Fort Denison Mean High Water Mark review

Fact Sheet

May 2022

Introduction

In NSW, the legal boundary between natural foreshores and tidal waters is commonly the mean high water mark (MHWM) or "the line of mean high tide between the ordinary high-water spring and ordinary high-water neap tides." (Surveying and Spatial Information Regulation, 2017).

Property and planning

Transport for NSW is responsible for managing waterways and foreshore areas. These include the beds of major ports in NSW – Sydney Harbour and its tributaries, Botany Bay, Newcastle Harbour, and Port Kembla Harbour.

Waterway property boundary

For any development on the foreshore of one of NSW's waterways, the boundary needs to be determined. The location of boundaries helps to understand the extent of the property and what development is permitted.

Sydney Harbour and its tributaries

The Sydney Harbour boundary is generally described as a combination of linear (right line or fixed) boundaries and mean high water mark boundaries. The type of boundary at a particular location in Sydney Harbour depends on the nature of the foreshore and the documented and physical history of development in that location.

Generally, where a foreshore is natural (undeveloped) the boundary is mean high water mark.

To help understand boundaries in NSW property owners should seek advice from a registered land surveyor. Any survey of property boundaries in NSW, by law, is required to be conducted or supervised by a registered land surveyor.

Aerial map of Sydney Harbour

Fort Denison, Sydney Harbour (image licensed under Creative Commons CC-BY-SA-2)

Fort Denison and MHWM in Sydney Harbour

A tide gauge has been used at Fort Denison since its construction in 1857 to calculate a MHWM value for Sydney Harbour. This value continues to be used as a reference by registered surveyors to determine MHWM property boundaries within the Harbour.

Fort Denison MHWM history

- Before 1927 no value for MHWM at Fort Denison was officially published.
- Between 1927 and 1994 a value of 1.44m (rounded to the nearest cm) above the Zero on the Fort Denison Tide Gauge (ZFDTG) was adopted.
- In 1994 a review and recalculation was undertaken and a value of 1.48m (rounded to the nearest cm) above ZFDTG was adopted.

Fort Denison MHWM review

In 2019 Transport for NSW engaged Manly Hydraulics Laboratory to review and update the MHWM value at Fort Denison. A detailed report catalogued MHL2699 has been published at mhl.nsw.gov.au.

Following the latest review, the value of MHWM at Fort Denison to be referenced in determining the MHWM boundary of Sydney Harbour and its tributaries, where applicable, is now:

1.52m above ZFDTG (rounded to the nearest cm).

Climate change and sea level rise

Sea-level rise is measured using many tide gauges around the world, as well as satellite altimetry. A single tide gauge is not on its own directly indicative of the magnitude of sea-level rise. For more information on sea-level rise and other impacts of climate change visit climatechange.environment.nsw.gov.au

Fort Denison tide gauge is maintained and operated by the Port Authority of NSW. Live tide information is available at wavewindtide.portauthoritynsw.com.au. (Image licensed under Creative Commons CC-BY-SA-3.0.)

Contact

For further information on Fort Denison Mean High Water Mark or boundary surveys adjoining Transport for NSW waterways please contact the Maritime Survey Manager at: maritime.survey@transport.nsw.gov.au.

Translating and interpreting service

If you need help understanding this information, please contact the Translating and Interpreting Service on 131 450 and ask them to call us on 13 12 36.