

Snapshot of the Wyong Shire

DRAFT Coastal Zone Management Plan

Community, Coast and Climate Change



Wyong
Shire
Council
CENTRAL COAST

MAY 2011

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Foreword

The Wyong Shire coastline boasts a diverse natural landscape including long sandy beaches, numerous small bays, intertidal rock platforms, high sandstone cliffs and rocky bluffs. It's unique beauty and character makes it one of Wyong Shire's most valued natural assets. However, continued fast growth in the region, long term erosion and sea level rise trends means the coastline is under considerable threat.

For the past ten years, in partnership with the NSW Office of Environment and Heritage, Council has been developing the Coastal Zone Management Plan (The Plan) to better manage our valued coastline. The Plan is in line with the State Government's suite of coastal legislation, policies and guidelines.

Completion of the Wyong Coastal Hazard Study (2010) and Wyong Geotechnical Issues Study (2010), provided Council with a sound basis to formulate The Plan.

The Plan is based on sound science and an appreciation of the community's values and perspectives, and I have been extremely encouraged by the involvement of the community during its development.

The Plan contains eight interacting action plans that Council proposes to implement over the next 10 years. By implementing these action plans, Council will reduce immediate high risks and reduce the likelihood of risks increasing into the future.

The Shire's coast is an integral part of our community's lifestyle and is therefore the focus of many recreational activities including fishing, boating, swimming, surfing, snorkelling, diving, walking, running, picnicking and sunbathing. The effective management of the coast will ensure the continued enjoyment of these activities for current and future generations.

The challenge for us now is to ensure that the Plan is implemented to guarantee a sustainable future for the Wyong Shire coastline. The significant cost of this will be shared between the State Government, Council and rate-payers. Council will also pursue grant opportunities when available.

On behalf of Wyong Shire Council and the Tuggerah Lakes Estuary, Coastal and Floodplain Management Committee I proudly welcome the Wyong Shire Coastal Zone Management Plan and trust that you will take the opportunity to comment and provide input during the exhibition period.



Cr Graham, Deputy Mayor and Chair Tuggerah Lakes Estuary, Coastal and Floodplain Management Committee.

Introducing the DRAFT Wyong Shire Coastal Zone Management Plan



Introducing the DRAFT Wyong Shire Coastal Zone Management Plan

Why is Council planning for change along the coast?

Wyong Shire Council and its community are at the front line of managing a highly valued coastal landscape that is exposed to severe coastal hazard impacts. The Wyong Shire Coastal Zone Management Plan (WSCZMP or the Plan) examines how Council, the State and Federal Governments and the community will manage the future of the Shire's 35km coastline.

A strategic coastal zone risk assessment prepared by the Australian Government in 2009 identified Wyong Shire as one of the most at-risk local government areas in terms of the effects of sea level rise and other climate change impacts on the built environment.

In 2010 the NSW Government identified The Entrance North, Cabbage Tree Harbour and Hargraves Beaches as coastal erosion hotspots, with detailed hazard studies identifying around 50 residences within the immediate coastal erosion hazard zone. These residences could be impacted by storm erosion at any time.

Coastal erosion hazards are expected to worsen as climate change and sea level rise take effect in the coming decades. As such, other beaches and properties are likely to be affected in the future.

The Wyong Shire Coastal Zone Management Plan sets out Council's strategies for managing coastal hazards that affect the way that the community uses and enjoys the coast. It will ensure residents and visitors are able to enjoy safe access to an attractive coastal landscape now and into the future. Coastal hazards can impact on residential and commercial development, infrastructure, recreation space and activities, scenic coastal outlooks and the coastal ecology.

Council recognises that the changes to coastal processes that are occurring now mean that a 'business as usual' strategy is not appropriate. The Plan sets out how Council will manage change and uncertainty about future coastal hazards and risks. Council will work with its growing community and state and federal governments to develop flexible solutions as new information emerges.

What does the Plan do?

The Plan:

- provides a planning context that regulates, encourages and supports appropriate development for areas affected by coastal hazards
- minimises the risks associated with coastal processes
- protects important community values of the coastline
- recognises that communities need clear strategic direction but also need time to adjust to changing environmental conditions.

The Plan sets out strategies and actions to be implemented over the next ten years. Once these actions are in place, they will continue to guide coastal use to enhance community benefits and reduce risks, for planning periods of 40 years and longer. Council will continue to monitor and evaluate progress in implementing the Plan, so that actions can be adjusted as necessary to get the best results for the community and the coastal environment. This ongoing review process means that changes to State government policies and regulations such as might occur with a change of government, can be taken into account.



How does the Plan fit in with other Council plans and policies?

The Plan is part of a package of policies and aims to provide a comprehensive framework for management of the Wyong Shire coastal zone.

- The draft Wyong Shire Climate Change Policy sets the direction for Council's response to climate change issues in taking a risk assessment and adaptation approach..
- Two partner plans, the Tuggerah Lakes Estuary Management Plan (TLEMP; 2006) and the Tuggerah Lakes Flood Risk Management Plan (TLFRMP) present Council's strategies for protecting and enhancing the condition of the Tuggerah Lakes system, planning for appropriate development around the lakes and supporting the contribution the lakes make to community well being and economic achievements.
- Land use planning strategies in the Plan, the TLEMP and the TLFRMP will be incorporated into Council's Local Environment Plan (LEP) and Development Control Plan (DCP).

