/present the information, and how this aligns with other monitoring programs.</p>

What's next?

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

Project	Project icon	Lead agency	Location	Anticipated work
Strategy program management		DPI-F	Statewide	<p>Publish MEMS Implementation Annual Report 2020/21 providing an overview of MEMS deliverables, key highlights and communications.</p> <p>Planning for statewide internal MEMS Project Management Training to include risk and financial management, stakeholder engagement and communications.</p>
Monitoring Program – program management		DPI-F	Statewide	<p>MIMP database prototype development.</p> <p>Threat and Risk Assessment Five Year Review framework approach finalised.</p>

Project	Project icon	Lead agency	Location	Anticipated work
				Continue compiling and updating relevant background information. An internal options paper for integrated report cards drafted. Draft MIMP Communications and Engagement Plan completed.

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
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
July				
	NSW community	Instagram	1	Temperature loggers
	NSW community	Instagram	1	False killer whales visit Jervis Bay
	NSW community	Instagram	1	Who likes macadamias?
	NSW community	Instagram	4	Experience Sea Country virtually this NAIDOC week
	NSW community	Instagram	4	Celebrating NAIDOC week in collaboration with Parks Australia
	NSW community	Instagram	4	Today's NAIDOC week artwork
	NSW community	Instagram	4	Celebrating NAIDOC week -Sea Beach artwork
	NSW community	Instagram	2	Clean Coastal Catchments
	NSW community	Instagram	4	Today's NAIDOC artwork – Sea Country
	NSW community	Instagram	5	Finding Nemo – the McCullocks Anemonefish
	NSW community	Instagram	8	Snorkelling in winter?
	NSW community	Instagram	1	Ready, set, action
	NSW community	Instagram	5	Cauliflower soft coral under threat
	NSW community	Instagram	2	High density housing for fish
	NSW community	Instagram	8	Walking on the beach
	NSW community	Instagram	8	Surfing at Newcastle Beach
	NSW community	Instagram	1	NSW shellfish reef restoration
	NSW community	Instagram	8	Blue sea dragon
	NSW community	Instagram	5	Crested horn shark egg
	NSW community	Instagram	5	Lord Howe lagoon beach
	NSW community	Instagram	5	Birds of Arrawarra
	NSW community	Website	1	NSW Shellfish Reef Restoration guidelines
	NSW community	Website	1	MEMS online forum for local councils
	NSW community	Website	1	Don't be a tosser
	NSW community	Website	5	Bushranger Aquatic Reserve
August				
	NSW community	Instagram	5	Bushranger Aquatic Reserve
	NSW community	Instagram	8	Enjoying the beach
	NSW community	Instagram	5	Spare some love for seaweed
	NSW community	Instagram	8	Blue periwinkles
	NSW community	Instagram	5	Sooty oystercatchers
	NSW community	Instagram	8	Winter sunrise at Coogee beach

Date	Stakeholder	Activity	Initiative	Communication and engagement
	NSW community	Instagram	2	Magical mangroves
	NSW community	Instagram	8	Emerald beach
	NSW community	Instagram	8	Brahminy kite
	NSW community	Instagram	8	The wreck of the barquentine "Buster"
	NSW community	Instagram	8	Cormorant or Darter
	NSW community	Instagram	8	Rockpools – tiny underwater worlds
	NSW community	Instagram	5	Southern right whale and calf in Jervis Bay
	NSW community	Instagram	8	Kayaking around Clark Island
	NSW community	Instagram	3	Monitoring kelp forests
	NSW community	Instagram	4	White bellied sea eagle
	NSW community	Instagram	8	Sitting on the dock of the bay
	NSW community	Instagram	1	Oyster reefs deliver better water quality for Port Stephens-Great Lakes Marine Park
	NSW community	Instagram	2	Clean Coastal Catchments September webinar
	NSW community	News story	5	Southern right whale and calf in Jervis Bay
	NSW community	News story	1	Oyster reefs deliver better water quality for Port Stephens-Great Lakes Marine Park
	NSW community	News story	1	Improving water quality by reducing sediment run off
September				
	NSW community	Instagram	1	Control of erosion and sediment on construction sites
	NSW community	Instagram	1	Wapengo Lake
	NSW community	Instagram	2	Berry good
	NSW community	Instagram	5	Protect and conserve marine wildlife
	NSW community	Instagram	7	Recreational boater education
	NSW community	Instagram	8	Estuarine water quality monitoring
	NSW community	Instagram	2	Managing private foreshore structures
	NSW community	Instagram	4	Aboriginal management of Sea Country
	NSW community	Instagram	1	Fish friendly breakwalls
	NSW community	Instagram	3	Climate change research
	NSW community	Instagram	1	Marine water quality project in Emigrant Creek Catchment
	NSW community	Instagram	6	Marine biosecurity awareness
	NSW community	Newsletter		Marine estate newsletter

Date	Stakeholder	Activity		Communication and Engagement
October	NSW community	Instagram	1	Don't be a tosser
	NSW community	Instagram	2	Marine vegetation strategies
	NSW community	Instagram	7	Maritime infrastructure
	NSW community	Instagram	9	All our latest news
	NSW community	Instagram	2	Reviewing jetty designs
	NSW community	Instagram	2	Oyster farmers protecting seagrass
	NSW community	Instagram	2	Coastal wetland rehabilitation
	NSW community	Instagram	1	You're invited
	NSW community	News story	5	Bringing endangered seagrass into the classroom
	NSW community	News story	2	Clean Coastal Catchments newsletter
	NSW community	News story	9	MEMS implementation plan