

Open Coast - Coastal Management Program

DRAFT Management Actions

ID	Category	Location	Issue	Action Name	Action Description	Timeframe	Priority	Lead Agency	Support Agencies	Performance Measures
CW-S01	Access & Safety	LGA-wide	Increased erosion/scour associated with stormwater assets. Stormwater assets impacted by coastal inundation	Monitoring and improvement of coastal stormwater outlets	The inspection of all coastal stormwater outlets to identify those at risk from coastal hazards and opportunities where upgrades can be implemented or retrofitted in order to protect assets, reduce erosion from stormwater scour and/or improve public safety. These locations would also be regularly monitored to assess performance and improvements.	Short	High	Council		- program for inspection of stormwater outlets developed, inspections undertaken and concept designs developed - improved public safety, water quality and amenity - reduced erosion at stormwater outlets and reduced impact on surrounding assets
CW-S02	Access & Safety	LGA-wide	Risk to public safety due to wave run up, wave overtopping, cliff instability, rockfalls and coastal erosion	Develop and implement an integrated coastal processes and hazards education and awareness program	The development and implementation of an integrated education program focused on improving community understanding of local coastal hazards, processes and related topics, such as water quality, marine ecology and marine litter, to promote the safe and sustainable use of our coast. This action should include an update to and installation of new coastal hazard and educational signage and the ongoing monitoring of locations that pose a high risk to public safety.	Short	Medium	Council		Program developed and signage installed. Improved community understanding of coastal hazards and coastal environment
CW-S03	Access & Safety	LGA-wide	Informal private access and use damaging vegetation and impacting on recreational amenity for the public	Develop and implement coastal compliance procedures	The procedures would improve public safety and environmental outcomes at our beaches by outlining the actions, processes and responsibilities concerning compliance enforcement and the management of encroachment, illegal dumping, unapproved structures, unlawful activities and vegetation clearing. It will include a review of planning controls and resourcing, provide guidance to homeowners for "steps to remediation", make it easier for the public to "report an issue" and cover signage and monitoring aspects.	Short	Medium	Council	Crown Lands, Fisheries, Environmental Protection Authority, NSW Police, National Parks, Local Aboriginal Land Services	Procedures developed, published and implemented. Improved dune environment and recreational amenity
CW-S04	Access & Safety	LGA-wide	- Inaccessible beach accessways impacted by coastal erosion - Damage to dunes and safety concerns due to generation of informal/unauthorised beach accessways - Safety concerns regarding exposure and mobilisation of buried remnants of historic foreshore protection works - Injury to beach users caused by structures mobilising during storm events - Dune instability/steep dune scarp impacted by coastal erosion - Damage to coastal recreational assets from storm events	Review and implement updated Beach Maintenance Program	Council's Beach Maintenance Program would be reviewed and implemented to improve public beach access, amenity and safety. The action would include prioritisation and upgrades to beach accessways in line with the Recreational Use Study and Council's Disability Inclusion Action Plan. The program would outline the management of post-storm beach access and safety, where small-scale works such as beach scraping for amenity purposes may be undertaken and beach and dune fencing. It will also include an audit on beach maintenance operations to maximise inhouse efficiencies to ensure that the necessary plant and equipment is available to effectively implement the program.	Short	Medium	Council		Beach Maintenance Program reviewed, updated and implemented in conjunction with Council's beach maintenance crews. Improved beach access, safety and amenity, improved dune environment