The Plan is prepared in accordance with the NSW Coastal Protection Act (1979) and takes into account the requirements of the NSW Coastal Policy (1997), NSW Coastal Zone Manual (1990) and the recently released NSW Guidelines for Coastal Zone Management Plans.

Once the plan is adopted Council will need to apply to the NSW Minister of Environment and Heritage for Certification. Once certified, whenever Council acts in accordance the Plan, it is considered to have acted in good faith and is indemnified against a range of issues.

Under a certified plan, Council will be the consent authority for applications for long-term coastal protection works within the area covered by the certified Plan.

A healthy and well managed coast is one where:

- land is managed within its capability, so coastal hazards are recognised as a constraint to land capability
- natural resource decisions and land use decisions jointly contribute to economic sustainability, biodiversity resilience and social well being
- the condition of coastal ecosystems is maintained or improved (*NSW State-wide NRM targets).

*[*www.mrc.nsw.gov.au/workwedo/standardsandtargets.aspx](http://www.mrc.nsw.gov.au/workwedo/standardsandtargets.aspx)*



Source: LPI NSW (2000)

Location and Extent of the Wyong Shire Coastline

Sea level rise

A rise in sea levels is one of the major impacts of climate change. Wyong Shire Council has adopted sea level rise planning benchmarks set by the NSW Government. These benchmarks are based on the best available science, including measured sea level rise and trends over the last 100 years. (see graph below)

Based on this information, Council expects that many assets along the Wyong Shire coastline will be vulnerable to coastal processes in coming decades. The Plan includes a full set of maps indicating a range of hazards covering the immediate, 2050 and 2100 time frames. The example (right) gives the immediate, 2050 and 2100 erosion hazard zones for The Entrance North.

Effects of sea level rise

In Wyong Shire, more than 50 houses are already within the immediate coastal erosion hazard zone. They could be impacted by major storm erosion at any time.

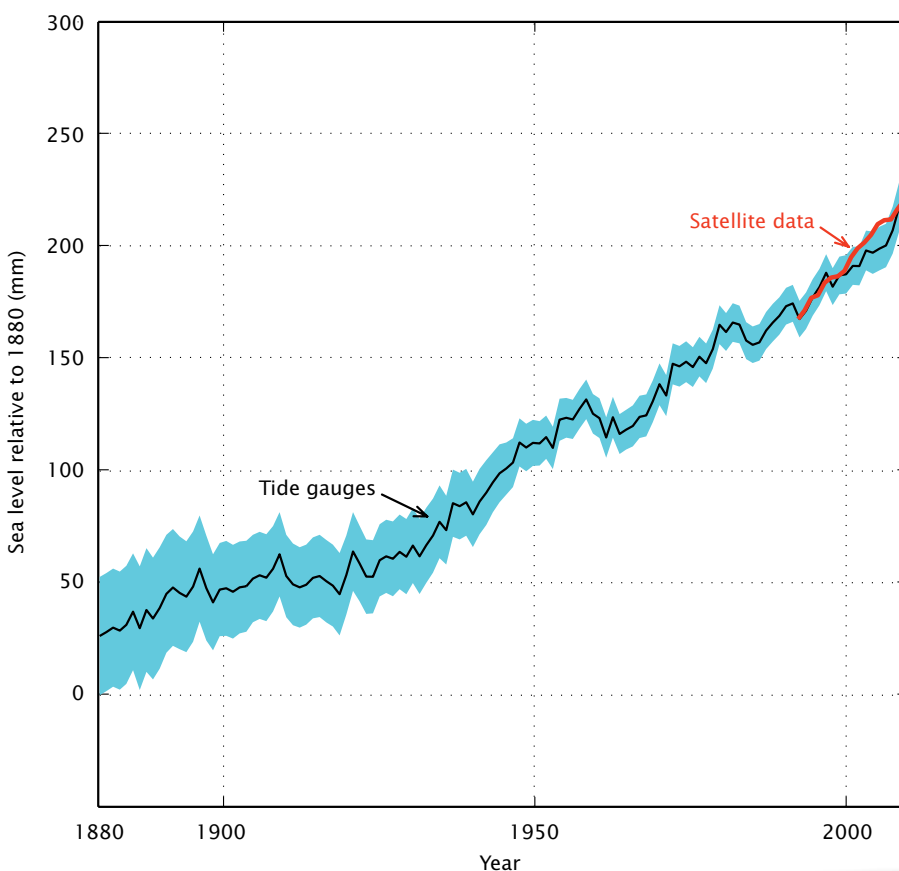
Two of the Shire's beaches (The Entrance North and Hargraves Beach) are identified in the list of nine NSW

'Authorised Locations' for coastal emergency works, because of the severity of the erosion problem. Here residents can apply to build temporary protection such as sandbags and walls.

In the 2050 and 2100 planning horizons, as sea level continues to rise and the buffering capacity of coastal sand bodies is consumed, up to 100 and 135 houses are expected to be affected by coastal recession. Coastal erosion and recession will also affect foreshore parks and reserves, dune vegetation, and the accessibility of places such as rock platforms and small 'pocket' beaches for coastal recreation.

In addition to these coastal erosion threats, geotechnical processes on many of the headlands along the Wyong Shire coastline also have the potential to impact on residential development and safe recreational access.

