

Coastal Management Plan

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Prepared by: Coastal Planning, Department of Environment, Science and Innovation

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Part 1—Introduction

Purpose

The Coastal Management Plan is prepared under the *Coastal Protection and Management Act 1995* (Coastal Act) to describe how the coastal zone of Queensland is to be managed (see Figure 1 – Coastal zone).

The objects of the Coastal Act related to coastal management are to—

- provide for the protection, conservation, rehabilitation and management of the coastal zone, including its resources and biological diversity, and
- encourage the enhancement of knowledge of coastal resources and the effect of human activities on the coastal zone.

This plan provides direction and guidance for use of Queensland's coastal resources to achieve coastal management outcomes. It is primarily aimed at local government, which is responsible for managing large areas of public coastal land, including beaches. However, State Government, Traditional Owners, national and state marine park managers, port authorities, and other managers of the coast and tidal water, will also find the policies and supporting information useful in guiding management decisions on the coast.

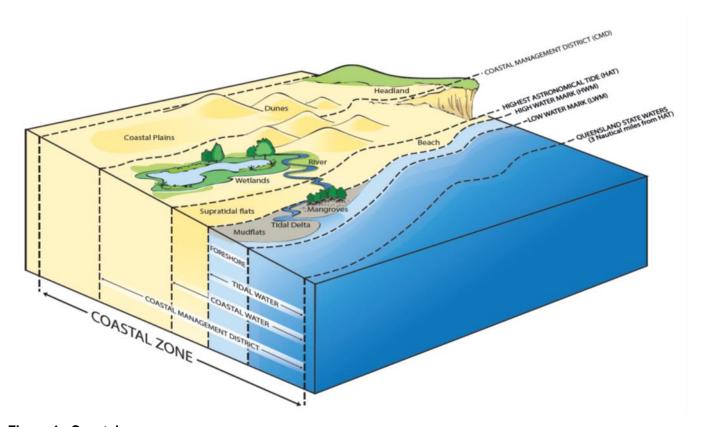


Figure 1. Coastal zone

This Coastal Management Plan is a new plan that reflects legislative changes since 2014, when the previous plan was published. It also addresses a refined scope of coastal policies that remain relevant under the Coastal Act.

What are coastal resources?

Coastal resources consist of the natural and cultural resources of the coastal zone and include physical features, processes, places or objects that have ecological, economic or social value.

Queensland's coastal resources include coastal waters, 1165 offshore islands and cays, and land along its 6900km of mainland coastline. Coastal resources have significant natural resource and ecosystem service values that support the state's economic and social prosperity (see Figure 2 – Pressures on coastal resources).

Coastal environments are constantly changing because of dynamic natural processes such as tides, waves and storms; creating a unique set of management challenges. However, it is the community's high demand to use coastal resources, including land on the coast, that puts the greatest pressure on coastal environments. This can result in coastal resources becoming degraded or used for purposes contrary to the objects of the Coastal Act. The Coastal Management Plan is one of the tools used to address these pressures.

Coastal Resources

Coastal resources include:

- · beaches and dune systems
- · rocky foreshores and headlands
- coastal waterways, mangroves and saltmarshes, wetlands, forests and heathlands and their ecosystems
- · habitat and plant and animal diversity
- marine ecosystems including coral reefs and estuarine waterways
- · cultural resources and sites
- state land
- quarry material, such as sand and gravel.

Coastal resources are valued for:

- ecosystem services¹
- · scenic amenity
- · recreation and tourism
- cultural and social significance
- food production
 - o commercial fishing and aquaculture
 - commercial products, such as nutritional supplements and medicines
- construction material.

Pressures

Key pressures that impact the coastal environment include:

- population growth and urban and industrial development
- climate change.²

Figure 2. Pressures on coastal resources

¹ Ecosystem services defined in glossary.

² Climate change, including projected increases in sea levels and storm intensity, will increase the vulnerability of Queensland's low-lying coastal areas to erosion and storm tide inundation.

Pressures on the coastal zone

Population growth and urban and industrial development

Approximately 80% of Queenslanders live along the coast. In addition it draws significant numbers of visitors that serves to increase demand for access infrastructure and accommodation. This concentrated urbanisation creates pressures (both directly and indirectly) on the coastal environment. Together with an increase in industrial development, including port and marine infrastructure on the coast, this has resulted in habitat loss, degradation and fragmentation and subsequent loss of biodiversity. Where not sensitively managed, these pressures may undermine the very values that draw such visitation numbers and development in the first place.

Continued population growth in Queensland has increased the demand for quarry material, including sand and gravel in urban centres. Quarry materials extracted from tidal water are commonly used for manufacturing concrete products and fill for airports, ports, factories, hospitals and homes. Extracting quarry material has the potential to trigger river bank erosion near the activity and beach erosion away from the river mouth, due to reduced sediment supply. Other potential impacts include loss of vegetation, declining water quality (sediments and contaminants in any water leaving the site) and air quality (dust and diesel emissions), and increases in ambient noise levels.

