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# National Historic Seascape Characterisation (NHSC): User Guide

Prepared by LUC  
July 2017



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# 1 MoRPHE Document control grid

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## 2 Introduction

- 2.1 This User Guide is a concise guide for users of the National Historic Seascape Characterisation (NHSC) database. Whilst most information in this guide is pertinent to use of the NHSC database in any GIS platform, screenshots and examples in **Section 5** are relevant to users of ESRI software. This guide is aimed at users familiar with GIS data and software.
- 2.2 It is recommended that users of the NHSC database read the Consolidating the National HSC Database Project Report for details of the method used to consolidate the NHSC database.
- 2.3 This guide contains the following:
  - A description of the structure and content of the NHSC database
  - A full list of HSC terms
  - Guidance on display, filtering and querying the NHSC database

### What is the NHSC database?

- 2.4 "Historic Seascape Characterisation (HSC) maps and describes those historic cultural influences which shape present seascape perceptions across all of England's marine areas and coastal land" (Historic England, 2015).
- 2.5 The NHSC database is a GIS file geodatabase recording the historic character of England's coasts and seas. Data was collected in accordance with the National HSC Method Statement (Tapper and Hooley 2010) in a series of regional projects before being consolidated in to a single database as part of this latest project. Included in the database is data for different marine levels:
  - Coastal and conflated
  - Sea surface
  - Water column
  - Sea floor
  - Sub-sea floor
- 2.6 The dataset additionally records data for 'Previous' character.
- 2.7 Data seaward of Mean Low Water was generally recorded in a 250m x 250m polygon grid format, whilst data landward of Mean Low Water were not gridded polygons. The landward polygon boundaries but not their values were drawn from polygons associated with the relevant Historic Landscape Character (HLC) GIS datasets where those were available at the time of the original HSC assessment.

## 3 NHSC database structure and content

- 3.1 The National HSC is supplied with the folder structure shown in **Table 3.1**.
- 3.2 In order for the MXD to function correctly, the file structure, naming and location of the files should be kept in this format. Moving or renaming files will result in broken links in the project file (MXD).

**Table 3.1 Folder structure of the NHSC**

Folder Name	Files contained
Data	NHSC Geodatabase
Documentation	User Guide Technical Advice Document Consolidation Project Report Two symbology style sheets Metadata
LayerFiles	3 layer files 1 style file
MXD	MXD
NationalTexts	28 National Perspective texts

### Geodatabase

- 3.3 The geodatabase is an ESRI .gdb containing:
- Feature classes
  - Tables

#### Feature classes

- 3.4 A feature class named **National\_HSC** contains all of the national HSC data; the format of which is shown in **Table 3.2**.
- 3.5 There are seven additional feature classes in the geodatabase. These are grids recreated from the HSC data in each of the project areas:
- A\_Grid
  - C\_Grid
  - D\_Grid
  - E\_Grid
  - G\_Grid
  - H\_Grid
  - I\_Grid
- 3.6 Due to project area B having grid squares that were not exactly 250 m x 250 m and not exactly square, it was not possible to regenerate the grid for project B. It was also not possible to regenerate a grid for project area F.

3.7 There are also 10 feature classes containing demonstration data in a grid format for the entire NHSC dataset. A 250 m x 250 m grid and a 500 m x 500 m grid were produced for Character Sub-Type at marine level. These feature classes are called:

- CC\_SBTY\_250m\_Grid: A 250 m x 250 m grid of all SBTY data
- CC\_SBTY\_500m\_Grid: A 500 m x 500 m grid of all SBTY data
- SSRFC\_SBTY\_250m\_Grid: A 250 m x 250 m grid of all SBTY data
- SSRFC\_SBTY\_500m\_Grid: A 500 m x 500 m grid of all SBTY data
- WTRCL\_SBTY\_250m\_Grid: A 250 m x 250 m grid of all SBTY data
- WTRCL\_SBTY\_500m\_Grid: A 500 m x 500 m grid of all SBTY data
- SFLR\_SBTY\_250m\_Grid: A 250 m x 250 m grid of all SBTY data
- SFLR\_SBTY\_500m\_Grid: A 500 m x 500 m grid of all SBTY data
- SBFLR\_SBTY\_250m\_Grid: A 250 m x 250 m grid of all SBTY data
- SBFLR\_SBTY\_500m\_Grid: A 500 m x 500 m grid of all SBTY data