CW-S05	Access & Safety	LGA-wide	Limited or out-dated information available on key indicators of coastal hazards and coastal dynamics	Develop and implement a Coastal Monitoring Program	The coastal monitoring program would use progressive monitoring techniques to collect essential information about coastal processes and hazards to improve the management of our beaches. It would include beach surveys to monitor changes in sand volumes, risk exposure, dune condition and beach amenity. The data collected would allow annual Beach Health Reports to be developed and better inform future coastal hazard studies and investigations. Beach usage should be included in the monitoring to better understand current demand and locations requiring further investment in the future.	Short	High	Council	DCCEEW	Development of coastal monitoring program, considering existing initiatives such as CoastScan. Improved understanding of local coastal processes, beach usage
CW-S06	Access & Safety	LGA-wide	Coastal hazards impacting viability of existing and future infrastructure long term, need for long-term coastal adaptation planning	Investigate and develop a Coastal Hazard Adaptation Strategy for affected coastal communities	Develop a Coastal Hazard Adaptation Strategy that will consider future risk to our community from coastal hazards and investigate adaptation measures and pathways to support and enhance the resilience of our coastal communities.	Long	Medium	Council	DCCEEW Reconstruction Authority	Long-term Coastal Hazard Adaptation strategy developed and communicated for high-risk areas. Improved resilience of coastal infrastructure from long term coastal hazards
CW-S07	Access & Safety	LGA-wide	Coastal erosion threatening coastlines and infrastructure	Investigate feasibility and responsibilities of long-term sand nourishment licences	Investigate the feasibility, process and responsibilities of long-term sand nourishment licences and work with the State Reconstruction Authority to support their actions on offshore sand nourishment in the State Disaster Mitigation Plan (SDMP)s.	Short	High	Council	Reconstruction Authority DCCEEW	Approval pathway confirmed and feasible options developed for large scale offshore beach nourishment at priority locations
CW-S08	Access & Safety	LGA-wide	Inconsistent standards of SLSC's patrol towers along the coast. Unable to provide sufficient public services.	Prioritise and upgrade beach life guard patrol towers and ancillary structures	This action would involve undertaking an audit of beach life guard patrol towers and ancillary structures to ensure their adequacy, performance and safety from coastal hazards. Necessary upgrades and improvements required would be prioritised and implemented to ensure required functions continue to be performed.	Medium	Medium	Council		Vulnerable life guard patrol towers identified and improvements/upgrades implemented

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SB02	Access & Safety	Pebbly Beach	Safety hazard due to unfenced cliff line at southern carpark of Soldiers Beach	Investigate options to improve public safety at Soldiers Point headland	Undertake an assessment of public safety at the Soldiers Point headland overlooking Pebbly Beach and investigate options to manage the risks associated from the exposed cliff and instability.	Medium	Medium	Council	NPWS	Public safety hazard assessed and eliminated
CW-A01	Amenities	LGA-wide	Aging or incompatible coastal recreation amenity infrastructure not compliant with engineering standards or industry best practice	Coastal recreation assets and infrastructure renewal program	This action involves the review, prioritisation and delivery of coastal recreation assets, public amenities and infrastructure upgrades and investigations to support and enhance beach visitation and recreational opportunities, now and into the future, guided by the recommendations from the Recreational Use Study.	Short	Medium	Council		Priority locations for coastal recreation assets identified, upgrades designed and delivered
CW-A02	Amenities	LGA-wide	Lack of guidance for implementing and assessing coastal protection works	Develop and implement Coastal Engineering Design Requirements	The Coastal Engineering Design Requirements will help to achieve a more a sustainable and resilient coastline by clarifying expectations to designers, engineers and architects concerning coastal development. It will outline key design principles to ensure that development is appropriately designed for coastal hazards, addresses coastal processes, considers public safety and mitigates environmental impacts.	Short	High	Council		Coastal Engineering Design Requirements developed, reviewed, adopted and implemented for assessment of DAs