The risks are real. Reducing risks means some changes must be made now, with other changes made over time. Managing the threats to coastal values is everyone's business and is an important challenge for Council.



The graph (left) indicates sea level changes from 1880 to 2010 at Sydney. The data has been collected from tide gauges and satellite information. (*CSIRO 2011)

* CSIRO 2011, *Climate Changes: Science and Solutions for Australia*, p10



Immediate, 2050 and 2100 Erosion Hazard Zones for The Entrance North

The role of Council in coastal zone management

Council does not have the resources or the statutory power to achieve all the changes needed to achieve sustainable management of its coastline. To ensure timely and coordinated delivery of the priority actions in the Plan, Council will foster its partnerships with land holders and community based organisations along the coast and key state and federal agencies including the:

- Office of Environment and Heritage
- Land and Property Management Authority
- Department of Planning and Infrastructure
- Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC).
- Regional Development Australia

The Entrance from North Entrance Beach



Soldiers Beach



Local Government has the main role for planning and carrying out local action in coastal zone management. Councils plan and do on-ground works with their communities. State legislation requires that Wyong Shire Council prepares a coastal zone management plan for its local government area. LEP's and DCP's implement strategic land use decisions from the coastal zone management plan. Council owns and/or manages coastal land on behalf of local communities. Council works in partnership with community organisations to manage coastal vegetation and to provide safe and attractive beach access facilities for residents and visitors.

Diverse sections of Council have been involved in the preparation of the Plan, and many sections have a role in the implementation of the Plan. The overall implementation process will be managed by Council's Environment and Natural Resources Unit, reporting to the Director of Environment and Planning Services. Policies and strategies across Council will be aligned to provide a clear local scale coastal management framework for the community.

The NSW Government prepares policies, guidelines and directions and sets standards to drive a consistent approach to issues affecting the coastal zone throughout the State. It provides some funding to local government for the preparation of coastal zone management plans and emergency action sub-plans that are required by the Coastal Protection Act (1979) and also contributes to funding for on ground works.

The Australian Government manages matters of national importance, sets broad policy direction and priorities for Australia's coast, funds and conducts research into coastal process impacts and provides some funding for on-ground works through the Caring for Our Country Program.



Why action is necessary

The coastline is one of Wyong Shire's greatest assets. It is also a vulnerable asset, subject to changing coastal processes and growing pressures from the community. Coastal processes now threaten some private and community assets. These threats will increase as climate changes and sea level rises.

There are both scientific and policy reasons why Wyong Shire Council is preparing new strategies for managing its coast.

Scientific evidence of increasing threats to the coast

Coastal processes such as waves, tides and storm events are now seen to threaten the liveability of the coast through active and ongoing erosion hazards that affect houses, beach access, surf clubs, coastal parks and reserves, roads, sewerage systems and the natural environment.

Occasionally, 'super' storms such as those in 1974 and 1978, cut into dunes close to coastal property, however most beach and dune systems recover over time. Other short to medium term changes to the distribution of sand deposits along the coast are influenced by the timing and severity of natural cycles such as El Nino/La Nina.

It is now clear that a long term erosion hazard, driven by predicted sea level rise, will be widespread and is expected to increase over the next century. Sea level is already rising, with measurements from Sydney Harbour indicating about 150mm of rise over the last century.

Although other factors (such as sand supply) can influence coastal erosion, coastal engineering models predict that as sea level rises the shoreline will move landward and upward. This means big changes to beaches and coastal dunes that are the focus of community activity on the coast.

For many beaches on the NSW coast, the erosion and recession over the last 50 years is slightly less than predicted by the current models. These were developed using the best available science and measurements of oceanic water levels. Only a few NSW beaches are showing signs of rapid retreat, however The Entrance North beach is one of these.

Coastal scientists believe the apparent lag in erosion response is partly due to the conservative predictions of models, relatively low storm intensity in recent decades, and to the buffering capacity of sand stored in the near-shore zone, in coastal dunes or in estuary entrances. Careful monitoring of sea level changes and of coastal responses in coming decades will refine understanding of coastal recession processes.

Policy requirements to manage coastal risks

Over the last two years, the Australian and NSW Governments have updated their policy framework for coastal hazards to reflect the best available scientific information about coastal erosion and recession. Wherever possible Council will align its policies and plans with the strategic coastal zone management frameworks established by the NSW and Australian Governments.

In 2009 and 2010, the NSW Government released a suite of policies, directions and guidelines to provide direction for effective management of coastal hazards and risks. These include:

- NSW Sea Level Rise Policy Statement (DECCW 2009), which sets sea level rise benchmarks for planning purposes of 40cm above 1990 level by 2050 and 90cm above 1990 levels by 2100.
- Coastal Planning Guideline – Adapting to Sea Level Rise (Department of Planning, 2009)

- Amendments to the NSW Coastal Protection Act 2010
- Coastal Risk Management Guide – Incorporating sea level rise benchmarks in coastal risk assessments (DECCW 2010)
- Ministers Requirements under the Coastal Protection Act 1979 (DECCW 2010)
- Guidelines for Preparing Coastal Zone Management Plans (DECCW 2010)

In addition, maintaining and improving the condition of coastal and marine ecological communities is a target of the NSW State Plan. Improving the capacity of coastal residents and management authorities to understand and accommodate the interactions of natural systems in the coastal landscape with development and other coastal uses is also a target of the NSW State Plan.