**Table 3.2 Field properties in the National\_HSC feature class**

Field name	Field alias	Description and guidance, terminology	Population method	Data type	Field length
Shape	Shape	Shape of data (i.e. polygon), automatically generated and updated by database.	Automated	Geometry	0
OBJECTID	OBJECTID	ID automatically generated and updated by database.	Automated	Integer	10
NAME	Name	Name of area or topographic identifier, local or popular name.	Manual	String	254
CC_SBTY	Coastal and Conflated Sub-Character Type	Sub-character type (present, dominant; local level). Landward (above MHW) this will relate to coastal land HSC, whereas seaward it will relate to the 'conflated' HSC as derived from the marine levels.	Manual	String	254
CC_TY	Coastal and Conflated Character Type	Character type (present, dominant; regional level). Landward (above MHW) this will relate to coastal land HSC, whereas seaward it will relate to the 'conflated' HSC as derived from the marine levels.	Manual	String	254
CC_BDTY	Coastal and Conflated Broad Character Type	Broad Character Type (present, dominant; national strategic level). Landward (above MHW) this will relate to coastal land HSC, whereas seaward it will relate to the 'conflated' HSC as derived from the marine levels.	Manual	String	254
SSRFC_SBTY	Sea Surface Sub-Character Type	Present and dominant historic character of the sea-surface (recorded at sub-character, character and broad character levels).	Manual	String	254
SSRFC_TY	Sea Surface Character Type		Manual	String	254
SSRFC_BDTY	Sea Surface Broad Character Type		Manual	String	254
WTRCL_SBTY	Water Column Sub-Character	Present and dominant historic character of the water column (recorded at sub-character,	Manual	String	254



Field name	Field alias	Description and guidance, terminology	Population method	Data type	Field length
	Type	character and broad character levels).			
WTRCL_TY	Water Column Character Type		Manual	String	254
WTRCL_BDTY	Water Column Broad Character Type		Manual	String	254
SFLR_SBTY	Sea Floor Sub-Character Type	Present and dominant historic character of the sea-floor (recorded at sub-character, character and broad character levels).	Manual	String	254
SFLR_TY	Sea Floor Character Type		Manual	String	254
SFLR_BDTY	Sea Floor Broad Character Type		Manual	String	254
SBFLR_SBTY	Sub-Sea Floor Sub-Character Type	Present and dominant historic character of the sub-sea floor (recorded at sub-character, character and broad character levels).	Manual	String	254
SBFLR_TY	Sub-Sea Floor Character Type		Manual	String	254
SBFLR_BDTY	Sub-Sea Floor Broad Character Type		Manual	String	254
STUDY_AREA	Study Area	Identifies which project area the data originated from.	Manual	String	254
DATA_TYPE	Data Type	Identifies if data is 'Gridded' sea data or 'Not gridded' land data.	Manual	String	254
CC_PRD	Coastal and Conflated Period	Benchmark period of origin of the area represented in the polygon or cell. Recorded for present historic character. Landward (above MHW) this will relate to coastal land HSC, whereas seaward it will relate to the 'conflated' HSC as derived from the marine levels.	Manual	String	254
CC_SRC	Coastal and Conflated Source	Sources used to identify present and previous historic character. Attribute values to record supplier, date, precise GIS file name. To include reference to the scale of original data used. Landward (above MHW) this will relate to coastal land HSC, whereas seaward it will relate to the 'conflated' HSC as derived from the marine levels.	Manual	String	254
CC_CNF	Coastal and Conflated Confidence	Degree of certainty/confidence of HSC interpretation of present historic character. Landward (above MHW) this will relate to coastal land HSC, whereas seaward it will relate to the 'conflated' HSC as derived from the marine levels.	Manual	String	254

Field name	Field alias	Description and guidance, terminology	Population method	Data type	Field length
CC_NTS	Coastal and Conflated Notes	Further background information on history of the polygon. Expansion on information recorded at broad character and sub-character levels.	Manual	String	254
CC_N_LINK	Coastal and Conflated National Link	URL hyperlink to Character Type texts and multi-media. Landward (above MHW) this will record coastal land HSC, whereas seaward it will record the 'conflated' HSC as derived from the marine levels.	Manual	String	254
SSRFC_PERIOD	Sea Surface Period	Benchmark period of origin of the area represented in the polygon. Recorded for present historic character levels and previous historic character.	Manual	String	254
SSRFC_SOURCE	Sea Surface Source	Sources used to identify historic character. Attribute values to record supplier, date and precise GIS file name. To include reference to the scale of original data used.	Manual	String	254
SSRFC_CONF	Sea Surface Confidence	Degree of certainty/confidence of HSC interpretation of present historic character.	Manual	String	254
SSRFC_NOTES	Sea Surface Notes	Further background information on history of the polygon. Expansion on information recorded at broad character and sub-character levels.	Manual	String	254
SSRFC_N_LINK	Sea Surface National Link	URL hyperlink to Character Type texts and multi-media.	Manual	String	254
WTRCL_PERIOD	Water Column Period	Benchmark period of origin of the area represented in the polygon cell.	Manual	String	254
WTRCL_SOURCE	Water Column Source	Sources used to identify historic character. Attribute values to record supplier, date, precise GIS filename. To include reference to the scale of original data used.	Manual	String	254
WTRCL_CONF	Water Column Confidence	Degree of certainty/confidence of HSC interpretation of present historic character.	Manual	String	254
WTRCL_NOTES	Water Column Notes	Further background information on history of the polygon. Expansion on information recorded at broad character and sub-character levels.	Manual	String	254
WTRCL_N_LINK	Water Column National Link	URL hyperlink to Character Type texts and multi-media.	Manual	String	254
SFLR_PERIOD	Sea Floor Period	Benchmark period of origin of the area represented in the polygon cell.	Manual	String	254
SFLR_SOURCE	Sea Floor Source	Sources used to identify historic character. Attribute values to record supplier, date, precise GIS filename. To include reference to the scale of original data used.	Manual	String	254