CW-A03	Amenities	LGA-wide	Insufficient waste facilities and collection at coastal locations impacting amenity	Review waste collection assets and servicing in coastal public spaces	Work with internal business units and service providers to review the adequacy of waste collection assets and servicing along the coast. The review would be focused on ensuring that infrastructure and assets are sufficient to meet current demands, seasonal and event variations and opportunities for improvement to reduce the environmental and amenity impacts from marine litter and debris. This action should also include the management of post-storm and flood debris.	Short	Low	Council		Waste collection assets identified and upgraded. Management plan for removal of post-storm debris developed and implemented
CW-H01	Coastal Hazard	LGA-wide	Need for stronger planning controls to manage development in the coastal zone in relation to coastal hazards	Review and update coastal development planning controls and undertake Planning Proposal to adopt Coastal Vulnerability Area	The review, update and implementation of new coastal hazard planning controls within the Development Control Plan, based on the latest available coastal hazard study and information, will ensure a consistent and best-practice approach to protecting the environment and communities from coastal hazards. Council will also prepare and submit a Planning Proposal to adopt a Coastal Vulnerability Area (CVA).	Short	High	Council	DCCEEW	DCP updated and implemented, Planning Proposal submitted, CVA developed and included in RH SEPP/LEP
CW-H02	Coastal Hazard	LGA-wide	Legacy coastal emergency works on beaches which no longer serve purpose, causing detrimental impacts or timeframe expired.	Identify the extent, nature and condition of existing coastal emergency works (including potential removal or remediation)	This investigation will identify and document existing emergency, legacy and unauthorised coastal protection works, including the type of works, extent, condition and the risk they pose to public safety and coastal processes. This information will allow these works to be strategically managed, decommissioned, remediated or modified as necessary and at the appropriate time.	Medium	Medium	Council		Legacy and unauthorised coastal protection works identified, assessed and site specific plan developed for each
CT01	Coastal Hazard	Cabbage Tree	Structural integrity/slope stability	Design and construct Stage 2 of the existing Cabbage Tree Harbour toe drainage structure	Design and construct Stage 2 of the toe drainage structure at Cabbage Tree Harbour to further reduce the incidence of landslip and improve beach safety. The works were originally constructed with a 15 year design life and Stage 2 is required to add an additional layer and increase the crest height to ensure adequacy for future coastal conditions. Refer Appendix D for concept and further details.	Medium	Medium	Council	DCCEEW Crown Lands	Detailed design undertaken and works implemented
MM01	Coastal Hazard	MacMasters	Coastal erosion impacting Marine Parade	Complete coastal risk and options assessment for Marine Parade at MacMasters Beach	This action will involve completing a local detailed coastal hazard assessment to better understand the erosion and recession risk at this location. The updated information will be used to inform an options assessment which would investigate the most appropriate long-term adaptive management approach.	Medium	Medium	Council	DCCEEW, Crown Lands	Management options identified, design undertaken and works implemented
EN01	Coastal Hazard	LGA-wide	Unknown impacts associated with legacy landfill sites or other contamination that be become exposed following erosion.	Monitor and manage risk of contamination from closed landfill sites	Monitoring and management of legacy closed landfill sites within the coastal hazard area to reduce the risk of contamination during severe weather events.	Medium	Low	Council		Legacy landfill sites identified, risk of contamination assessed and appropriate management measured designed/implemented.
EN02	Coastal Hazard	The Entrance North	High risk from beach erosion at North Entrance Beach	Continue to nourish The Entrance North Beach with sand from The Entrance channel berm management or dredging activities when available to increase beach amenity and resilience.	Historically Council has dredged sand from the active tidal delta in The Entrance channel on occasion and placed the sand on North Entrance beach. However, there is currently no commitment to dredge or place sand at any preference areas. This action would allow Council to place sand nourishment sourced from maintenance activities in the channel onto North Entrance Beach to reduce (but not eliminate) the risk from coastal erosion. Refer to Appendix D for more information regarding the rationale for this action.	Short	High	Council	DCCEEW, TfNSW, Fisheries, Crown Lands	Sand nourishment placed onto North Entrance Beach, erosion risk reduced.