All of this legislation, policy and guidance focuses on building resilience and managing coastal process risks. It provides clear direction to councils that they must properly consider coastal process hazards in their local land use, natural resource management and community development planning.

As a local government area with three coastal erosion 'hotspots' and two 'Authorised Locations' for coastal protection emergency works, Wyong Shire Council has been directed by the NSW Government to prepare a coastal zone management plan and emergency action plans that show how it will manage coastal hazards and risks for the immediate, 2050 and 2100 planning horizons. These planning horizons are set in the Sea Level Rise Policy Statement (2009). The Local Government Act (1994) also requires councils to address climate change and have regard to the principles of ecologically sustainable development.

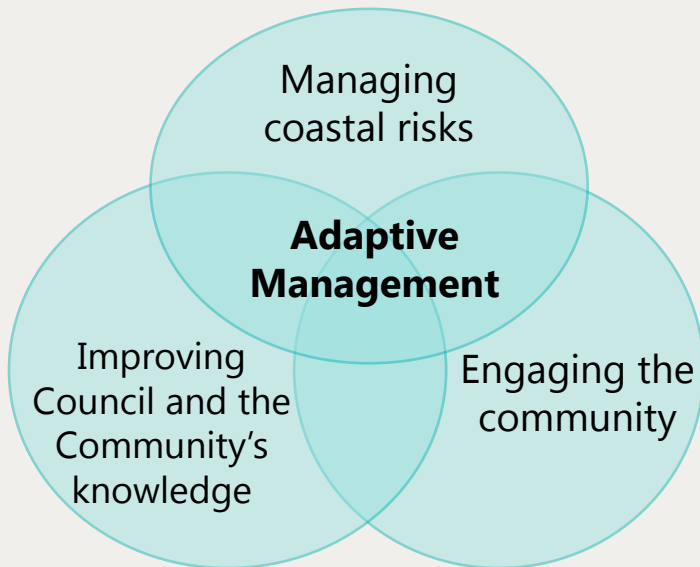


Council's Strategy

Council's strategy

Council has developed a coastal strategy which has three main components - dealing with known serious risks, engaging the community and setting up adaptive management as new knowledge emerges.

The three main strategies for managing the coast within an adaptive management framework are provided below.



An overall approach of adaptive management

Council will apply an adaptive management process in implementing the Coastal Zone Management Plan. As new information becomes available from research, government guidelines or policies, Council will use this information to guide future actions. These actions may change over time but the end result is that we will have a better understanding of what is actually required to manage the risks and ensure the sustainable management of the coastal zone.

Managing coastal risks

In the longer term, Council's strategy is that of a planned retreat where affected assets, infrastructure and development are moved out of coastal hazard zones whilst allowing some interim protection of public and private assets, to give residents and businesses time to develop more adaptive measures. This will also reduce the risk of sterilising coastal land unnecessarily before hazards are realised. A strategy of increased protection is simply not financially or environmentally sustainable for the Shire.

- WSC has adopted the sea level rise planning benchmarks set by the NSW Government. These benchmarks are based on the best available science, including measured sea level rise and trends over the last 100 years. Based on the best available information, Council expects that many assets along the Wyong Shire coastline will be vulnerable to coastal processes in coming decades.
- In managing coastal hazard risks, Council will collect and use coastal information and give priority to actions which can be implemented with its own resources, in partnership with its communities, or in conjunction with the state and federal governments. Priority will be given to strategies which provide robust solutions for both short and longer timeframes. Planning controls for new development are therefore a priority for the coast.
- Council will use a suite of land use planning tools (LEP and DCP clauses, design guidelines) to ensure that new development does not increase the risks associated with coastal hazards in the 2050 and 2100 planning horizons.
- In general, Council planning controls for the coast will use a 2050 planning period for new residential development on land already appropriately zoned and a 2100 planning period for major infrastructure, new subdivisions and strategic land use studies.
- In general, Council will in the longer term apply adapt or retreat strategies to coastal development and infrastructure. This requires relocation of assets to outside coastal risk zones and/or redesign of assets and infrastructure so that they are more resilient to coastal erosion and recession. Council may approve temporary or short term protection works for public and private assets in immediate hazard zones, to allow landowners time for adapt and retreat strategies to be refined and implemented.
- Council will not approve protection of existing assets or private development where the works would increase risks to other land owners or to community use of the coastal landscape. Council will consider the public and private costs and benefits of protection works, retreat and adapt strategies.

- Council accepts that to maintain coastal biodiversity, coastal ecological communities must have room to migrate (roll back landward) and adjust to new climate and sea level conditions. Council's policy is to maintain buffers zoned to enhance ecological resilience, wherever practicable.

Improve Council and the community's knowledge

Increasing our knowledge of coastal hazards and how to adapt to a changing environment are essential for a more sustainable future. Council needs to use the best available information in its coastal zone management and keep the community informed of this new information as it arises.

- Council will seek flexible options for managing hazards and risks that facilitate ongoing use of vulnerable land until risks become unacceptable. Council will not sterilise valuable coastal land unnecessarily. This will require careful monitoring and evaluation of actual change and well understood triggers for action.
- Council will incorporate processes for adapting and improving management decisions and implementation over time, for instance as new information about sea level rise, or coastal erosion and recession or government policy becomes available.