Climate change

Impacts from climate change include permanent tidal inundation of land, increasing rates of coastal erosion and increased temporary inundation of land from storm tides. Global temperature increases are driving sea-level rise leading to more frequent and intense coastal hazard events. This places increased pressure on the coastal environment to adapt to a changing climate and for development planning to address this risk. Coastal hazards can transport significant volumes of sand away from the foreshore to form offshore sand bars and without sufficient replenishment the coastline will retreat, thereby increasing the erosion risk to coastal development.

Coastal ecosystems play an important role by increasing the resilience of plant and animal communities, providing critical habitat for species and protecting coastal environments from coastal hazard impacts. For example, mangrove forests can be effective in reducing the destructive forces of a storm tide for communities and infrastructure landward of the forest, while also providing critical habitats for fish, prawns and other species. In many cases, nature can adapt to the impacts from coastal hazards, which is the result of natural coastal processes. However, when development is at risk it requires a regulatory approach to help protect and conserve environmental, social and economic values of coastal resources and enhance the resilience of coastal communities to coastal hazards.

Coastal ecosystems can also capture and store large amounts of carbon in their soils, roots and plant biomass. *Coastal blue carbon* is carbon stored in the vegetation and soils of mangroves, saltmarshes, seagrasses and supratidal forests. These systems also have reduced greenhouse gas emissions than other freshwater wetlands systems. Blue carbon ecosystems are therefore an important nature-based solution for climate change mitigation and adaptation, while also protecting habitat and biodiversity and playing a major role in water quality improvement, through sediment retention, nutrient removal and assimilation and contaminant entrainment.

However, when blue carbon ecosystems are degraded or lost they release carbon back to the atmosphere. This can occur due to land use changes, development and coastal hazard impacts, including climate change sea level rise.

Responses to key pressures

Urban and industrial development is managed to protect coastal resources primarily through the planning and development framework established under the *Planning Act 2016* (Planning Act). State requirements for planning and development assessment are identified in the State Planning Policy (SPP) prepared under the Planning Act. The SPP includes specific outcomes about development assessment to address pressures on the coast and to protect people and property from coastal hazards such as coastal erosion (see Figure 3 – Regulatory framework for coastal protection and management). The outcomes to address such pressures will primarily be delivered through local government planning schemes. Coastal development assessment requirements have also been integrated in the State Development Assessment Provisions (SDAP), which set out the matters of interest to the State for development assessment. Further information about the SPP or SDAP can be found on the Queensland Government Planning website.

The Coastal Management Plan complements this by providing management policies for use of coastal resources that fall outside the scope of the planning and development requirements under the Planning Act. The Coastal Management Plan includes a range of measures to achieve objects of the Coastal Act that can be adopted to minimise any potential adverse impacts resulting from use of coastal resources. The Coastal Act also specifically identifies that other relevant legislation should be used wherever practicable to achieve its objects. Decisions made under the Planning Act to manage development on the coast, for example, play a key role in achieving sound coastal management outcomes.