Field name	Field alias	Description and guidance, terminology	Population method	Data type	Field length
SFLR_CNF	Sea Floor Confidence	Degree of certainty/confidence of HSC interpretation of present historic character.	Manual	String	254
SFLR_NTS	Sea Floor Notes	Further background information on history of the polygon. Expansion on information recorded at broad character and sub-character levels.	Manual	String	254
SFLR_N_LINK	Sea Floor National Link	URL hyperlink to Character Type texts and multi-media.	Manual	String	254
SBFLR_PERIOD	Sub-Sea Floor Period	Benchmark period of origin of the area represented in the polygon cell.	Manual	String	254
SBFLR_SOURCE	Sub-Sea Floor Source	Sources used to identify historic character. Attribute values to record supplier, date, precise GIS filename. To include reference to the scale of original data used.	Manual	String	254
SBFLR_CNF	Sub-Sea Floor Confidence	Degree of certainty/confidence of HSC interpretation of present historic character.	Manual	String	254
SBFLR_NOTES	Sub-Sea Floor Notes	Further background information on history of the polygon. Expansion on information recorded at broad character and sub-character levels.	Manual	String	254
SBFLR_N_LINK	Sub-Sea Floor National Link	URL hyperlink to Character Type texts and multi-media.	Manual	String	254
PRVS_SBT_Y1	Previous Sub-Character Type 1	Previous historic character for which evidence is available. Recorded for multiple time-slices on basis of source dataset.	Manual	String	254
PRVS_SBT_Y2	Previous Sub-Character Type 2		Manual	String	254
PRVS_SBT_Y3	Previous Sub-Character Type 3		Manual	String	254
PRVS_SBT_Y4	Previous Sub-Character Type 4		Manual	String	254
PRVS_SBT_Y5	Previous Sub-Character Type 5		Manual	String	254
PRVS_PRD_1	Previous Period 1	Benchmark period of origin of the area represented in the polygon. Recorded for present historic character levels and previous historic character.	Manual	String	254
PRVS_PRD_2	Previous Period 2		Manual	String	254
PRVS_PRD_3	Previous Period 3		Manual	String	254
PRVS_PRD_4	Previous Period 4		Manual	String	254
PRVS_PRD_5	Previous Period 5		Manual	String	254
PRVS_SRC_1	Previous Source 1	Sources used to identify historic character. Attribute values to record supplier, date, precise GIS filename. To include reference to the scale of original data used.	Manual	String	254
PRVS_SRC_2	Previous Source 2		Manual	String	254
PRVS_SRC_3	Previous Source 3		Manual	String	254

Field name	Field alias	Description and guidance, terminology	Population method	Data type	Field length
PRVS_SRC 4	Previous Source 4		Manual	String	254
PRVS_SRC 5	Previous Source 5		Manual	String	254
PRVS_CNF 1	Previous Confidence 1	Degree of certainty/confidence of HSC interpretation of present historic character.	Manual	String	254
PRVS_CNF 2	Previous Confidence 2		Manual	String	254
PRVS_CNF 3	Previous Confidence 3		Manual	String	254
PRVS_CNF 4	Previous Confidence 4		Manual	String	254
PRVS_CNF 5	Previous Confidence 5		Manual	String	254
PRVS_ANTS 1	Previous Notes 1	Further background information on history of the polygon. Expansion on information recorded at broad character and sub-character levels.	Manual	String	254
PRVS_ANTS 2	Previous Notes 2		Manual	String	254
PRVS_ANTS 3	Previous Notes 3		Manual	String	254
PRVS_ANTS 4	Previous Notes 4		Manual	String	254
PRVS_ANTS 5	Previous Notes 5		Manual	String	254
PRVS_LIN K1	Previous Link 1	URL hyperlink to Character Type texts and multi-media.	Manual	String	254
PRVS_LIN K2	Previous Link 2		Manual	String	254
PRVS_LIN K3	Previous Link 3		Manual	String	254
PRVS_LIN K4	Previous Link 4		Manual	String	254
PRVS_LIN K5	Previous Link 5		Manual	String	254
CA1	Character Area 1	Unique Character Area.	Manual	String	254
CA2	Character Area 2		Manual	String	254
LCTN	Location	General location (eg. Offshore marine, inshore marine, estuary, coast etc).	Manual	String	254
CELL_SZ	Cell Size	Size of grid used for gridded sea data (eg. 250m etc), un-gridded land data should have the value 0..	Manual	Double	19
CRT_DT	Creation Date	Date of dataset /polygon creation/completion.	Manual	String	254
CRTR	Creator	Name of the person/organisation who compiled the HSC.	Manual	String	254
HSC_LINK_ID	Link Table ID	ID for link to hyperlink summary table.	Manual	Double	19