Engaging with the community

Council will inform and consult with residents and landholders about coastal zone management issues affecting their property and enjoyment of the coast, so that they can make informed decisions about their property and assets and can participate actively in coastal management.

- Council has adopted the NSW Government policy that private landholders should contribute to the cost of constructing and maintaining coastal protection works that benefit them. Council also proposes that, in the longer term, all Shire landholders should contribute in some way to the costs of managing community infrastructure in coastal hazard zones, so that services (both ecosystem services and infrastructure services) that are broadly enjoyed are able to be maintained.
- The Plan may also include specific agreed actions for state agencies such as Department of Premier and Cabinet, Land and Property Management Authority and Department of Planning and Infrastructure, where Council is partnering with them to manage large scale issues.

North Entrance Beach



Taking Action



Taking action

The Plan has eight interacting action plans that Council proposes to implement over the next ten years. By implementing these action plans, Council will reduce immediate high risks and reduce the likelihood of risks increasing in the future.

Each action plan incorporates the key themes of Council's strategic approach, as relevant to the specific issues, the level of risk and the expected rates of change to the level of risk.

The action plans are:

- Coastal knowledge and community involvement
- Emergency response
- Adapting to coastal process impacts and climate change
- Lake and sea interactions
- Geotechnical hazards
- Biodiversity resilience
- Access, recreation and tourism
- Protecting cultural landscapes

Getting started on change: Very high or urgent priority actions for a two year timeframe

These actions either address urgent, high risk issues or are essential starting steps for future adaptive management.

Whilst in general Council has the budget and staffing resources to make a difference quickly, some actions are subject to availability of resources.

Adaptive management framework and knowledge management

Strategy: Establish systems for adaptive management

- Council will maintain a coastal zone management coordinator position, to facilitate streamlined implementation of key strategies.
- Council will establish an asset register for community assets in the coastal zone, which will eventually include maintenance schedules, monitoring and relocation/redevelopment planning etc.

- Council will continue the operation of the Tuggerah Lakes Estuary, Coastal and Floodplain Management Committee as an ongoing community forum for coastal zone issues.
- Council will implement a community awareness and education program about coastal hazards, climate change risks and their management, including actions for coastal emergencies.
- Council will set up a schedule of annual progress reviews and a full program review after no more than five years.
- Council will ensure that relevant officers are appropriately trained in coastal hazard management – from strategic to emergency response activities and timeframes.
- Council will continue to attend and make presentations at coastal management forums and to liaise with Office of Environment and Heritage (Department of Premier and Cabinet) and Land and Property Management Authority to ensure up to date and consistent management approaches.

Land Use Planning – preparing for planned retreat and accommodation of coastal change

Strategy: Use precautionary planning tools to reduce coastal hazard risks

- Council will use the planning system to reduce the exposure of coastal development to coastal processes over time and to control the increase of risk associated with coastal processes.
 - No new development will be approved seaward of the immediate coastal erosion hazard line or seaward of the immediate geotechnical hazard line.
 - Council will place notation on the s149 certificate, for all properties within immediate 2050 and 2100 coastal risk areas (coastal erosion) and also all properties seaward of the 2100 low risk line for geotechnical hazards. Council will inform all affected ratepayers during the exhibition period.
 - Council will introduce planning clauses in LEP and DCP (concurrently and consistently) with requirements for appropriate geotechnical assessments of proposed development within the zone bounded by the immediate hazard line and 2100 low geotechnical hazard line.

- Council will introduce planning clauses in the LEP and DCP to introduce timed consents for new development in the 2050 coastal risk area. Before the expiry date of the timed consent, the landholder must apply and obtain an extension of time, or relocate the structure landward on the block (where this is possible) or remove the development.
- Council may require proponents of new development in the 2050 coastal erosion hazard area and the 2100 coastal erosion hazard area to appropriately design residential buildings to address the hazard, including for example development which can be relocated landward as the coastal erosion scarp recedes.
- Council will not approve new major infrastructure (such as main roads and sewerage systems) in the 2050 or 2100 coastal risk areas, except where it can be protected in a cost effective manner that does not increase risks to other coastal values.
- Council will not approve new subdivisions, vulnerable development (including nursing homes and hospitals) or other development that intensifies land use in the 2050 or 2100 coastal risk areas
- Floor levels for new development in immediate inundation hazard areas must consider the 1% AEP storm wave run-up for each beach.

