

Coastal Management State Environmental Planning Policy

○ Fact sheet 4: Mapping of Coastal Management Areas (Technical)

April 2018

Purpose of this fact sheet

This fact sheet contains technical mapping information to assist council staff, public authorities, planning professionals and other interested individuals applying the State Environmental Planning Policy (Coastal Management) 2018, known as the Coastal Management SEPP.

It outlines the criteria and methods used to identify the extent of the coastal management areas that together comprise the coastal zone for the purposes of the *Coastal Management Act 2016* and the SEPP.

The Department of Planning and the Environment expects that maps of the coastal management areas will be regularly reviewed as improved data and mapping methods become available to councils and the NSW Government.

Councils considering submitting a Planning Proposal to update a map under the SEPP should consult with the Department to confirm the relevant mapping methods.

Mapping the coastal zone

The Coastal Management Act 2016 defines the NSW coastal zone as comprising one or more of the following four areas:

- coastal wetlands and littoral rainforests area
- coastal vulnerability area
- coastal environment area
- coastal use area.

The Coastal Management SEPP maps the coastal management areas and establishes planning controls to guide development assessment in the mapped areas.

The map viewer that is used to show the coastal management areas includes NSW Government satellite imagery to assist in understanding the maps. While this imagery is the best available for NSW, it needs to be recognised that the imagery was generated over a number of years and may at times not represent the current landscape.

Coastal wetlands and littoral rainforests area

The coastal wetlands and littoral rainforests area map comprises four map layers:

- coastal wetlands
- proximity area for coastal wetlands
- littoral rainforests
- proximity area for littoral rainforests.

Coastal Management State Environmental Planning Policy

○ Fact sheet 4: Mapping of Coastal Management Areas (Technical)

April 2018

The coastal wetlands and littoral rainforests map refines mapping originally prepared for SEPP 14 and SEPP 26 (published in 1985 and 1986 respectively). These maps were updated in 2012 (University of NSW wetland mapping) and 2013 (OEH mapping of vegetation communities in Greater Metropolitan Sydney).

To prepare the maps for the Coastal Management SEPP, the Department has considered recent mapping of mangrove and saltmarsh communities (DPI Fisheries) and vegetation mapping prepared by local councils which was submitted during the exhibition process.

Coastal wetlands

Coastal wetlands mapped in NSW for the development of SEPP 14 (Adam 1985) defined wetland communities as those that are dominated by the following vegetation types:

- mangroves
- saltmarshes
- melaleuca forests
- casuarina forests
- sedgelands
- brackish and freshwater swamps
- wet meadows.

In 2012, the then Department of Planning and Infrastructure worked with the University of NSW to review the mapped SEPP 14 coastal wetlands. The project used new technical mapping tools to improve the spatial accuracy and reliability of coastal wetland mapping. These tools enabled more accurate delineation of wetland boundaries and resulted in a net increase of 10,000 hectares of mapped coastal wetlands. The coastal wetlands area map builds on this mapping.

The methods used to revise the mapping of coastal wetlands in 2012 were reviewed by Neil Saintilan of Macquarie University. His report of the revised mapping methodology found that 'the revised mapping has significantly improved the accuracy of mapping original (early 1980s) wetland extent' and that 'the resulting mapping is on this basis a reliable indication of the presence of coastal wetland communities'.

When SEPP 14 was first published in 1985, coastal wetlands in the Greater Metropolitan Sydney were not mapped. In 2013 the Office of Environment and Heritage identified and mapped native vegetation in the Greater Metropolitan Sydney, 'The Native Vegetation of the Sydney Metropolitan

Area' (2013). The project used high resolution aerial imagery to interpret and map the presence of native vegetation across Sydney.

For the purposes of the Coastal Management SEPP, the coastal wetland types listed above were extracted from the OEH dataset and included in the mapping. This data was then edited to remove single trees and gallery stands - single rows of trees - in line with the definitions used in SEPP 14.

The mangrove and saltmarsh datasets held by the Department of Primary Industries (Fisheries) Estuarine Macrophyte dataset were also obtained and larger mapped areas, with a minimum size of 5000 square metres, from that dataset added to the coastal wetlands area map.

Coastal Management State Environmental Planning Policy

○ Fact sheet 4: Mapping of Coastal Management Areas (Technical)

April 2018

During the consultation period for the draft Coastal Management SEPP submissions were received from councils with supporting data, seeking amendments to the coastal wetlands maps. Spatial data provided by councils have been checked against the SEPP 14 mapping criteria for coastal wetlands. High resolution council mapping that is consistent with the SEPP 14 ecological community definitions has been added to the coastal wetlands area.

The **proximity area for coastal wetlands** comprises land up to 100 metres area around all mapped coastal wetlands. It includes all land zonings.

Littoral rainforests

The **littoral rainforest map** is based on the mapping in SEPP 26 (Littoral Rainforests). SEPP 26 identified littoral rainforests based on their dominant vegetation. Littoral rainforests were divided into five types depending on the main tree species present, these being:

- riberry, broad-leaved lilly pilly
- tuckeroo
- brush box
- yellow tulip, bauerella, red olive plum, plum pine
- lilly pilly, various figs, cabbage palm and plum pine.

This data was created by the NSW National Parks and Wildlife Service in 1986, by identifying stands of littoral rainforests on 1:25,000 aerial photography across NSW. The identified stands were then validated by field checks and mapping of littoral rainforests. This information was then manually drawn onto hardcopy 1:25,000 topographic maps.