Field name	Field alias	Description and guidance, terminology	Population method	Data type	Field length
CC_R_LINK	Coastal and Conflated Regional Link	URL hyperlink to Character Type texts and multi-media. Landward (above MHW) this will record coastal land HSC, whereas seaward it will record the 'conflated' HSC as derived from the marine levels.	Manual	String	254
SSRFC_R_LINK	Sea Surface Regional Link	URL hyperlink to Character Type texts and multi-media.	Manual	String	254
WTRCL_R_LINK	Water Column Regional Link	URL hyperlink to Character Type texts and multi-media.	Manual	String	254
SFLR_R_LINK	Sea Floor Regional Link	URL hyperlink to Character Type texts and multi-media.	Manual	String	254
SBFLR_R_LINK	Sub-Sea Floor Regional Link	URL hyperlink to Character Type texts and multi-media.	Manual	String	254
Shape_Length	Shape Length	Polygon length in metres automatically generated and updated by database.	Automated	Double	19
Shape_Area	Shape Area	Polygon area in metres squared, automatically generated and updated by database.	Automated	Double	19

## Tables

3.8 There are four tables in the geodatabase:

- HSC\_LINK\_TABLE: Relate table for CC, SSRFC, WTRCL, SFLR and SBFLR hyperlinks.
- HSC\_LINK\_TABLE\_PRVS: Relate table for PRVS\_SBTY1, PRVS\_SBTY2, PRVS\_SBTY3, PRVS\_SBTY4 and PRVS\_SBTY5 hyperlinks.
- HSC\_CHARACTER\_TERMS: Table containing all HSC character terms.
- HSC\_DOMAIN\_TERMS: Table containing all terms used in the geodatabase domains.

3.9 HSC\_LINK\_TABLE and HSC\_LINK\_TABLE\_PRVS contain links to the national texts and are required in the MXD for use of hyperlinks to the National Character Texts.

3.10 HSC\_CHARACTER\_TERMS and HSC\_DOMAIN\_TERMS are for reference for users of the NHSC database.

## MXD

3.11 The MXD is a map document named Consolidated\_National\_HSC. It is a document compatible with ESRI ArcMap 10.4.1. The MXD will not be compatible with earlier versions of ArcMap.

3.12 The MXD contains:

- The National\_HSC feature class displayed at each marine level and at Broad Character Type, Character Type and Character Sub-Type.
- HSC\_LINK\_TABLE and HSC\_LINK\_TABLE\_PRVS as related tables, allowing for use of hyperlinks to the National Perspective texts.
- OS Open Raster and ESRI aerial imagery base maps.

## Layer files and style file

- 3.13 Three layer files in .lyr format contain the NHSC symbology:
- HSC\_Palette\_BDTY
  - HSC\_Palette\_Grouped\_SBTY
  - HSC\_Palette\_Grouped\_TY
- 3.14 Each layer file contains a set of fill symbol colours for Character Sub-Types, Types and Broad Types in the HSC Theasurus. All fill symbol colours are grouped by Broad Character Type, for example all Character Types and Sub-Types falling under the 'Communications' Broad Type have fill symbol colours in different shades of orange.
- 3.15 The style file is called HSC\_Style\_File and contains all symbology from the three layer files described above.

## National Perspective texts

- 3.16 There are 28 National Perspective Texts in PDF format. These texts are summaries relating to Character Type and can be accessed via hyperlinks in the NHSC database or directly from the NationalTexts folder.

## 4 National HSC terms

4.1 Many of the fields in the National\_HSC feature class have fixed terms; these fields include:

- Fields ending PRD or CNF
- LCTN
- STUDY\_AREA
- DATA\_TYPE

4.2 The fixed terms for these fields are listed in **Table 4.1**.

**Table 4.1 Fixed terms in the NHSC database**

PRD	CNF	LCTN	DATA_TYPE	STUDY_AREA
Lower Palaeolithic (500,000BC - 50,000BC)	Certain	Offshore Marine	Gridded	A Irish Sea
Upper Palaeolithic (50,000BC - 10,000BC)	Probable	Inshore Marine	Not gridded	B Bristol Severn
Mesolithic (10,000BC - 4000BC)	Possible	Inter-tidal		C SW Peninsula
Neolithic (4000BC - 2500BC)		Coastal Land		D Hastings Purbeck
Bronze Age (2500BC - 800BC)		Estuarine		E Kent Thames
Iron Age (800BC - AD43)				F Newport Clacton
Romano-British (AD43 - 410)				G East Yorkshire to Norfolk Area 2
Early Medieval (AD410 - 1066)				H NE Coast
Medieval (AD1066 - 1540)				I East Yorkshire to Norfolk Area 1
Post Medieval (AD1540 - 1750)				
Early Modern (AD1750 - 1900)				
Modern (AD1900 - Present)				
Unknown				

4.3 In addition, terms in fields ending SBTY, BDTY and TY contain fixed terms. **Table 4.2** shows the full set of HSC character terms and their hierarchy as used in the NHSC database. Scope notes for those terms can be found in the HSC Thesaurus.

