

LANDSCAPE CHARACTER TYPE:

Estuary

Series of estuaries which stretch from the western edge of Hampshire's coast to the Hamble – where the former Pleistocene Solent river expunged into the Solent.



SIMILAR AND ASSOCIATED TYPES HAMPSHIRE DISTRICT AND BOROUGH LEVEL ASSESSMENTS

Basingstoke:	n/a
East Hampshire	n/a
Eastleigh	n/a
Fareham	Enclosed tidal river
Gosport	n/a
Hart	n/a
Havant	n/a
New Forest	Coastal fringe (also includes intertidal and coastline)
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	n/a
Wiltshire	n/a
Chichester Harbour	n/a

KEY IDENTIFYING CHARACTERISTICS AND BOUNDARY DEFINITIONS

- Varies from meandering incised estuaries with wooded sides e.g. Beaulieu, to large straight and wide form e.g. Southampton Water.
- Includes everything below mean low water mark.
- Solent area is unique on the UK coast as there are both bar built and coastal plain estuaries.
- Not always accessible to the water's edge from the land because of intertidal mud flats and private land running down to the water's edge.
- Large tidal range.
- Where the estuary is very narrow at low water, compared with the intertidal mud flats it is not mapped hence they are not a true representation of the limit of brackish water.
- The estuaries of the Solent are important international habitats and below the littoral zone - for marine invertebrates. The designation often extends seaward of the mouth, or the 'outer estuary'.
- Busy navigational areas with complex channel marks and lights for night navigation which blink against varied back drops of dark woodland and bright urban lighting.

PHYSICAL

GEOLOGY, LANDFORM, ELEVATION:

Bedrock and Superficial Geology: Predominantly Tertiary sands and clay formations, generally from the Eocene, including Barton Group clays under Southampton water and older beds from the Bracklesham group towards the east such as Selsey sand formation at Hamble. Cross channel drilling has the potential to encounter running sands.

Associated with Pleistocene river gravels from the course of the original Solent river.

Landform and Elevation: Includes bar built e.g. Beaulieu and coastal plain estuaries e.g. Hamble. Variable in size from the smallest Lyminster to the largest Southampton water. Different history of formation compared to the harbours of the east Solent in that the estuaries were part of the Pleistocene Solent river and its tributaries. Comparatively deep water channel compared with the main harbour channels. E.g. Southampton water 12.6m – periodically dredged. Lyminster 10 at the entrance 4m at Lyminster.

SOILS TYPES:

Typical soil type pattern: n/a

FUNCTIONS:

Hydrological function: Significant tidal range of 2 to 3 metres – unique double high water at Southampton due to back eddy effect of the Isle of Wight. Predominantly easterly direction long shore drift at the mouths of estuaries typically resulting in westward spit formation. Sometimes moving landward to create saline lagoon and sever former port settlements such as at Hook. Predominantly low sediment transfer into the Solent.

WATERBASED 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.

TRANQUILLITY:

Can be seasonally very busy with recreational users and year round with commercial going traffic in Southampton Water. However, the smaller estuaries such as Beaulieu, Lymington and Hamble have a serene and away from the hustle and bustle feel.

BIODIVERSITY

The Estuary landscape character type is a coastal/marine landscape. Estuaries consist of sea with intertidal mud and sands. However this type only includes below mean low water.

The parts of estuaries furthest away from the open sea are usually characterised by soft sediments and the salinity is more strongly influenced by riverine freshwater input. Here the sediment-living animal communities are typically dominated by oligochaete worms, with few other invertebrate. Seaward there is less sediment and more saline. Here, the animal communities of the sediments are dominated by species such as ragworms, bivalves and sandhopper-like crustaceans. The 'outer estuary' is more associated with the coastal sea landscape type.

Mudflats and the sublittoral zone represent important ecological resources and can support seagrass beds as well as marine species, algae, invertebrates, and wintering wildfowl and wading birds.. Inland, as estuaries narrow, the shoreline habitats vary: continuous and scattered saltmarshes give way to marshy grasslands, base rich fen and tall marginal vegetation. This group of wet grasslands represent a transition from saline through to freshwater conditions and thus support a specialist range of species. Around the River Hamble, woodland is characterised by ancient semi-natural woodland and extends from adjacent landscape character types down to the shore; these estuary woodlands can be botanically rich and may be direct descendants of the original primeval forest that once covered much of southern England.

Three BOAs cover this landscape character type further investigation is required to see opportunities for sub littoral zones within these BOAs:

- The New Forest Coast BOA
- The Itchen Valley BOA
- The Hamble Catchment BOA

HISTORIC ENVIRONMENT

ARCHAEOLOGY:

The archaeology of this type is not visible at the surface, but includes inundated landscapes from the early prehistoric periods, wrecked vessels of all periods, and lost aircraft. These mud flats in places have evidence of fish traps, and it is likely that the archaeological resource of shore line margins fishing is greater than currently understood. It seems likely that at certain times of the tide these areas would have been exploited by canoe for the wild fowl. It is also an area which will have archaeological evidence of boats and hulks, lost or abandoned on the shallows.

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 at 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.