In 2003, these hardcopy maps were digitised into a format compatible with GIS by the then Department of Urban Affairs and Planning. This digital data is the starting point for the littoral rainforest area map.

Like SEPP 14, the original SEPP 26 maps did not include the Greater Metropolitan Sydney. Mapping of littoral rainforests within the Greater Metropolitan Sydney was also completed as part of the 2013 OEH project to identify native vegetation. This data has been included in the littoral rainforests map.

During the consultation period following the release of the draft SEPP and maps several submissions were received from councils with supporting data, seeking amendments to the littoral rainforests maps. High resolution council mapping that is consistent with the SEPP 26 ecological community definitions has been added to the littoral rainforests area.

The **proximity area for littoral rainforests** comprises land up to 100 metres area around all mapped littoral rainforests. It includes all land zonings.

Coastal vulnerability area

Coastal hazards are defined in the *Coastal Management Act 2016*. A coastal hazard means any one or more of the following:



Coastal Management State Environmental Planning Policy

○ Fact sheet 4: Mapping of Coastal Management Areas (Technical)

April 2018

- Beach erosion
- Shoreline recession
- Coastal lake or watercourse entrance instability
- Coastal inundation
- Coastal cliff or slope instability
- Tidal inundation
- Erosion and inundation of foreshores caused by interactions of tidal waters, waves and catchment floodwaters.

A coastal vulnerability area map has not been included in the Coastal Management SEPP at this stage.

Coastal vulnerability area maps can show areas affected by one or all identified coastal hazards in a council area, and may be included in the SEPP in the future. The coastal vulnerability area map will show the area affected by coastal hazards to which planning controls will apply. This will be based on acceptable risks to coastal development from coastal hazards.

Mapping of the coastal vulnerability area will be included in the SEPP in the future. The mapping can be updated by the Department or a local council may prepare a Planning Proposal to update the mapping of the coastal vulnerability area in its local government area using coastal hazard analysis and mapping prepared for its coastal management program or coastal zone management plan.

Fact sheets 1 and 2 provide more detail about this area and development controls for coastal hazards. The NSW Coastal Management Manual provides detail about the modelling and mapping of coastal hazards, and the identification of coastal vulnerability areas.

Coastal environment area

The *Coastal Management Act 2016* defines the coastal environment area as land containing coastal features such as the coastal waters of the State, estuaries, coastal lakes, coastal lagoons and land adjoining those features including headlands and rock platforms. Beaches, dunes and foreshores are also included in this area.

The coastal environment area map identifies the extent of these features using the following data:

- **Sensitive coastal lakes** (listed in Schedule 1 of the SEPP) – These lakes and their water catchment are mapped using the LPI HydroArea layer file that was originally created using aerial photography interpretation coupled with extensive field data capture and ground-truthing. The lakes were identified in the Healthy Rivers Commission’s Independent Inquiry into Coastal Lakes (2002) as requiring comprehensive protection. Ti Tree Lake has also been added to the list of lakes given its environmental and cultural importance. The catchment of these lakes is included in the maps of the coastal environment area. Catchment mapping has been derived from the OEH ‘Estuaries’ dataset.
- **Coastal lakes** (listed in Schedule 1 of the SEPP) – These lakes are mapped using the LPI HydroArea dataset, plus a 500-metre landward component.

Coastal Management State Environmental Planning Policy

○ Fact sheet 4: Mapping of Coastal Management Areas (Technical)

April 2018

- These are the remaining coastal lakes from SEPP 71 and two additional coastal lakes identified during the draft SEPP review process, being Gogleys and Redhead Lagoons.
- **Estuaries** from the OEH 'Estuaries' database – mapped upstream to one kilometre beyond the Highest Astronomical Tide recorded in the estuary, plus a 500-metre landward component.
- The estuary data was originally generated between 1996 and 2005 by Manly Hydraulics Laboratory on behalf of the former Department of Natural Resources and involved determining the coordinates of the tidal limits of estuaries and tributary waterways and then digitising the estuary profile.
- **NSW coastal waters** – Mapped from the open ocean boundary of local government areas to the NSW state water boundary as defined in the *Commonwealth Coastal Waters (State and Northern Territory Powers) Act 1980*.

The coastal environment area also includes a 250 metre landward extent from the open ocean local government area boundary to cover beaches, dunes, headlands, rock platforms and foreshores.

In **Greater Metropolitan Sydney**, there is a 100 metre landward extend from the open ocean boundary of local government areas. For estuaries, there is a 100 metre landward extent from the estuary boundary.

Within **Sydney Harbour**, the coastal environment area is defined by the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 Foreshore and Waterways Area mapping. This mapping is proposed to be carried forward into the proposed State Environmental Planning Policy (Environment), for which an Explanation of Intended Effect was exhibited in 2017.

Minor adjustments have been made to correct anomalies and errors in the underlying datasets, and to ensure that key components of the coastal environment area being beaches, dunes and undeveloped headlands are captured. Where additional anomalies are identified, these will be rectified through the Planning Proposal and SEPP amendment processes.

Coastal use area

The coastal use area is land adjacent to coastal waters, estuaries, coastal lakes and lagoons, and is mapped as follows:

- **Regional NSW** – 500 metre landward extent from the open ocean boundary of local government areas and a 250 metre landward extent from the boundaries of estuaries
- **Sydney Harbour** – the extent of the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 Foreshore and Waterways Area mapping
- **Other areas within Greater Sydney** – 200-metre landward extent from the open ocean boundary of local government areas and a 100-metre landward extent from estuary boundaries.

Minor adjustments have been made to correct anomalies and errors in the underlying datasets.