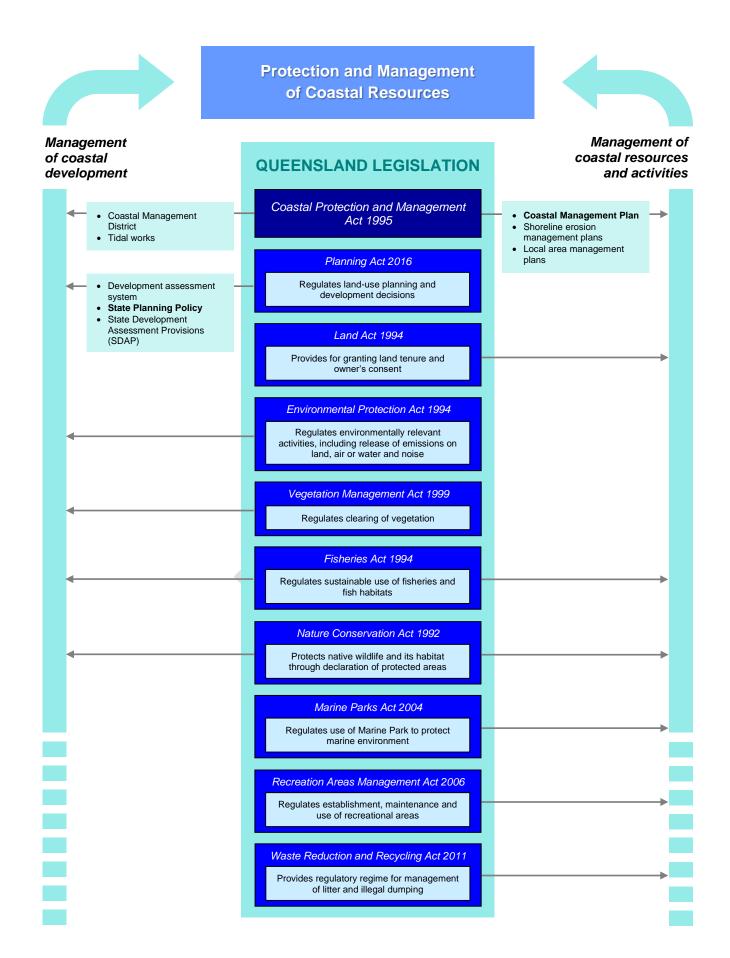


Figure 3. Regulatory framework for coastal protection and management

Other related policies

The Environmental Protection (Water and Wetland Biodiversity) Policy 2019 and the Reef 2050 Water Quality Improvement Plan (Reef 2050 WQIP) both play a role in addressing water pollution in coastal areas. Potentially polluting industries are regulated through licensing waste outputs into waterways. The Environmental Protection (Water and Wetland Biodiversity) Policy 2019 includes water quality objectives to protect and enhance environmental values for Queensland waters. The Reef 2050 WQIP seeks to improve the quality of water flowing from the catchments adjacent to the Great Barrier Reef and focuses on all sources of land-based water pollution, including agriculture (as the main contributor), industry, urban and public lands. In addition, the Reef 2050 Wetlands Strategy provides the overarching direction for managing wetlands in the Great Barrier Reef and its catchments. It supports the objectives and outcomes of the Reef 2050 Long-Term Sustainability Plan and complements the Reef 2050 WQIP to help drive progress towards water quality targets.

Litter and illegal dumping is managed under the *Waste Reduction and Recycling Act 2011* (WRR Act). The WRR Act provides a regulatory framework for managing waste and enforcing compliance action against littering and illegal dumping incidences in Queensland. A large number of community organisations, non-government organisations, and schools are involved in clean-up initiatives across Queensland, preventing litter from entering waterways and coastal environments, or responding to events that increase marine debris.

A range of monitoring programs are also in place to collect data about ecosystem health in rivers, estuaries and coastal areas throughout the eastern coast of Queensland to inform policy development and implementation.

The Queensland Parks and Wildlife Service manages State land to conserve natural, cultural and social values under the internationally aligned Values-Based Management Framework. This is achieved through implementing management plans and thematic strategies, including fire, pest and visitor management, which complement the Coastal Management Plan to conserve coastal resources.

Queensland ports are also required to implement land use plans under the *Transport Infrastructure Act 1994*, which include desired environmental outcomes for ports.

Additionally, the *Aboriginal Cultural Heritage Act 2003* and the *Torres Strait Islander Cultural Heritage Act 2003* (the cultural heritage acts) provide for effective recognition, protection and conservation of Aboriginal and Torres Strait Islander cultural heritage. The cultural heritage acts recognise that traditional owner participation in activities involving the conservation and management of cultural heritage is important as this allows Traditional Owners to reaffirm their obligations to country.

Application and Implementation

This plan is applied to guide management planning, activities and works that are not assessable development under the Planning Act.

Land-use planning and development decisions including self-assessable or compliance development, made under the Planning Act are out of scope for this Coastal Management Plan. The Coastal Management Plan will assist local government when developing a shoreline erosion management plan (SEMP).

The Coastal Management Plan will also be important in guiding other coastal stakeholders, such as community groups, natural resource management (NRM) bodies, research organisations, businesses, and individuals (see Figure 4 – Application of Coastal Management Plan). It applies where these activities affect State coastal land and coastal resources within the coastal zone. NRM bodies may use the Coastal Management Plan to develop their management plans.

State coastal land includes coastal roads and esplanades (type of road), reserves and unallocated State land³ including land under tidal water. The Coastal Management Plan can also be used to support coastal management outcomes on freehold land and other land tenures that include coastal resources.

The Coastal Management Plan is intended to guide land managers and the land under their control. However, it does not bind local government to take action to protect private land from coastal erosion.

³ Roads, reserves and unallocated State land are defined under the *Land Act 1994*.



• Non-regulatory best practice coastal management policies

Applied by

- Managers of local and State government-controlled coastal land; for example local government
- Community groups
- Natural resource management bodies; for example, Cape York NRM
- Research organisations
- Businesses
- Individuals that own coastal land

Applied to

- Management planning
- Management activities
- Decisions and works that are not regulated under the Planning Act; for example development of a local government shoreline erosion management plan

Applied on

• State coastal land and other land tenures that include coastal resources

Figure 4. Application of Coastal Management Plan

Part 2—How coastal land is to be managed

1. Coastal landforms and physical coastal processes

Policy

The long-term stability of dunes and other coastal landforms are preserved and physical coastal processes including erosion, accretion and the movement of sediment are able to occur without interruption.

Coastal management outcomes

- 1.1 Activities on the coast avoid interrupting the natural fluctuations of the coast (erosion and accretion).
- 1.2 Land stabilisation against wind and water erosion, and dune-building processes are maintained or enhanced by protecting, managing and rehabilitating native vegetation.
- 1.3 Dunes, mangroves, saltmarshes and coastal wetlands that protect or buffer communities, infrastructure and terrestrial ecosystems from coastal hazards are maintained or enhanced, or where changes to these features cannot be avoided, risks to the community are mitigated.
- 1.4 Dune crest heights and sand volume in the active beach system are maintained for the protection of adjacent property, structures and coastal resources against storm wave attack and wave over wash processes.
- 1.5 Longshore transport of sand or delivery of sediment to the coast is not disrupted unless:
 - it can be demonstrated that this does not adversely affect coastal processes, or
 - impacts are mitigated by works including sand bypassing or beach nourishment.
- 1.6 Where there is an imminent threat to the community or infrastructure from coastal erosion, development of a SEMP is recommended to deliver a science-based solution to the erosion problem that considers social, environmental and economic issues.
- 1.7 Management planning for assets in areas at risk from erosion should consider the following hierarchy of approaches to maintain coastal processes and resources: avoid, retreat, accommodate or defend.
- 1.8 Where defence of coastal assets is the most appropriate solution, nature-based solutions (e.g. beach nourishment) are implemented in preference to engineered structures (e.g. seawalls) or combined into hybrid solutions to provide an environmental benefit.
- 1.9 Where seawalls are proposed, beach nourishment should also be undertaken to balance the loss of sediment locked up behind the seawalls.
- 1.10 Sand dredged from tidal water and not allocated for another purpose, is retained wherever practicable within the erosion prone area and placed on the dunes, beaches, banks or other tidal areas to ensure coastal processes are maintained.
- 1.11 The impacts of climate change, including sea level rise, are considered in managing the coast, including by:
 - conserving mangroves, saltmarshes and coastal wetlands to maintain carbon sequestration, and
 - identifying and protecting areas where coastal habitats can retreat with sea level rise.