**Table 4.2 HSC character terms and hierarchy**

Broad Character Type	Character Type	Character Sub-type
Civic provision	Civic provision	Prison hulk
	Civic provision	Government office
	Civic provision	Educational establishment
Coastal infrastructure	Flood and erosion defence	Flood defence
	Flood and erosion defence	Sea defence
Commerce	Financial administration	Financial institution
Communications	Telecommunications	Submarine telecommunications cable
	Transport	Bridge

Broad Character Type	Character Type	Character Sub-type
	Transport	Canal
	Transport	Civilian airfield
	Transport	Railway
	Transport	Road
	Transport	Tramway
	Transport	Tunnel
Cultural topography	Cultural topography (inter-tidal)	Mudflats
	Cultural topography (inter-tidal)	Rocky foreshore
	Cultural topography (inter-tidal)	Saltmarsh
	Cultural topography (inter-tidal)	Sandflats
	Cultural topography (inter-tidal)	Sandy foreshore
	Cultural topography (inter-tidal)	Shingle foreshore
	Cultural topography (landward)	Cliff
	Cultural topography (landward)	Dunes
	Cultural topography (landward)	Lagoon
	Cultural topography (landward)	Lake, pond
	Cultural topography (landward)	Reservoir
	Cultural topography (landward)	Watercourse
	Cultural topography (landward)	Wetland
	Cultural topography (marine)	Coarse sediment plains
	Cultural topography (marine)	Cultural topography (marine) (unspecified)
	Cultural topography (marine)	Exposed bedrock
	Cultural topography (marine)	Fine sediment plains
	Cultural topography (marine)	Mixed sediment plains
	Cultural topography (marine)	Mud plains
	Cultural topography (marine)	Sand banks with sand waves
	Palaeolandscape component	Palaeochannel
	Palaeolandscape component	Palaeolandscape component
	Palaeolandscape component	Peat deposit
	Palaeolandscape component	Submerged forest
Enclosed land	Reclaimed land	Reclamation from sea
	Reclaimed land	Reclamation from tidal marsh
	Reclaimed land	Reclamation from wetland
Fishing	Aquaculture	Fish farming
	Aquaculture	Shellfish farming
	Fishing	Bait digging
	Fishing	Bottom trawling
	Fishing	Drift netting
	Fishing	Fish market
	Fishing	Fish trapping
	Fishing	Fish warehousing
	Fishing	Fishing ground
	Fishing	Fixed netting



Broad Character Type	Character Type	Character Sub-type
	Fishing	Hand netting
	Fishing	Longlining
	Fishing	Pelagic trawling
	Fishing	Potting
	Fishing	Seine netting
	Fishing	Shellfish collection
	Fishing	Fish processing facility
	Fishing	Shellfish dredging
HLC	HLC	HLC
Industry	Energy industry	Hydrocarbon field (gas)
	Energy industry	Hydrocarbon field (oil)
	Energy industry	Hydrocarbon installation
	Energy industry	Hydrocarbon pipeline
	Energy industry	Hydrocarbon refinery
	Energy industry	Overhead power cable
	Energy industry	Power station (fossil fuel)
	Energy industry	Power station (nuclear)
	Energy industry	Renewable energy installation (tidal)
	Energy industry	Renewable energy installation (wave)
	Energy industry	Renewable energy installation (wind)
	Energy industry	Submarine power cable
	Extractive industry (minerals)	Aggregate dredging
	Extractive industry (minerals)	Aggregate quarrying
	Extractive industry (minerals)	Clay and mud extraction
	Extractive industry (minerals)	Mining (coal)
	Extractive industry (minerals)	Mining (metals)
	Extractive industry (minerals)	Mining (other)
	Extractive industry (minerals)	Mining (unspecified)
	Extractive industry (minerals)	Quarrying
	Processing industry	Chemical works
	Processing industry	Industrial production (unspecified)
	Processing industry	Iron and steel works
	Processing industry	Lime production
	Processing industry	Nuclear reprocessing
	Processing industry	Salt production
	Processing industry	Sewage works
	Processing industry	Spoil and waste dumping
	Shipping industry	Boat yard
	Shipping industry	Commercial shipping route
	Shipping industry	Ship yard
Military	Military defence and fortification	Coastal fortification (unspecified)
	Military defence and fortification	Early modern fortification
	Military defence and fortification	Medieval fortification

Broad Character Type	Character Type	Character Sub-type
	Military defence and fortification	Modern fortification
	Military defence and fortification	Naval battlefield
	Military defence and fortification	Post-medieval fortification
	Military defence and fortification	Roman fortification
	Military defence and fortification	WW1 fortification
	Military defence and fortification	WW2 defence area
	Military defence and fortification	WW2 fortification
	Military facility	Barracks
	Military facility	Firing range (land)
	Military facility	Military airfield
	Military facility	Military base
	Military facility	Military practice area
	Military facility	Naval dockyard
	Military facility	Naval firing range
	Military facility	Ordnance dumping
	Military facility	Admiralty telegraph station
Navigation	Maritime safety	Buoyage
	Maritime safety	Daymark
	Maritime safety	Lighthouse
	Maritime safety	Safety area
	Maritime safety	Safety services
	Navigation activity	Anchorage
	Navigation activity	Ferry crossing
	Navigation activity	Harbour pool
	Navigation activity	Navigation route
	Navigation activity	Quarantine area
	Navigation feature	Dredged channel/area
	Navigation feature	Navigation channel (active)
	Navigation feature	Navigation channel (disused buried)
	Navigation feature	Navigation channel (disused)
	Navigation feature	Navigation channel (unspecified)
	Navigation hazard	Drying hazard
	Navigation hazard	Hazardous water
	Navigation hazard	Maritime debris
	Navigation hazard	Rock outcrops
	Navigation hazard	Shoals and flats
	Navigation hazard	Submerged rocks
	Navigation hazard	Water turbulence
Navigation hazard	Wreck hazard	
Ports and docks	Ports and docks	Hulk (unspecified)
	Ports and docks	Breakwater
	Ports and docks	Dockyard (Civilian)
	Ports and docks	Harbour