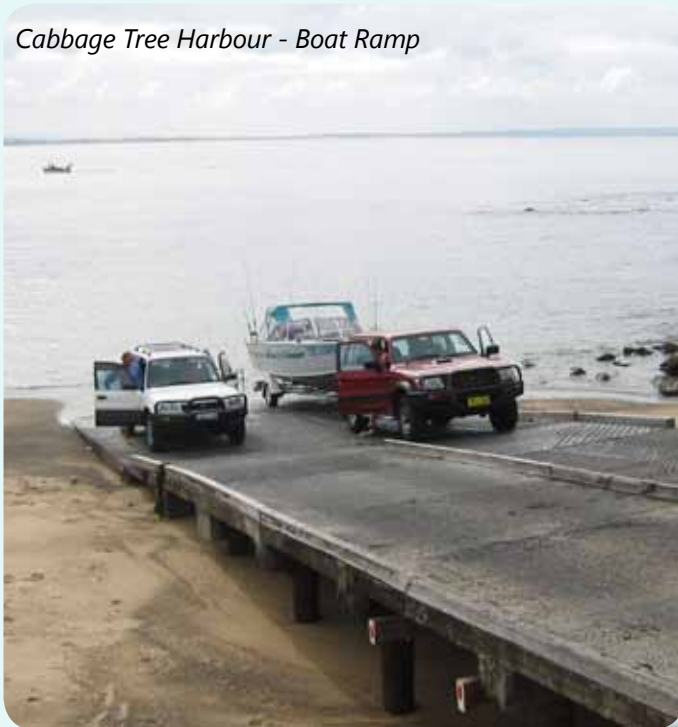
- Council will plan for the relocation of surf clubs out of coastal erosion hazard areas when major upgrades of facilities are due, plus identify surf club services/facilities that must be in the immediate hazard zone.
- Development landward of the 2100 coastal risk area and 2100 geotechnical low hazard line is not constrained by coastal process issues and there are no specific coastal hazard management requirements.

Structural protection of coastal assets

Strategy: Allow interim protection of assets (in accordance with legislation and guidelines) that are affected by hazards now, so that landholders can prepare for longer term change

- Council will construct a toe drainage structure at Cabbage Tree Harbour that both improves groundwater drainage and protects the toe of the slope against erosion. This structure will be partly funded by the Office of Environment & Heritage (Department of Premier and Cabinet).
- Council will review the structural integrity of The Entrance sea wall and schedule structural upgrades as necessary to balance risk and cost.
- Council will approve emergency beach protection works at The Entrance North and Hargraves beaches in accordance with the 2010 amendments to the Coastal Protection Act 1979 and related Guidelines, and in accordance with the Emergency Management Plan for those beaches.
- For properties where existing structures are inside the immediate coastal erosion risk area, land holders may apply to construct interim protection (for up to 10 years), pending further evidence about sea level rise driven recession on the Wyong Shire coastline. Such works must be designed to withstand at least a one in 20 recurrence interval storm. Structures must be removed after 10 years, unless an extension of the consent is granted. Landholders who build these structures may be liable for a levy to be paid to Council for ongoing maintenance of beach amenity.
- Council will consider applications for the construction of permanent rock sea walls to protect existing houses which are located in the immediate hazard zone only if:

Cabbage Tree Harbour - Boat Ramp



- all affected properties along a section of beach are involved/included
- the wall is built entirely on private property
- the wall will have minimal impact/risk in terms of erosion at the ends
- the landholders agree to contribute to the ongoing cost of beach nourishment to maintain beach amenity for the agreed life of the rock wall
- landholders are responsible for ongoing maintenance of the structure, as per standards specified by the Office of Environment & Heritage (Department of Premier and Cabinet) and Council
- public safety and access are not compromised.

Council has identified some locations in the immediate hazard zone where it will not approve the construction of a permanent sea wall, because of unacceptable risks to community access to the beach and to the stability of adjoining areas.

- At this time Council will not consider the construction of rock sea walls to protect residential property in the 2050 or 2100 coastal risk areas. Council will manage new development in these hazard zones using planning controls.
- Council will prepare detailed designs and environmental documentation for providing interim (up to 10 years) protection for existing surf clubs and major access infrastructure at surf clubs which are at immediate risk.

Beach nourishment, dune enhancement and vegetation management

Strategy: Strengthen the ecological and erosion resilience of the coast

- Council will continue to dredge sand from the active tidal delta at The Entrance and place the sand on The Entrance North beach. Some sand may also be placed at South Entrance to maintain beach amenity.
- Council will commission further studies of sediment dynamics in The Entrance channel, with sea level rise. These studies will help determine whether additional sand could be dredged from The Entrance for beach nourishment purposes. Sand used for emergency beach nourishment or to fill geotextile bags must comply with relevant Ministerial Guidelines.

- Council will continue to support Landcare groups to maintain and enhance the condition of vegetation communities on coastal dunes, including weed removal, replanting.
- Council will continue to work with the Office of Environment & Heritage (Department of Premier and Cabinet) and Hunter Central Rivers Catchment Management Authority (HCRCA) to protect nesting and roosting habitat for protected shore birds such as little tern (e.g. from disturbance by pedestrians, dogs and vehicles, possibly from short term wave overtopping).

Recreational enhancement

Strategy: Facilitate visitor-attracting recreational access infrastructure

- Council will continue to develop plans for a coastal walking track, which can be promoted as a recreational attraction for the coastline.
- Council will begin to prepare and/or review detailed Plans of Management for foreshore reserve areas, including those at surf clubs, to maximise recreational opportunities and safety.
- Council will review the design and integrity of structures such as stairways and lookouts, which are within immediate geotechnical hazard zones and relocate or modify as necessary.

Consolidating change: High priority actions for the five year timeframe

These actions consolidate and enhance the outcomes proposed in the first two years of implementing the Plan. Some actions are subject to availability of resources.

Funding and resources

Strategy: Diversity funding sources for coastal zone management

- Council will continue to maintain a coastal zone coordinator position.
- Council will consider introducing a Shire-wide levy to provide funds for managing climate change impacts on public assets and infrastructure along the coast, such as sewerage systems, roads and public beach access facilities.