Policy context

Natural coastal landforms, physical coastal processes and natural ecosystems and habitats are interdependent and provide essential ecosystem services. Coastal vegetation (e.g. dunes and freshwater, estuarine and marine wetlands,) stabilises sediment and processes nutrients, which promotes healthy groundwater and surface water processes and water quality. Dunes have highly permeable soils functioning as aquifers, by holding groundwater in the intergranular voids between sand grains. Dunes regulate hydrology of freshwater wetlands and perform an important role in water quality polishing and groundwater movement along the shoreline between freshwater wetlands, land and sea. Mangroves, saltmarsh and supratidal forests also play a vital role in mitigating the impacts of climate change through storing large amounts of carbon within the vegetation and soils. Further, these important coastal ecosystems absorb wind and wave energy and provide a natural defence to coastal hazards.

The natural forces of sea and weather drive coastal processes that continually reshape the coast by cycles of erosion and accretion. Coastal erosion is shoreline recession due to erosion by wave and tidal forces resulting in a

permanent loss of land. Accretion is the natural build-up of coastal landforms with sediment supplied by wave, tidal flow or wind processes, usually assisted by vegetation trapping the sediment. A typical example of accretion is dune build-up with sand blown up from the beach. Sediment transport is also a key coastal process that maintains or builds beaches, dunes and other landforms. These outcomes are to ensure coastal processes are maintained to preserve beaches, which are highly valued recreational and aesthetic assets, and prevent new erosion threats that can be caused by removing sediment or disrupting its transport along the coast and impacting existing development.

The Department of Environment, Science and Innovation's (DESI) preferred approach to understanding the cause and management of shoreline erosion, including estuaries and tidal reaches of rivers, is preparing and implementing a SEMP. A SEMP is used to investigate the causes and expected future impacts of erosion, analyse management options, and recommend a solution, with consideration to social, economic and environmental issues. A SEMP can also include information about related policy requirements that may impact how erosion is managed, for example fish habitat area policies regulated under the *Fisheries Act 1994*. Further information about preparing a SEMP is available from the DESI website. SEMPs are commonly undertaken by local government either for council controlled land or on behalf of a community. However, individuals or groups may also prepare a SEMP. SEMPs may form part of a broader strategic management or adaptation framework for a region, which also considers land use, dune management, recreational opportunity and commercial activities.

Coastal hazards are a reference to coastal erosion and storm tide inundation. Further information about coastal hazards, including maps identifying areas that may be vulnerable to the risk of adverse coastal hazard impacts, can be found on the DESI website.

Dunes and other coastal landforms

Human-induced changes to dune systems and degraded dune vegetation can significantly limit the protection provided to development from coastal hazards, cause wind erosion problems and adversely impact on neighbouring landforms.

Vegetation is important to form and stabilise coastal sand dunes. Vegetation on the beach and dunes tends to occur in zones, according to the degree of exposure to harsh coastal conditions. Closest to the sea is the pioneer zone, extending landward from the debris line at the top of the beach in an area called the foredune or frontal dune.

Pioneer plants trap and hold windblown sand in the foredune and help create conditions that encourage other plant communities such as woodland, scrub, heath and forest to establish and grow. All plants, whether they are herbs, shrubs or trees, growing either singly or in groups, have a role in developing vegetative cover and together they help stabilise dunes. A well vegetated riparian zone is important to stabilise creeks, rivers and estuaries and provide resilience to pressures such as sea level rise, storms and floods.

Windblown sand, trapped in the foredune by vegetation, serves as a reservoir of sand for the beach during periods of wave erosion. In the absence of sand-trapping dune vegetation, windblown sand from the beach moves inland and is lost to the beach and dune system. Wind erosion of the beach and un-vegetated foredunes causes coastline recession. The above-ground parts of dune plants act as obstructions, increase surface roughness and reduce the surface speed of sand-carrying wind. Sand spinifex grass (*Spinifex sericeus*) is the most successful sand trapping plant colonising dunes along most of the Queensland coastline, having the ability to grow through accumulations of windblown sand. Cycles of sand deposition and plant growth form and build dunes.