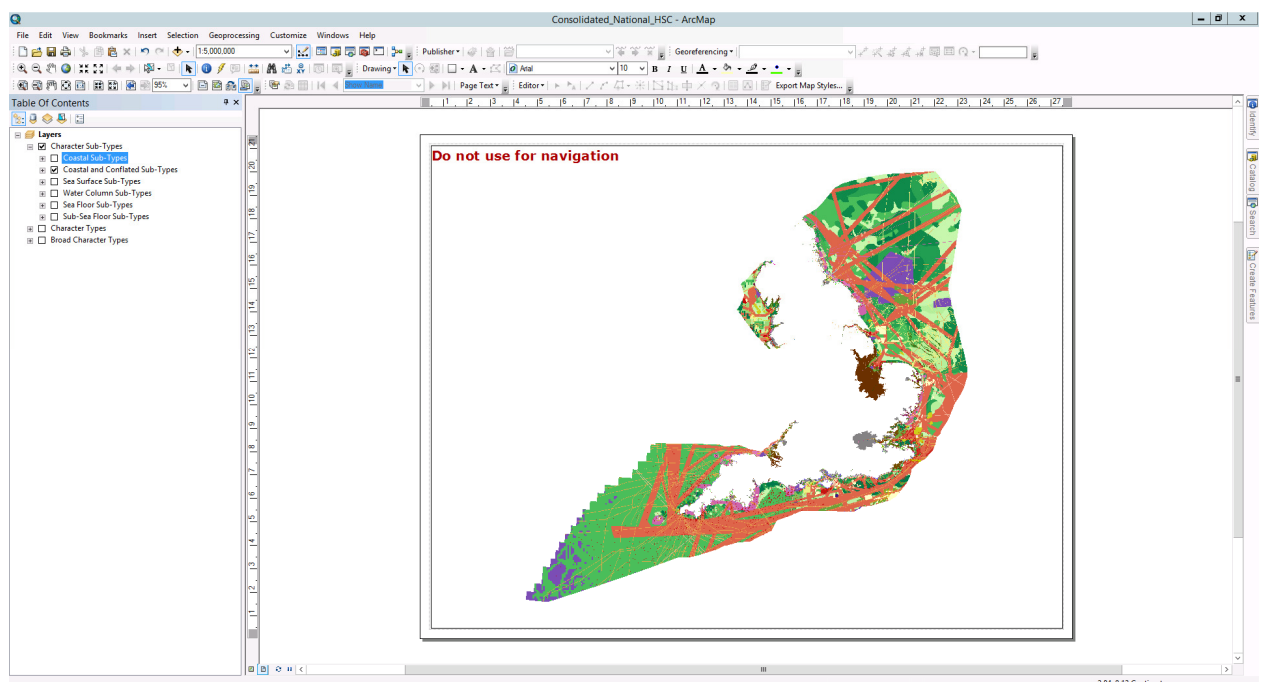
Broad Character Type	Character Type	Character Sub-type
	Ports and docks	Landing point
	Ports and docks	Port
	Ports and docks	Quay
	Ports and docks	Rope making
	Ports and docks	Terminal building
	Ports and docks	Warehousing
	Ports and docks	Wet dock
	Ports and docks	Working pier
Recreation	Recreation	Aquarium
	Recreation	Bathing/swimming
	Recreation	Golf course
	Recreation	Holiday park
	Recreation	Leisure beach
	Recreation	Leisure fishing
	Recreation	Leisure sailing
	Recreation	Marina
	Recreation	Parks and gardens
	Recreation	Pleasure pier
	Recreation	Promenade
	Recreation	Recreational dive area
	Recreation	Recreational open ground
	Recreation	Seaside entertainment
	Recreation	Sports facility
	Recreation	Wildlife watching
	Recreation	Managed heritage asset
Settlement	Settlement	Urban settlement
	Settlement	Village
Unimproved land	Coastal rough ground	Heathland
	Coastal rough ground	Rough grassland
	Coastal rough ground	Scrub
Woodland	Woodland	Ancient woodland
	Woodland	Plantation

## 5 Using the NHSC database



### Loading and navigating the MXD

- 5.1 **Figure 5.1** shows how the MXD will appear once loaded. There are layers set up for each marine level which are grouped by Character Sub-Type, Character Type and Broad Character Type. In addition a 'Coastal' layer is available to allow the user to view coastal data alongside all marine levels. This 'Coastal' layer has been displayed by using the following definition query: DATA\_TYPE = 'Not gridded', meaning only the un-gridded land data is displayed. These layers can be switched on and off as needed.