- Council will seek greater funding opportunities with both the state and federal governments to expedite high value works and services along the coast.

Adaptive management and knowledge enhancement

Strategy: Collect quality data to evaluate progress

- Council will work with Hunter Councils and the NSW Government to acquire new high resolution LiDAR data at regular intervals. LiDAR data, combined with aerial photogrammetry and satellite imagery provides a rapid process for evaluating changes to coastal terrain and terrestrial coastal ecology as sea level rises.
- Council will continue to work with the Office of Environment & Heritage (Department of Premier and Cabinet) to provide the most up to date methodology for assessing coastal erosion and recession hazards, including the interaction between coastal recession and processes operating in the entrance of the Tuggerah Lakes system.
- Council will review progress in implementing the Plan at intervals of approximately five years. This performance review will be linked wherever possible to Council's other business management system reviews and to assessments of coastal condition (natural, cultural, social and economic values/assets), so that the effectiveness of investment can be evaluated. These condition reviews may be undertaken by management partners such as the Office of Environment & Heritage (Department of Premier and Cabinet) or HCRCMA.
- Council will report the outcomes of its management decisions and investment in coastal management to its community on a regular basis.

Land use planning and land management

Strategy: Implement and monitor LEP and DCP requirements in the coastal zone

- Council will continue to make planning decisions in accordance with the principles set out in the NSW coastal planning guidelines (DoP), so that new development is located and/or designed in a manner which minimises risk from coastal recession.

Beach nourishment and managing coastal ecological communities

Strategy: Strengthen the ecological resilience of the coastal zone

- Council will continue to protect the value of important coastal ecological communities (and protected species), in consultation with HCRCMA, the Office of Environment & Heritage (Department of Premier and Cabinet) and L&PMA.
- Council will continue to support dune care, dune height management and dune volume protection works, particularly for relatively natural sections of the coastline, but also as part of the risk reduction strategy for existing residential areas.

Cultural landscapes

Strategy: Enhance collaboration with local Aboriginal knowledge holders

- Council will work with Darkinjung Local Aboriginal Land Council and other Aboriginal community groups to document stories of Aboriginal attachment to the Wyong Shire coastline and identify information that could be used in interpretative signage/booklets etc for the broader community, to raise awareness of the significance of the coastal landscape for Aboriginal people.
- Council will work with the Darkinjung Local Aboriginal Land Council to monitor the condition of known Aboriginal sites in land under its care and to take proper action to protect the cultural values of those sites.

Coordinated emergency management

Strategy: Integrate management of coastal process and flood hazards in the coastal zone

- Council will work with the Office of Environment & Heritage (Department of Premier and Cabinet) and State Emergency Service to enhance communication about coastal emergencies, particularly where coastal emergencies are concurrent with flooding emergencies and decision need to be made quickly about egress from affected locations.

Recreation enhancement

Strategy: Facilitate visitor-attracting recreational access infrastructure

- Council will work with NSW Maritime Authority and commercial and recreational boating users to determine the best strategy for ocean boating access in Wyong Shire, including upgrades of existing facilities at Cabbage Tree Harbour as necessary.
- Council will conduct regular surveys (at approximately three to five year intervals) of beach users to ascertain satisfaction with beach facilities and amenity.

Checking and reviewing progress: Medium priority actions for the 10 year timeframe

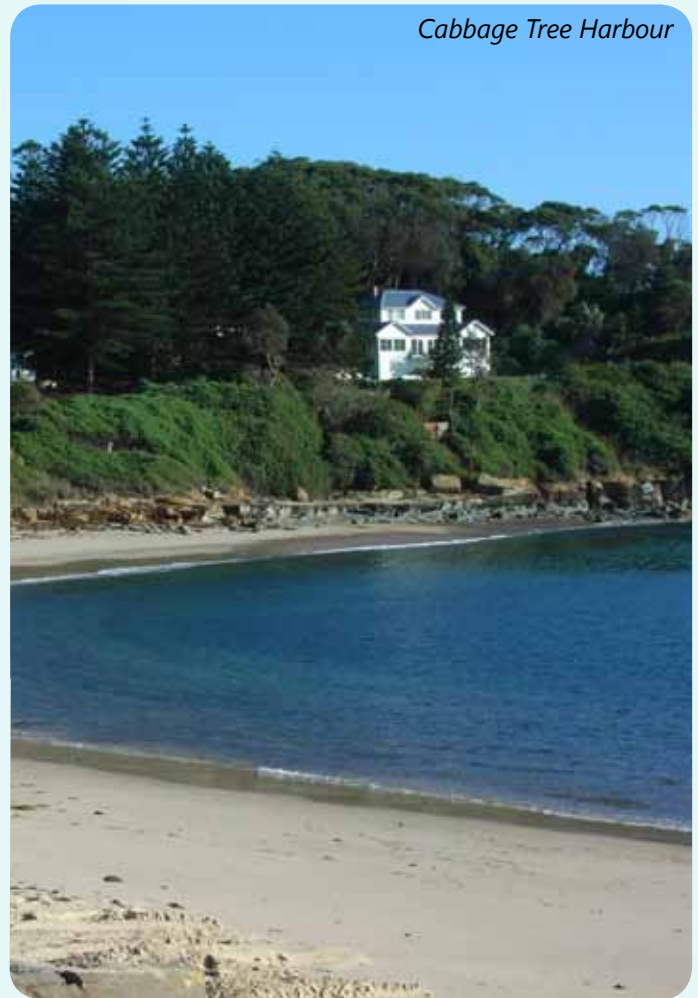
These actions continue longer term projects and evaluate and review the implementation of the plan, to identify opportunities for improved management.