Rehabilitating a degraded dune system includes stabilising the surface against wind erosion and establishing endemic dune plants to provide long-term stability and reinstate sand trapping and dune building processes. Management actions may include enrichment planting to increase biodiversity and managing pest plants and animals. Pests compete with native plants and animals for habitat, food, light and nutrients. Sometimes, they outcompete the native plants and animals and reduce habitat quality, diversity and aesthetic and recreational value.

Biosecurity plans should be developed identifying priority actions for preventing and controlling invasive pests. The *Biosecurity Act 2014* requires every local government in Queensland to develop a biosecurity plan for their area. Refer to the Department of Agriculture and Fisheries (DAF) website.

Dune vegetation is naturally exposed to harsh environmental conditions, including sand blast, salt spray and high wind velocities. This can make dunes vulnerable to even small additional pressures, including impacts such as pedestrian use, grazing stock and four wheel drive vehicles. To maintain dune stability against wind erosion, these pressures may be managed by exclusion or providing fenced and hardened access points for pedestrians and increasing plant cover and vigour by periodic fertilising of degraded areas.

Where beaches and dunes have been lost or damaged by sea erosion and development is under threat, beach nourishment is the preferred solution because it restores sand volume and transport along the coast. The alternative of hard structures (such as seawalls) can interfere with natural coastal processes and lead to erosion of adjacent coasts.

Management and rehabilitation efforts vary in cost, intensity, resource requirements, timeframes, and the suitability of techniques to particular sites and situations. Ongoing maintenance is required to ensure they are effective. It may be useful to develop maintenance checklists that note necessary approvals, insurance, standards and notifications to be checked and, as needed, rectified each time the site is visited.

In addition to dunes, a well vegetated zone along the banks of rivers, creeks, estuaries and other wetlands is important to maintain the biodiversity and ecological function of these systems and to provide resilience to pressures such as climate change, storms and floods.

Suggested management actions

- Conservation of erosion prone areas including the beaches, dunes and near coast vegetation in its natural state
- Rehabilitation of degraded dune areas and coastal ecosystems
- · Adoption of nature-based solutions for managing coastal erosion where practicable
- Exclusion fencing to protect dunes
- Providing fenced and hardened access for pedestrians and vehicles
- · Ensuring banks of tidal rivers, creeks, and wetlands are vegetated

2. Nature conservation

Policy

Matters of state environmental significance (MSES) are conserved by avoiding impacts or where impacts cannot be avoided residual impacts are mitigated through rehabilitation measures.

Coastal management outcomes

- 2.1 Areas containing MSES are conserved by:
 - protecting areas containing MSES, sensitive natural ecosystems, their processes and habitat (particularly feeding, nesting and roosting sites) from threats⁴, and
 - maintaining, enhancing or re-establishing habitat connectivity for species movement.
- 2.2 Where impacts on MSES cannot be avoided, impacts are mitigated by actions such as restoring or rehabilitating natural environmental values of similar or adjacent habitat or other actions that reduce threats to MSES.

Policy context

MSES have a critical role in maintaining biodiversity and ecosystem processes and ecosystem services of coastal land and coastal resources. MSES are drawn from matters protected by existing State environmental and natural resource legislation.

This policy seeks to protect MSES, including those identified on maps and additional areas identified by coastal land managers. Protection includes ensuring pedestrian, tourist and marine activities are managed to avoid

⁴ Threats include: clearing and degrading of vegetation, uncontrolled pedestrian or vehicle traffic, pollution, marine debris (including lost or discarded fishing gear), light pollution, seagrass dieback, drainage of habitat, boat strikes and pest plants and animals.

adverse effects on ecological values. Management actions may include: seasonal and night closures of turtle nesting beaches and preventing artificial light pollution, education about threats to the coastal environment or seasonal closures at times when migratory birds are present or other species are nesting.

The protection of a broader suite of environmental values will further contribute to maintaining healthy and resilient ecosystems and ensure sustainable, long-term conservation of biodiversity. In many cases, mapping is available to indicate the presence of other environmental values such as remnant vegetation or koala rehabilitation areas. MSES mapping layers are available from the Queensland Government Planning website. The MSES mapping methodology can be found on the DESI website, along with other environmental values mapping, such as property reports and vegetation mapping. The relevant local authority may also be contacted for other applicable environmental values mapping.

Protecting MSES through management of beach driving

Activities such as beach driving should be actively managed to prevent significant adverse impacts on coastal ecosystems, including beach and benthic plants and animals. Research indicates that compaction of sand by vehicles is destructive for sand-dwelling invertebrates. Vehicle traffic can also disturb feeding or roosting shorebirds and nesting turtles and destabilise dune systems by damaging the vegetation.

Generally, vehicle access to and along foreshore areas is regulated by local governments under the *Local Government Act* 2009. Additionally, councils are often appointed as the trustee of State coastal reserves.

DESI has jurisdiction to regulate the use of vehicles on beaches that are within protected areas under the *Nature Conservation Act 1992*, in marine parks under the *Marine Parks Act 2004* and in declared recreation areas under the *Recreation Areas Management Act 2006*.

Once specific regulations or laws are in place to govern vehicle access, the *Transport Operations (Road Use Management) Act 1995* can be administered on these beaches by the authority that regulates access (i.e. DESI, if within a protected area; or local government in all other instances).

