

**Broad Character: Navigation**

**Character Type: Navigation Feature**

**Regional Perspective: Southern England**

**Compiled by Seazone Solutions Ltd / M A Ltd, January 2011, after comment from D Hooley, English Heritage**

**INTRODUCTION: DEFINING/DISTINGUISHING ATTRIBUTES**

The region's maritime trade and transport links with continental Europe are known to have developed from the Bronze Age onwards with the English Channel being a thoroughfare for continental trade. Shipping industry and trade routes continued to grow through the centuries and the Southern England region is now one of the world's busiest seaways. Shipping in the Channel is monitored and controlled by the Coastguard, who are stationed in the Portland and Solent areas. Marine GPS systems allow ships to be preprogrammed to follow navigational channels accurately and automatically, avoiding risk of running aground.

The established navigable shipping channels are of vital importance to the region's trade, and their continued maintenance is a high priority (Solent Forum, 1997). One of the legal duties of the harbour authorities is ensuring that the region's ports are safe and clearly marked, and are of sufficient dimension to accommodate the area's shipping (Solent Forum, 1997).



**Shipping in Southampton Water (© Hampshire & Wight Trust for Maritime Archaeology)**

Extensive maintenance dredging operations of the channels of port areas such as Southampton Water and Chichester Harbour frequently occur which impacts the seabed subsurface.

**HISTORICAL PROCESSES; COMPONENTS, FEATURES AND VARIABILITY**

The region has a long history of maritime trade links with continental Europe. Transport links are known to have developed from the Bronze Age and Iron Age onwards, with

trade increasing dramatically in the Roman period. With this increase came a corresponding growth in the amount of shipping needed to carry it (MA Ltd, 2007).

Coastal shipping played a significant role in trade around the British Isles in Medieval times. Large quantities of goods were moved from around the coast to the larger ports and from there they were shipped to the continent (Friel 2003). Southampton played an important role in coastal and continental trade during this period.

By the early 1600s trading areas had expanded to include new markets in the Baltic and the Mediterranean. This increase in trade mostly centred on London and several other larger ports along the south east. By the seventeenth century England's overseas growth greatly increased, and the Industrial Revolution played a further role in the development of ports, with Southampton and Portsmouth becoming major centres for trade (MA Ltd, 2007).



**Port of Southampton (© Hampshire & Wight Trust for Maritime Archaeology)**

A short post-war shipping boom was experienced between 1918 and 1921, but was soon followed by an economic downturn in the 1950s, when the British shipping industry which was having to compete with subsidised German, American and Japanese fleets (Friel 2003) as well as increased competition from air transport. The advent of containerised shipping in the 1960s, and the search for economic benefits in world trade saw the development of bigger tankers and larger bulk carriers (Friel 2003).

The Southern England region is now one of the world's busiest seaways. Whilst in the Channel, shipping is monitored and controlled by the Coastguard, who have stations in the Portland and Solent areas. The volume of traffic is considerable. Within a 15 mile radius of the Channel Light Vessel there are around 47,000 commercial vessel movements a year. This reduces to around 19,000 per year within a 15 mile radius of the St Catherine's Lighthouse, located on the south coast of the Isle of Wight (James et al, 2010).

The mainland ports are providers of services within a competitive market of international trade, and the requirements for port activity are a product of the demands of the ports' customers, and the ports' commercial choices and decisions. The main requirements include