EB01	Coastal Hazard	The Entrance	Structural integrity	Review the structural integrity and extent of the foreshore revetment and embankment protecting Marine Parade, The Entrance and undertake remedial works as required	Review the structural integrity and extent of the foreshore embankment stabilising Marine Parade that extends north from The Entrance Surf Life Saving Club. Following construction of the groyne on The Entrance Beach by State Government, the structure has been increasingly exposed and impacted. Undertake upgrades, extensions or replacement as required. This action may incorporate outcomes from MIDO's review into the existing rock groyne.	Short	Medium	Council	TfNSW, Crown Lands	Foreshore protection works assessed, upgrade designed and implemented
WB01	Coastal Hazard	Wamberal Beach	Coastal erosion threatening private properties and public infrastructure	Undertake an engineering review of the Wamberal Beach engineering design requirements (EDR) so that they may be referred to in future revisions of Council's Coastal Development Control Plan (DCP)	Review the Wamberal Beach EDR's to include geotechnical engineering design requirements and allow for a design that can be implemented, with a view to being able to include in Council's DCP to ensure all development applications for the Wamberal Beach coastal protection works are in accordance with the guidelines. <ul style="list-style-type: none"> The EDRs should be seen as a “living document”, a guideline that should be regularly reviewed and updated to keep it up to date with the latest available information and best practice. The EDR's themselves recognise this e.g. on page 13 “The sand nourishment triggers and replenishment volumes to maintain beach amenity are to be reviewed periodically.” 	Short	High	Council	DCCEEW	Future DAs compliant with Engineering Design Requirements and able to be supported/approved by the Regional Planning Panel Development and assessment of coastal protection works in accordance with NSW Planning legislation.

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					<ul style="list-style-type: none"> As they currently stand the key criteria for terminal protection design on page 5 of the EDRs specify a “seawall” rather than simply “coastal protection works” – this appears to limit the type of structure, being to a vertical seawall (by definition), which would present a number of technical difficulties for implementation, for example, the need for ground-anchors to be installed which may not be practical due to the need to excavate under proximity of the houses and their foundations. The EDRs need to be flexible enough to allow other types of coastal protection works designs to be put forward and considered for assessment in a DA and not be limited to a vertical seawall. 					
WB02	Coastal Hazard	Wamberal Beach	Coastal erosion impacting Planning Ministerial Corporation land at Wamberal	Implement whole of embayment terminal protection solution for Wamberal Beach Council owned lands in accordance with the principles of the Engineering Design Requirements	The CMP acknowledges Council's resolution of 11 October 2022 to adopt Engineering Design Requirements for the Wamberal beachfront. Council and the NSW Government to work together to implement whole of embayment terminal protection solution for Wamberal Beach public owned lands in accordance with the Key Criteria for Terminal Protection Design at Wamberal Beach as documented in the Engineering Design Requirements. The solution will need to complement any approved development that is led and put forward by private landowners along the Wamberal beach frontage noting that the approved solution may not necessarily be a vertical seawall.	Short	High	Council		Whole of embayment solution approved and implemented in conjunction with adequately designed and funded beach nourishment program
A01	Coastal Hazard	Avoca, other low-lying areas as identified in the coastal hazard assessment	Flat beach profile, no protection from wave overtopping	Undertake a detailed wave overtopping and inundation assessment for high risk locations	Undertake a detailed wave overtopping and inundation assessment at high risk locations identified in the coastal hazard study to improve public safety and better inform coastal planning. The detailed assessment should include analysis of the current and future risk, as well as the consideration of options for managing the risk to public and private assets and public safety. Short term management options may include updating local planning controls and/or soft engineering strategies	Short	High	Council	DCCEEW	Options developed and implemented for management of overtopping at high risk locations
EB02	Coastal Hazard	The Entrance	Depletion of sand along southern side of The Entrance channel and undermining of seawall	Investigation and management of adverse groyne impacts	Collaborate and support the Marine Infrastructure Delivery Office in the investigation of options, including removal, and management of all adverse impacts caused by the construction of the rock groyne at The Entrance beach. The structure was installed by the NSW Government in 2017 with the context of a short-term 10-year trial.	Medium	Medium	TfNSW (MIDO)		Discussions held with MIDO and agreement on management of future impacts from groyne developed