Prior to allowing beach driving, the relevant authority should have a qualified and experienced ecologist prepare a report identifying the relevant ecological and species values of the beach. The report should recommend how adverse impacts on these values (caused by beach driving) can be minimised.

Where it is necessary to allow beach driving to provide access to foreshore or adjacent areas, adverse impacts are managed using a range of tools including: a permit system, speed limits, closure during the period two or more hours each side of high tide, night closures, temporary or permanent diversions onto inland tracks that avoid sensitive areas, and seasonal closures during nesting periods for sea turtles and times when migratory bird species are present.

Where vehicles are used on beaches, they should be driven below the drift line and away from dune vegetation. Vehicles also should not be driven along debris or drift lines, as these often harbour wildlife.

Specific regulations or local laws, using signs and physical exclusion devices, will help ensure compliance with conditions for vehicle use of beaches. A regular compliance presence is also be necessary.

Revenue raised through a beach driving permit system can be used to offset the costs of coastal protection and support rehabilitation programs.

Suggested management actions

- · Seasonal and night closures of turtle nesting beaches
- Preventing artificial light pollution on turtle nesting beaches
- Seasonal closures for areas with nesting migratory birds or other protected species
- · Pest control at turtle nesting beaches
- · Beach clean ups to remove marine debris
- Education about the impacts of boat strikes and marine debris on MSES
- Regulating beach driving by
 - o introducing a permit system
 - o speed limits
 - beach closures
 - o seasonal and night closures for protected species, and
 - o restricting vehicle access to below the drift line and away from dune vegetation
- · Rehabilitating damaged vegetation.

3. Public access and enjoyment of the coast

Policy

Public access and use of the coast is maintained or enhanced for current and future generations.

Coastal management outcomes

- 3.1 Public access and use of the coast is maintained by avoiding the use of State coastal land for:
 - creating exclusive private access to the foreshore
 - creating exclusive private use of beaches or dune areas
 - locating erosion control structures to protect private property from coastal erosion.
- 3.2 The use of undeveloped esplanades and road reserves vulnerable to coastal erosion for vehicular access is supported if they provide the only lawful means of vehicular access.
- 3.3 The use of State coastal land for public beach access and associated facilities is encouraged if the facilities are located, designed, constructed and managed to conserve coastal resources and their values.
- 3.4 Beach driving is supported where:
 - no practical alternative to access the coast exists or can be reasonably established
 - management ensures there are no significant adverse impacts to the stability of dunes, coastal ecosystems or species
 - it does not adversely affect public access to, and enjoyment of, beaches and foreshore areas by other users, including pedestrians.

Policy context

This policy seeks to ensure there is no net loss of public access to the foreshore, coastal waters or State coastal land, and ensures that State coastal land continues to contribute to coastal management outcomes.

Private property owners on the coast may seek to locate seawalls on State coastal land (including on esplanades and beaches) to protect their property from loss or damage from sea erosion. However, using public land for this purpose is generally considered inappropriate as it displaces public use and disrupts coastal processes. Structures

to protect private properties should be located on private land wherever possible. Only where it is demonstrated that this is not practicable or it is in the public interest, an appropriate authority may be considered to allow for a structure on public land and, wherever possible, granted to a public authority such as the local government. Mitigation measures may be considered, including the design of seawalls as buried seawalls and the disturbed surface vegetated with native dune plants.

Without careful management, some existing uses of State land in coastal hazard areas or the granting of new permanent or temporary tenure, could lead to an intensification of development, which will be at risk of loss or damage. Land uses within areas vulnerable to coastal hazards and which are not consistent with protection of coastal resources, or expose development to damage or loss, should be removed and tenure discontinued. Where tenure is necessary for a particular purpose, it should be temporary, able to be cancelled with a requirement for asset removal and include a condition that does not permit the construction of erosion protection works.

The preferred approach for existing access infrastructure, which may be exposed to coastal erosion, (e.g. roads and carparks, but not coastal dependent development), is for these assets to be set back from the coast or removed where the opportunity arises, for example where replacement is considered. Where they become impassable from erosion or storm damage, and it is not feasible to reinstate their existing alignment, an alternative alignment consistent with the overall policy outcomes of the Coastal Management Plan should be determined by the relevant management authority.

Establishing public access through sensitive areas such as dunes may degrade or destabilise these areas, especially by damaging vegetation which can lead to wind erosion and dune blow-outs. Access must be located, designed, constructed and maintained to avoid these adverse impacts and should consider solutions appropriate to the level of use and risk from providing the access.

Beaches that are used for the driving or riding of motor vehicles (whether on payment of a fee or otherwise) are roads under the *Transport Operations (Road Use Management) Act 1995* and all road rules apply. Allowing beach driving, where it is necessary to provide access to the foreshore or adjacent areas should be actively managed to maintain public access and enjoyment.

Options employed to manage beach driving include: the use of a permit system, speed limits, closures during peak periods or following coastal erosion, periodic closures for wildlife protection, temporary or permanent diversions on to inland tracks that avoid popular beach areas, and prohibitions. An assessment of how the beach would preferably be used by vehicle owners and other users, including consultation with affected user groups, should guide these types of management decisions.