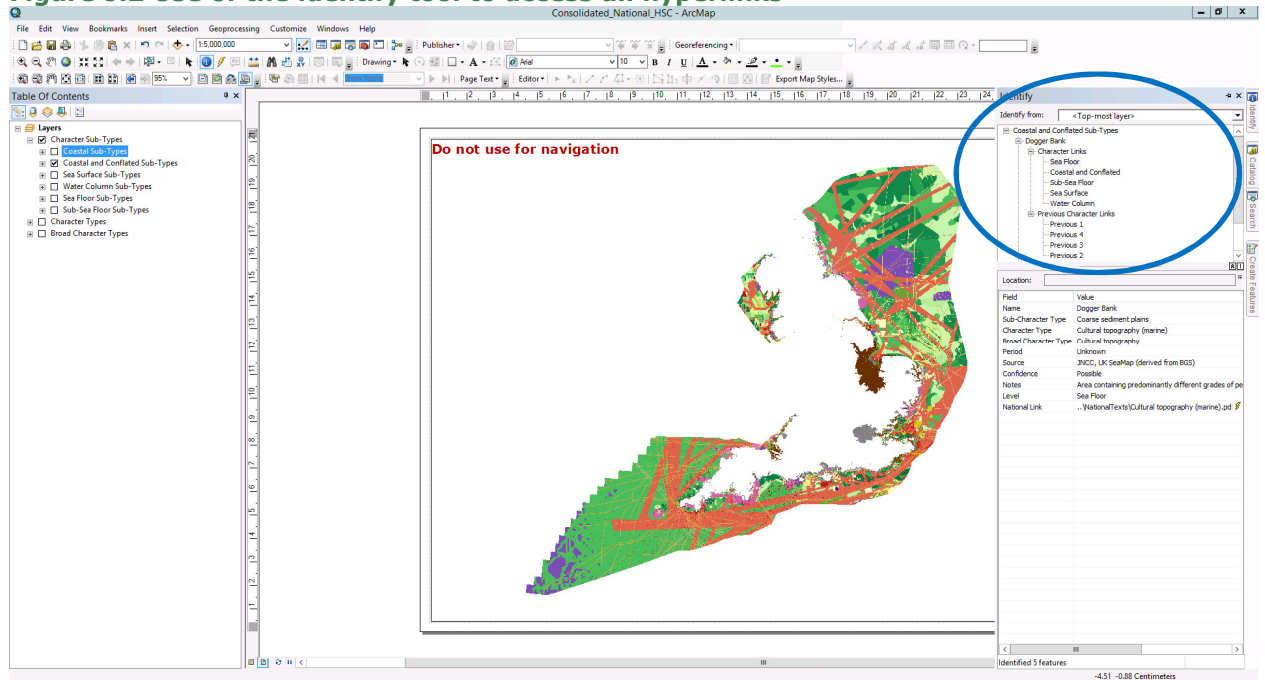
**Figure 5.1 Screenshot of Consolidated\_National\_HSC MXD**



### Use of hyperlinks to the National Perspective Texts

- 5.2 The MXD has been set up to better facilitate access to the attribute data stored in the database. The hyperlinks can be used by activating the hyperlink tool  and clicking on a polygon on the required marine level. By doing so, the relevant National Perspective Text will load.
- 5.3 Alternatively, the hyperlinks for all marine levels and for previous types can be viewed and selected via use of the identify tool .
- 5.4 **Figure 5.2** shows the identify window pane on the right hand side, the marine levels and previous character are available to choose from and the hyperlink can be activated from the identify tool bar.

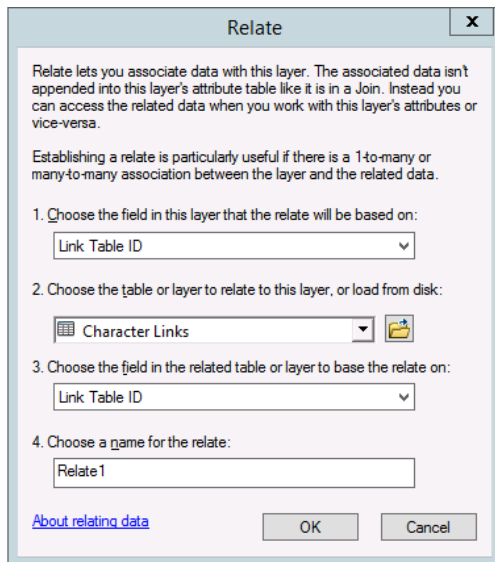
**Figure 5.2 Use of the identify tool to access all hyperlinks**



## Tables

- 5.5 HSC\_LINK\_TABLE and HSC\_LINK\_TABLE\_PRVS contain links to the national texts and are required in the MXD for use of hyperlinks to the National Character Texts using the method detailed above. These tables are already linked to the National\_HSC feature class in the Consolidated\_National\_HSC MXD. If the link needs to be reinstated, this can be achieved by creating a Relate between the feature class and the table based upon the Link Table ID (see **Figure 5.3**)