T02	Coastal Hazard	Terrigal (The Haven)	Structural Integrity of seawall at The Haven	Options study for replacement of aging seawall at The Haven	Undertake an options study to assess feasible foreshore masterplans and design options for the upgrade, or replacement, of the sandstone block seawall at The Haven and surrounding area, with reference to recommendations of the engineering review of the existing structure.	Medium	High	Council	Crown Lands	Options study undertaken and seawall upgraded
CW-C01	Community & Social	LGA-wide	Need for community and agency representation to support decision making	Continue the role of a coastal, estuary and floodplain management Advisory Committee	Continue to support the role of an Advisory Committee responsible for providing advice and input on the sustainable management of our coastal, estuarine and flood liable areas.	Short	High	Council		Committee established, terms of reference established, meets regularly and comprises appropriate cross-section of the community and agency representatives
CW-C02	Community & Social	LGA-wide	Lack of detailed cultural and heritage assessments across the LGA. Need for Aboriginal Heritage Impact Permits in areas affected by coastal erosion.	Work with First Nation groups and stakeholders to evaluate arrangements for undertaking beach maintenance operations	Collaborate with First Nation groups and stakeholders to evaluate beach maintenance operations to ensure their appropriateness for works in sensitive areas. This action will include update of protocols to be followed in the event Aboriginal sites or heritage is discovered and/or threatened by erosion during storms, information to be communicated through interpretive signage along the coast and obtaining Aboriginal Heritage Impact Permits where they may be required to support essential works for public safety and access, such as post-storm management of beach accessways.	Medium	Medium	Council	LALC	Culturally sensitive sites identified. Beach maintenance undertaken in accordance with statewide code of practice.
CW-C03	Community & Social	LGA-wide	Unapproved memorial sites	Management of unapproved memorials in public coastal spaces	Work with internal business units to review the appropriateness and/or removal of unapproved memorials installed in public coastal spaces on Council land or Council managed Crown Land.	Medium	Low	Council		Unapproved memorials removed from public areas
CW-C04	Community & Social	LGA-wide	Community awareness of coastal hazards and issues	Update and maintain Council's website to improve awareness and make information on coastal processes, hazards and issues more accessible	Update Council's website to provide accessible information relating to coastal processes, hazards, coastal management issues, educational resources, coastal projects and coastal data. Website to be regularly reviewed and updated as appropriate to ensure relevancy and accuracy of information as new information is obtained or new coastal management issues emerge.	Short	High	Council		Website updated and maintained according to regular review schedule, level of public engagement analysed
CW-C05	Community & Social	LGA-wide	Community awareness of cultural issues and practices, lack of understanding of traditional knowledge for managing the coast	Knowledge sharing and protection of cultural heritage	Engage and collaborate with local First Nations groups to share cultural knowledge, understand their concerns and priorities and identify opportunities to acknowledge and protect and preserve cultural heritage sites and values from coastal hazards.	Medium	Medium	Council	LALC	Vulnerable cultural heritage values and assets identified and protected from coastal hazards
CW-D01	Development	LGA-wide	Need for geotechnical information to inform planning decisions	Develop and maintain a coastal geotechnical database	Develop and maintain an internal database of coastal geotechnical information to better understand the underlying geology of the region and inform coastal management and planning decisions. It will involve the collation of all available geotechnical data along our coast from all available sources and include geotechnical and structural constraints. Information to be provided to NSW SES for consideration for use in emergency management.	Medium	Medium	Council	DCCEEW	Database of geotechnical information developed and provided to NSW SES
CW-D02	Development	LGA-wide	Geotechnical investigation	Conduct geotechnical investigations to improve understanding of underlying geology along the coast	Complete a gap analysis to identify where additional or contemporary geotechnical information is required to support improved management, emergency response and planning decisions and conduct investigations as required.	Medium	Medium	Council	DCCEEW	Gaps in geotechnical information identified and geotechnical investigations undertaken