Adaptive management and knowledge enhancement

Strategy: Review assumptions, progress and strategic approaches

- Council will continue the review, evaluation and reporting activities described for shorter time frames, so that all stakeholders continue to have access to good information with which to assess and manage risks.
- Council will review its assessment of coastal erosion and recession hazards, as new information from Intergovernmental Panel on Climate Change (IPCC) and the federal and state governments becomes available. Hazard lines and planning lines will be reviewed in the light of new information.
- Council will review its LEP and DCP requirements for coastal hazard areas, based on best available evidence of actual coastal recession and the costs and benefits of planning controls.
- Council will consider options for government acquisition of private land affected by coastal hazards. Council will work with NSW and

Cabbage Tree Harbour



Australian Governments to develop an appropriate strategy for high risk locations. Government acquisition of private land in coastal risk areas is not currently supported by any of these levels of government.

Beach nourishment, dune management and coastal ecological communities

Strategy: Evaluate the cost/benefit of alternative sand sources to buffer dune communities against climate change

- Council will review beach nourishment procedures and the availability of suitable sand for beach nourishment at key locations.
- Council will work with the NSW Government to study the feasibility of off shore sand being

used for beach nourishment purposes for maintaining beach area, volume and amenity at key locations – not for use in the immediate term, but in the context of likely increasing need after 2020. For instance a large volume of sand would be needed to enhance the dune buffer to prevent overtopping/breakthrough at Budgewoi. Offshore sand supplies are a high cost sand source and Council's decisions will be affected by decisions made for very high profile beaches in the Sydney metropolitan area and the evolution of NSW Government policy over the next five to 10 years.

Recreation enhancement

Strategy: Facilitate visitor-attracting recreational access infrastructure

- Council will complete a coastal walking and cycling pathway, connecting coastal settlements and linking with the lake shore pathway.
- Council will continue to invest in relocation of surf club facilities, in accordance with a schedule based on erosion hazard and significance of the facility to safe beach use in the Shire.

How will Council meet the costs of coastline management?

Council does not have the resources to implement all of the important actions to achieve sustainable, risk focused management of its coastline, within an acceptable timeframe. There are several strategies open to Council to provide human and financial resources for implementation of the Plan. Council is already addressing many issues through existing staff responsibilities.

Additional options that Council is considering include:

- Review and reallocate priorities in Council's overall Business Plan so that greater resources are allocated to coastline management.
- Modify job descriptions for Council officers in line with new priorities, to clarify where officer time is to be invested.

- Focus on a sound, risk-averse planning framework (LEP and DCP) so that new development is directed out of coastal risk areas.
- Develop implementation partnerships with other levels of government and with community organisations. Community involvement is critical to dune vegetation rehabilitation, and to monitoring the condition of coastal natural resources.
- Apply for funding through special coastal grant schemes (such as Caring for our Country coastal program, the Office of Environment & Heritage (Department of Premier and Cabinet) programs, Commonwealth emergency response programs.)
- Require that all private landholders who are directly impacted by coastal process hazards pay for the coastal protection works (on private land) from which they benefit, including maintenance of protection works.
- Implement a special levy on affected coastal landholders, to cover the costs of maintaining beach amenity, where public access and recreational amenity are indirectly impacted by private coastal protection works. This charge is authorised by recent amendments to the Coastal Protection Act (1979).
- Implement a Shire-wide levy (similar to the existing stormwater levy) to provide additional funds for works to relocate or protect community assets and infrastructure that are impacted by coastal recession. These assets include surf clubs, park facilities, beach access ways, sewerage systems, roads, The Entrance sea wall and pathways. Apart from protection works at the toe of the slope at Cabbage Tree Harbour (for which grant funds have already been obtained), works to relocate or protect community assets in the 2050 and 2100 coastal hazard zones are the biggest financial commitment for Council from the Plan.

Consulting with stakeholders

We value your comments

At all stages of the Wyong Shire Coastal Zone Management Plan, stakeholders have been invited to provide input.

During the early stages of the Plan, State Agencies, Council staff, local businesses and community groups were involved in workshop groups to help direct the preparation of the Plan. In addition, Council staff met with precinct committees and other community groups.

The draft plan is now placed on public exhibition and a number of field day sessions will be held along the coast.

Council is inviting submissions from the community, local business, state agencies and other local governments. The submissions will be considered in the development of the final Plan.

Details on how to provide submissions and other feedback will be available with the draft plan on Council's webpage.

How to contact us

Call Customer Contact on (02) 4350 5555 for additional information or visit our website at www.wyong.nsw.gov.au/environment/coastal-management

Council also invites feedback via it's Coastal Management Blog which can be accessed via the web address above.

All other enquiries are to be addressed to the General Manager.

Address: PO Box 20, Wyong NSW 2259.

Fax: (02) 4351 2098.

Email: wsc@wyong.nsw.gov.au.





Wyong
Shire
Council
CENTRAL COAST