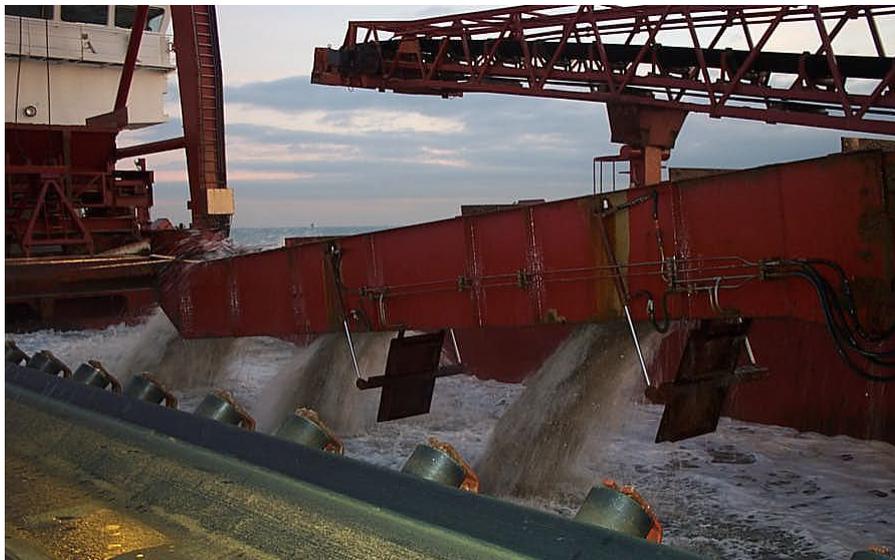
- maintained depths of water within the port's berths

- safe, clearly marked, deep-water approach channels of sufficient dimensions to accommodate the customer's shipping. Creation of these channels requires capital dredging, and there is a requirement that their dimensions are assured through a programme of survey and maintenance dredging.
- adequate arrangements to ensure safety of navigation, including appropriate pilotage, radio and radar coverage, and a system of enforceable bye-laws (Solent Forum 1997).

Navigation channels are most frequent in the western side of the Southern England region, for example in the Solent area where commercial shipping is extensive. Southampton Port is one of the busiest commercial ports in the country and the northern part of Southampton Water is characterised by two channels; the deep navigable channel of the River Test and that of the River Itchen. The main shipping channel is marked on either side by navigation aids, primarily buoys in both the Test and Itchen rivers (Solent Forum, 1997). The Port of Southampton has a programme of expansion underway with the deepening of the main channel of Southampton Water to improve access for the new generation of larger container shipping ([www.southamptonvts.co.uk/pinfo/DevelopmentProjects.htm](http://www.southamptonvts.co.uk/pinfo/DevelopmentProjects.htm)).

The continued maintenance of established navigable shipping channels is of the highest priority as they are essential for the region's trade. Maintenance dredging is a legal duty of harbour authorities and is required to conserve water depths in significant lengths of, for example, the Solent's navigation channels (Solent Forum, 1997).

The mouth of Chichester Harbour is relatively narrow, with extensive spits of sand and gravel which are subject to frequent wave action modification during storms. Maintenance dredging of the channel and harbour entrance is a frequent activity (Solent Forum, 1997)



**Dredging operation (© Hampshire & Wight Trust for Maritime Archaeology)**

The disposal of material from navigation dredging is regulated by the Ministry of Agriculture, Fisheries and Food (MAFF). MAFF's policy is to permit disposal at sea only where there are no suitable options for disposal on land. One of the region's main disposal sites is the Nab disposal ground to the east of the Isle of Wight (Solent Forum, 1997).

## **VALUES AND PERCEPTIONS**

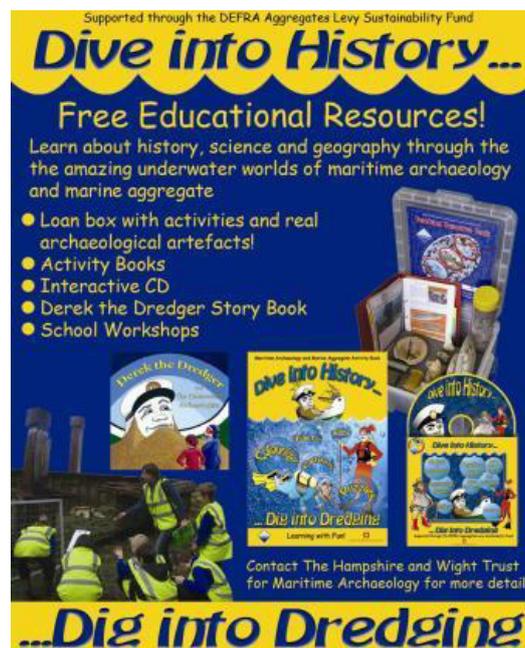
Clear navigation channels and dredged areas form an important part of working ports or harbours in the region. Dredging craft are often found moored in harbours ready for service becoming part of the landscape/seascape of the Southern England local coastal communities.

