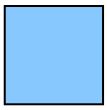
LANDSCAPE CHARACTER TYPE:
Harbour Channels



Confined to the harbours of Portsmouth, Langstone and Chichester.

SIMILAR AND ASSOCIATED TYPES HAMPSHIRE DISTRICT AND BOROUGH LEVEL ASSESSMENTS	
Basingstoke:	n/a
East Hampshire	n/a
Eastleigh	n/a
Fareham	Not defined
Gosport	Not defined
Hart	n/a
Havant	Harbour basin and Broad Inlets (both include channels and intertidal mud flats)
New Forest	n/a
Rushmoor	n/a
Test Valley	n/a
Winchester	n/a
SIMILAR AND ASSOCIATED TYPES IN NEIGHBOURING AUTHORITY ASSESSMENTS	
Dorset	n/a
West Berkshire	n/a
West Sussex	Not defined
Wiltshire	n/a
Chichester Harbour	Harbour basin and Broad Inlet (both include channels and intertidal mud flats)

KEY IDENTIFYING CHARACTERISTICS AND BOUNDARY DEFINITIONS

- Extensively muddy silty channel beds becoming increasingly sandy and gravelly towards the harbour entrances.
- Commercial important for shell fish including oysters – particularly for the European market.
- Narrow entrances to the sea.
- Considered to be bar built estuaries in JNCC terminology with sediment across their mouths and partially inundated river valleys.
- Not particularly deep often less than 5m apart from the lower reaches and areas dredged for shipping.
- Branched channel pattern compared with Estuary Seascape type.
- Dredged main channels allow commercial gravel dredgers to ply wharves and recreational craft to access moorings and marinas in the upper reaches of the harbours.
- Changing visual prominence from silvery fingers amongst the mudflats at low tide to being defined by channel buoys and withies at high water.
- Sublittoral, marine habitat part of internationally designated harbour habitats.
- Developed from flooded river valleys during the Iron age, the anaerobic muds have the potential to preserve fossilised remains and remains of e.g. trees from the Neolithic. and boat remains.

PHYSICAL

GEOLOGY, LANDFORM, ELEVATION:

Bedrock and Superficial Geology: Predominantly Tertiary sands and clay formations, upper reaches formed of Nodular Middle and Upper chalk with flint overlain by tidal flat deposits. Cross harbour drilling has the potential to encounter running sands and massive flints.

Extensive silty mud flat deposits. In the lower reaches of the harbour, more sandy deposits are common.

Landform and Elevation: Formed from flooded dendritic river systems – and bars (often permanently submerged across the mouth. Harbour channels are marine channels which cut through the saltmarshes and mudflats of the harbours. Below mean low water springs tide lines to the channel bottom. Very smooth U shaped cross sectional profile, deepest cross section at the channel entrances. Subject to frequent reshaping, and dependent on coastal processes outside the harbours as well as within, particularly in relation to silt deposition. Dredging of the main channel at the harbour entrances and approaches takes place periodically. (check)

WATER-BASED USE AND PATTERN:

Today, the main commercial interest is for recreational craft marinas and moorings and MoD vessels. These tend to be located within the broad and minor inlet types defined at District scale assessment. Recreational fishing is popular but commercial fishing and oyster collecting ceased in the 19th century. Vessels carrying sand and gravel from dredging out at sea use the main channels to deliver to wharves in the upper reaches of Langstone harbour. Commercial cross channel and local ferries use the main channels in Portsmouth Harbour. All the channel entrances can become extremely busy with leisure and commercial craft at certain times especially in the summer months and each has its own harbour office, including the Queens' Harbour Master for Portsmouth.

HYDROLOGY:
Sea level change by the end of the Bronze Age, allowed the sea to inundate the lower reaches of the small river valleys. The channels are subject to the strongest tidal flows in the harbours especially towards the harbour entrances where tidal flows typically reach 4 or 5 knots. Tidal ranges between 2 and 3 metres set the sea level in the main channels in shallow but steep sided creeks well below the surrounding mud of the Intertidal Harbour LCT.

EXPERIENTIAL

ACCESS AND TRANSPORT ROUTES:
Commercial cross channel and local ferries to the Isle of Wight are confined to Portsmouth Harbour. Private craft of which dinghies and yachts make up the greatest numbers. Commercial vessels ply the wharves in Langstone harbour with gravel.

TRANQUILLITY:
Varying – depending on the time of year and the amount of vessels using the channels. At regatta times the water can be a vibrant colourful spectacle. In winter with moorings freed from boats the channels provide low water navigable routes amongst the mudflats and saltmarsh enabling close encounter with wintering birds and the occasional sea – the contact with nature heightens the sense of wildness and tranquillity.

BIODIVERSITY

Below mean low water mark marine environments and typically included in the harbours international designation along with adjoining intertidal muds and saltmarsh. Marina developments exist within the Harbour Channels landscape character type, close to the harbour mouth. The marine channels support fish and marine invertebrates. Muddy gravels and sublittoral sand and gravels are both priority habitats in the UK Biodiversity action plan. The former is the more extensive habitat and dominated by polychaete worms and molluscs but sandier conditions prevail towards the harbour entrances. The channels provide feeding grounds for diving birds including great crested grebe and marine ducks such as scoter and long tailed duck. There are resident common seals in Chichester harbour.

Two BOAs cover this landscape character type:

- The Portsmouth Harbour BOA centred on Portsmouth Harbour SSSI;
- Chichester/Langstone Harbours and Hayling Island BOA.

HISTORIC ENVIRONMENT *(leave to Historic. Specialist)*

ARCHAEOLOGY:
Portsmouth, Langstone and Chichester harbours were formerly Rias in the Mesolithic which ran out to the Solent estuary. Subsequently they have undergone a process of relative marine sea level rise and inundation from the Iron age onwards. Archaeology finds include fossilised trees from the Neolithic, Bronze Age pottery and remains of vessels in the anaerobic muds. The are main channels below mean low water mark, and may have evidence of lost vessels or abandoned hulks at the margins. Some of the channels are man made / maintained in particular the route of the Arundel canal from Portsmouth across Langstone and Chichester harbours to 'a cut' at north Thorney island.

VISIBILITY

Prominency: Large extents visible from the shoreline and where they happen to occur in Hampshire, prominent from Portsdown Hill ridge. Water can become out of site a low tide from the shore. Obvious rapid temporal changes with the fluctuations of the tide.
Enclosure: The harbour fringes present a mix of edge treatment. Well treed field boundaries act as windbreaks and impart a feeling of a wooded edge to long stretches of the shore. Development adds to the relatively short views of the mainland and a strong sense of enclosure and together with narrow harbour entrances enhances the sense of protection from the open sea of the Solent. Within the channels at low tide in the upper reaches, often more sheltered as below the average height of the mud flats.
Public perceptions: At high tide, the reflective surface of the water can make the harbours seem more prominent from their surroundings. The sheer high density of development around the harbours and its recreational draw means that there is a heightened awareness of activities in the harbours.