Suggested management actions

- Limit or remove tenure on State land which is incompatible with protecting coastal resources.
- Remove or relocate further landward assets which are vulnerable to loss from coastal erosion (other than coastal dependent development)
- Placement and design of access infrastructure to minimises impacts on coastal resources
- Manage beach driving and coastal access using
 - o a permit system
 - speed limits
 - o temporary closures at critical nesting or roosting periods for rare and threatened species, or
 - diversion tracks that avoid popular beaches.

4. Management planning

Policy

Managing and using coastal land is planned, monitored, reported on and reviewed to achieve continuous improvement in management outcomes.

Coastal management outcomes

- 4.1 Coastal land managers are encouraged to prepare and implement local plans, where appropriate, to guide activities consistent with the management policies of this Coastal Management Plan.
- 4.2 The community, Traditional Owners, State and local government land owners and land managers, relevant interest groups including NRM bodies, and other stakeholders such as local business owners, should be consulted when preparing local plans.
- 4.3 Local management plans should preferably incorporate a framework for assessing the effectiveness of management practices and decisions over time by:
 - establishing extent and condition of resources, and measurable performance indicators
 - committing to an associated monitoring, reporting and review program.

Policy context

The type, structure, content and implementation mechanisms identified in a management plan are at the discretion of the State coastal land manager and should be tailored to suit the purpose for which the land is used and any special management considerations.

DESI can provide support and guidance about the coastal management components of a management plan. The *Land Act 1994* makes provision for trustees to prepare and submit a land management plan for trust land they manage.

A trustee may be requested to prepare a land management plan for the primary use and is generally required to prepare a land management plan for trust land subject to secondary uses (refer to the Department of Resources operational policy *Secondary use of trust land under the Land Act* SLM/2013/493). Also the *Biosecurity Act 2014* requires every local government in Queensland to develop a biosecurity plan for their area. Refer to the DAF website for more information.

A sample management plan template for coastal areas is included in Appendix 1. To avoid duplication, a management plan could be tailored to include Coastal Management Plan considerations and address requirements under the *Land Act 1994* and *Biosecurity Act 2014*.

The guideline *Land Management Planning for Trust Land* provides guidance about how to prepare these plans. It is available from the Department of Resources website at https://www.resources.qld.gov.au.

Suggested management actions

- Establish a local management plan that includes
 - o resource extent and condition performance indicators
 - o monitoring, reporting and review requirements
- Consult with the broader community when developing a local management plan.

5. Knowledge sharing and community engagement

Policy

Knowledge of coastal resources and their management is shared with the community and the community is engaged in decision-making processes and activities that affect them.

Coastal management outcomes

- 5.1 Coastal land managers actively engage the community and share knowledge of coastal management issues, planning and activities through:
 - providing opportunities for direct consultation with the community and special interest groups about management proposals and decisions

- engaging Traditional Owners to enable access to coastal resources for cultural activities and ensure adverse impacts on cultural resources are prevented
- encouraging and facilitating the sharing and use of knowledge, including traditional Indigenous knowledge of country, to promote awareness and understanding of coastal issues and environmentally responsible behaviours (stewardship) in the community
- encouraging and facilitating the active participation of the community, including special interest groups, in managing their coastal areas where appropriate
- facilitating participation, collaboration and integration within and between programs and community networks.

Policy context

Awareness and understanding of coastal issues can be encouraged within communities through community-based social marketing strategies and providing education and awareness programs and information. This is best achieved at the local level.

Effective coastal management must involve all members of the public and stakeholders, including Aboriginal peoples and Torres Strait Islander peoples, who are the primary guardians and knowledge holders of their cultural heritage and have been managing their cultural resources for millennia as part of their cultural practices. Incorporating Indigenous knowledge about land and sea management contributes significantly to achieving the objects of the Coastal Act. Effective collaboration and partnerships are more likely to improve coastal management outcomes because they combine resources to help reduce costs, recognise diversity in approaches, and coordinate management activities.

Regional natural resource management bodies, community groups and individuals currently commit funding, time, and effort to prepare strategies, such as integrated catchment management plans and natural resource management strategies. They also contribute to on-the-ground works and activities, such as rehabilitation projects that help manage coastal areas. This contribution can be supported by sourcing funding and knowledge from local, state and federal government, and industry programs. An integrated approach that uses indigenous knowledge and contemporary science together may further improve outcomes for community-based initiatives.

Suggested management actions

- Develop key stakeholder lists for consultation on coastal management issues.
- Use a variety of methods to engage with the community and local interest groups including -
 - direct contact with stakeholders
 - o advertising management plans in newspapers
 - o community workshops
 - o workshops with tertiary institutions
 - direct consultation with Traditional Owners about activities involving the conservation and management of cultural heritage.

Glossary

Coastal-dependent development:

- means development that in order to function must be located in tidal waters or be able to access tidal water;
 and
- may include, but is not limited to:
 - a. industrial and commercial facilities such as ports, harbours and navigation channels and facilities, aquaculture involving marine species, desalination plants, tidal generators, coastal protection works, erosion control structures, public marine development *and* beach nourishment;
 - b. tourism facilities for marine (boating) purposes;
 - c. community facilities and sporting facilities which require access to tidal water in order to function, such as surf clubs, marine rescue, rowing and sailing clubs; or
 - d. co-located residential and tourist uses that are part of an integrated development proposal (e.g. mixed use development) incorporating a marina, if these uses are located directly landward of the marina and appropriately protected from natural hazards; but
- 3. does not include:
 - a. residential development, including canal development, as the primary use;
 - b. waste management facilities, such as landfills, sewerage treatment plants; or
 - c. transport infrastructure, other than for access to the coast.