### **RESEARCH, AMENITY AND EDUCATION**

The history of navigation channels and dredging is an important aspect of the history of the human past and how these navigable routes have been utilised. Many navigable channels may now have been lost or buried in the region.

This Character Type offers limited use for amenity usually because the channels are actively worked. Nevertheless recreational watercraft, small boats and anglers use many of the channels in the region.

The educational potential of this Character Type is considerable. For example, the 'Solent Aggregates to Outreach' project has successfully demonstrated the direct educational potential of dredging related subjects and the historic environment ([www.hwtma.org.uk/index.php?page=aggregate-to-outreach](http://www.hwtma.org.uk/index.php?page=aggregate-to-outreach); Hampshire & Wight Trust for Maritime Archaeology 2007; also see <http://ads.ahds.ac.uk/project/alsf/>). Therefore, further educational tools could be developed raising awareness to schools about our common historic environment whilst demonstrating that collaboration between regulators, the heritage sector and the aggregates industry (in this case) is highly beneficial.



### **HWTMA's educational resources focussing on the aggregate industry (© Hampshire & Wight Trust for Maritime Archaeology)**

### **CONDITION AND FORCES FOR CHANGE**

Dredging has impacted on the historic character of the region, in particular, dredging of the Solent area. Finds of archaeological interest have been revealed by these dredging activities ([www.hwtma.org.uk/index.php?page=aggregate-to-outreach](http://www.hwtma.org.uk/index.php?page=aggregate-to-outreach); Hampshire & Wight Trust for Maritime Archaeology 2007; also see <http://ads.ahds.ac.uk/project/alsf/>).

Dumping of dredged materials can introduce contaminants to the marine environment (Department of Trade and Industry 2002a, b).

Whilst the current pattern of maintenance dredging has altered the sediment regime and environment, there is no evidence that it is leading to long-term damage. However, information about the extent of maintenance dredging is limited, and its lack of monitoring is a legitimate source of concern. Where maintenance dredging may affect an SSSI, there is a legal requirement to inform English Nature of proposals to dredge (Solent Forum, 1997).

#### **RARITY AND VULNERABILITY**

This Character Type has a wide variety of well preserved components from the early modern period onwards in the region. In areas that are continually dredged today, the potential of prehistoric and historic remains is low due to dredging having an intrusive impact on the seabed and river banks.

Marine dredging activities could impact on the historic character of a region. However, dredging companies who have been successful in a tender round run by The Crown Estate must obtain a Dredging Permission (DP) from the government, a procedure which includes the submission of Environmental Impact Assessments (EIA). If a favourable DP is granted, The Crown Estate will issue the applicant with a production licence ([www.thecrownestate.co.uk](http://www.thecrownestate.co.uk)). This procedure allows the assessment of the potential of prehistoric and historic remains and secondary impacts of dredging and dumping prior and during any further works through, for example, desk based assessments and Written Scheme of Investigations amongst others.

#### **PUBLISHED SOURCES**

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Solent Forum, 1997 Strategic Guidance for the Solent 27. Ports and Shipping.

**WEBSITES**

<http://ads.ahds.ac.uk/project/alsf/>

<http://www.hwtma.org.uk/index.php?page=aggregate-to-outreach>

<http://www.solentforum.org>

<http://www.southamptonvts.co.uk/pinfo/DevelopmentProjects.htm>