CW-D03	Development	LGA-wide	Infrastructure at risk	Develop a coastal assets at risk register and update asset management program	This action involves auditing coastal assets and infrastructure to inform development of a register identifying those at risk of coastal hazards, now and into the future. This information would be	Medium	High	Council	Crown Lands	Coastal assets register developed, condition inspections undertaken,

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					integrated with Council's asset management program to ensure effective maintenance, management and planning of coastal assets to improve amenity, resilience and community safety.					assets at risk identified and upgrades designed/implemented
CW-D04	Development	LGA-wide	Rock/ocean pools maintenance and accessibility	Continue to improve accessibility and inclusiveness of coastal and foreshore areas	As guided by Council's Disability Inclusion Action Plan, this action involves continuing to improve the accessibility and inclusiveness of our beaches and foreshore areas, such as investigating and implementing access upgrades and ensuring that new infrastructure projects consider and incorporate universal design principles.	Medium	Medium	Council	Crown Lands	Access upgrade locations identified, designed and implemented
CW-D05	Development	LGA-wide	Lack of awareness of property owners for properties affected by coastal hazards	Review coastal hazard notations and planning certificates	As new coastal hazard mapping and information becomes available, planning certificates should be regularly reviewed to ensure properties potentially affected by coastal hazards contain an appropriate notation.	Medium	Medium	Council	DCCEEW	Planning certificates reviewed and appropriate notations added
CW-E01	Ecological Environment	LGA-wide	Reduced water quality from urban catchments, leading to reduced water quality in open coast receiving waters	Review and implement Council's coastal water quality monitoring program	Council's existing coastal water quality monitoring program will be reviewed, updated and implemented to continue protecting and enhancing the water quality along our coastline. The program will be expanded to include the monitoring of ocean wastewater and stormwater outfalls, improved education and awareness initiatives and public accessibility to water quality information, including the potential expansion of sites to be included in the Beachwatch program.	Short	Medium	Council		Water quality program reviewed, updated and implemented. Program integrated with that for the Coastal Lagoons.
CW-E02	Ecological Environment	LGA-wide	Invasive weeds and pests reducing the diversity and abundance of native species. Lack of guidance for appropriate planting in the coastal zone. Lack of guidance for appropriate fencing/dune stabilisation controls in the coastal zone. Illegal vegetation clearing.	Develop and implement a Coastal Vegetation Strategy	This action would involve surveying coastal and dune vegetation to inform the development of a Coastal Vegetation Strategy aimed at supporting and enhancing coastal resilience, ecosystem integrity, beach amenity and conservation outcomes. The strategy will guide the on-ground management to achieve these outcomes and involve elements such as the management of priority weed species, dune stabilisation and planting, tree restoration and succession planting, education opportunities for the public and community groups and remediation actions required in instances of illegal clearing.	Short	Medium	Council		Strategy developed, published and implemented
T01	Ecological Environment	Terrigal, Toowoona, Copacabana	Would like to see the area from The Anchor to Terrigal beach made into a Marine Park same as what is at Nelson Bay. (Pinpoint) Shark management. Threatened species management. Biodiversity conservation. Education.	Undertake and support research projects and citizen science initiatives aimed at enhancing and conserving marine biodiversity, science, recreation and education	Collaborate and support agencies, universities, organisations and community groups undertaking projects or research aimed at enhancing and conserving marine biodiversity, science, recreation and education. This may include initiatives such as shark management, threatened species management, marine protected areas or citizen science projects, such as CoastSnap.	Long	Medium	DPIRD-Fisheries	Council, Crown Lands	Specific research projects and partnerships identified
SB01	Ecological Environment	Soldiers Beach	Dune blowout at southern carpark	Undertake dune management works at the southern carpark of Soldiers Beach	Undertake works aimed at reducing the volume of wind transported sand into the carpark, including the installation of dune forming fencing, dune revegetation and upgrade/replacement of the dune retaining wall. Also investigate whether the vehicle access from the southern slip rail is still required following completion of the new vehicle access ramp.	Medium	Medium	Council		Dune fencing installed dune vegetated and stabilised