Coastal hazard as defined in the Coastal Protection and Management Act 1995.

Coastal processes mean the natural processes of the coast, including:

- a. sediment transport to and along the coast
- b. wind, waves, tides and currents which transfer energy to the coast and drive sediment transport
- c. fluctuations in the location and form of landforms and the foreshore and associated ecosystems from sediment transport (erosion and land building)
- d. changes in sea-level, ecological processes (including growth and spread of native plants); and the natural water cycle (for example coastal wetlands' role in filtration and flood mitigation).

Coastal resources as defined in the *Coastal Protection and Management Act 1995*. It includes natural and physical features and landforms, coastal processes, vegetation, wildlife, quarry material, soil, water and places and objects that have anthropological, archaeological, historical, scientific, spiritual, visual or sociological significance or value, including such significance or value under Aboriginal or Torres Strait Islander tradition or Island custom.

Ecosystem services are the life support systems all living creatures (including humans) rely on. These include:

- a. provision of services such as oxygen, food and water
- b. regulating services such as regulation of climate, land degradation, and disease
- c. supporting services such as soil formation and nutrient cycling for agriculture, and
- d. cultural services such as recreational, spiritual, religious, and other non-material benefits for recreation and tourism.

Imminent threat is a one in 100 year event (including waves and storm tide). For details on the short-term erosion event see section on the short-term component of erosion prone areas in the Coastal Hazards Technical Guide available on the Queensland Government website.

Matters of state environmental significance (MSES) see schedule 2 of the Environmental Offsets Regulation 2014.

Note: A matter of state environmental significance is any of the following natural values and areas:

- . regional ecosystems under the Vegetation Management Act 1999 that:
 - a. are endangered regional ecosystems
 - b. are of concern regional ecosystems
 - c. intersect with a wetland shown on the vegetation management wetlands map
 - d. contain areas of essential habitat shown on the essential habitat map for an animal that is endangered wildlife or vulnerable wildlife or a plant that is endangered wildlife or vulnerable wildlife
 - e. are located within the defined distances stated in the Queensland Environmental Offsets Policy (version 1.15) from the

- defining banks of a relevant watercourse or drainage feature as shown on the vegetation management watercourse and drainage feature map
- f. contain remnant vegetation and are areas of land determined to be required for ecosystem functioning ('connectivity areas')
- 2. wetlands in a wetland protection area or wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environmental Protection (Water and Wetland Biodiversity) Policy 2019
- 3. wetlands and watercourses in high ecological value waters as defined in schedule 2 of the Environmental Protection (Water and Wetland Biodiversity) Policy 2019
- 4. designated precincts in strategic environmental areas under the Regional Planning Interests Regulation 2014
- 5. threatened wildlife (plants and animals) under the *Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Animals) Regulation 2020
- 6. protected areas under the Nature Conservation Act 1992 excluding coordinated conservation areas
- 7. highly protected zones of state marine parks under the Marine Parks Act 2004
- 8. declared fish habitat areas under the Fisheries Act 1994
- 9. waterways that provide for fish passage under the *Fisheries Act 1994* if the construction, installation or modification of waterway barrier works carried out under an authority will limit the passage of fish along the waterway
- 10. marine plants under the Fisheries Act 1994
- 11. legally secured offset areas.

State coastal land as defined in the Coastal Protection and Management Act 1995.



Appendix 1

Sample management plan template for coastal areas

Note: For guidance only. Different styles and content may suit different scenarios.

1. Introduction

- 1.1 Requirement for a land management plan
- 1.2 Process
- 1.3 Working group
- 1.4 Consultation
- 1.5 Use of this plan
- 1.6 Implementation

2. Background

- 2.1 Legislative and policy setting
- 2.2 Land management plan area (map)
- 2.3 Objectives of the land management plan

3. Critical management considerations

May include:

- · Exposure to coastal hazards
- Population growth
- Visitor growth
- Foreshore stability considering variable sea levels
- Vegetation management
- Commercial use and leased areas
- Unmanaged foreshore and reserve access
- Management resources for implementing the plan
- Monitoring and evaluating the plan

4. Desired outcomes and actions

- 4.1 Area 1: [location]
 - 4.1.1 Preamble
 - 4.1.2 Land tenure
 - 4.1.3 Historical changes
 - 4.1.4 Vegetation description

5. Coastal management issues and actions

May include:

• Pedestrian access

- Passive recreation
- · Vehicular use of beaches, trail bikes, horse riding
- Camping and occupation
- Fire management
- Vegetation management
- Management of other coastal resources
- Management of coastal erosion and shoreline retreat (refer to DESI's guideline Preparing a shoreline erosion management plan)
- Restoration of degraded dune systems
- Pest, including weed control
- Water quality

6. Glossary and abbreviations

7. References

8. Appendices

9. Maps

10. Background information

- 10.1 Practice guidelines
- 10.2 Foreshore proclamation
- 10.3 Bathing reserve
- 10.4 Recreation area