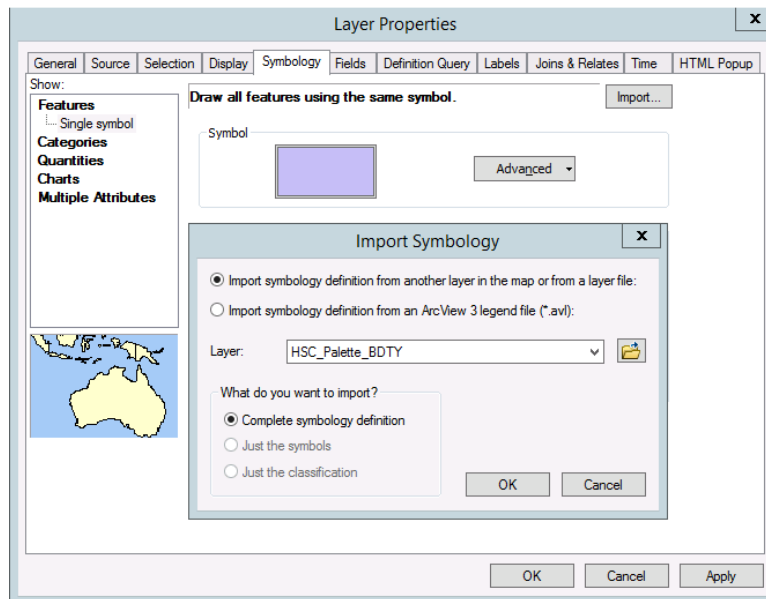
**Figure 5.3 Adding a Relate between National\_HSC feature class and HSC\_LINK\_TABLE**



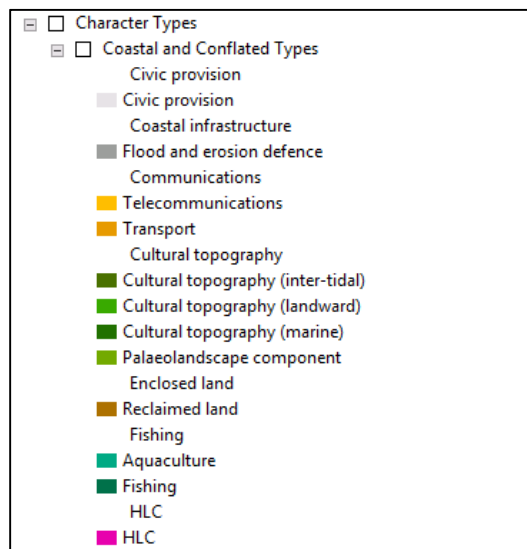
## Layer files and style file

- 5.6 The NHSC symbology is applied to the National\_HSC feature class in the Consolidated\_National\_HSC MXD, however, if the symbology needs to be applied to the data in a new MXD, the layer files or the style file can be used.
- 5.7 The layer files can be used by adding them to the MXD with the National\_HSC feature class. In the National\_HSC *Properties*, the symbology can be imported from the layer file (**Figure 5.4**).
- 5.8 The benefit of using the layer files over the style file is that Character Types and Character Sub-Types are grouped by Broad Character Type (example shown in **Figure 5.5**), this is not the case in the style file, where the hierarchy is not embedded.

**Figure 5.4 Applying the BDTY layer file**

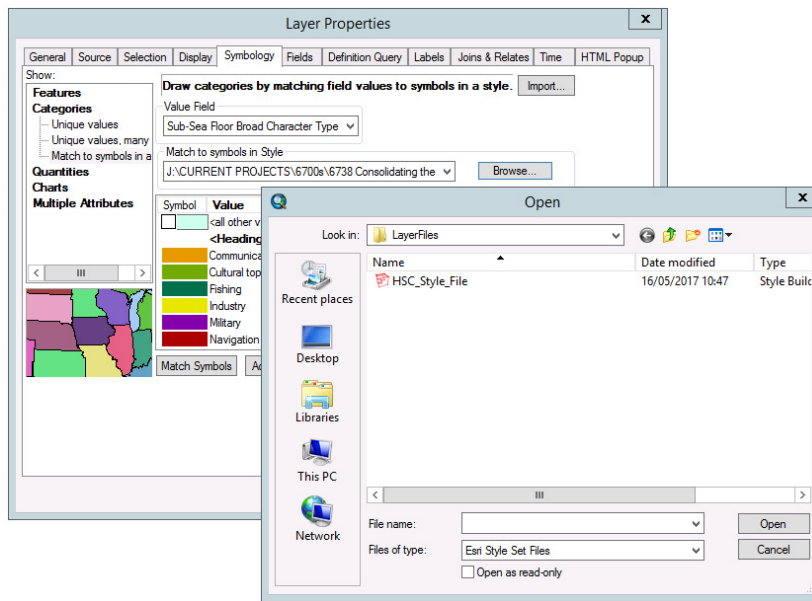


**Figure 5.5 Example of Character Type symbology grouped by Broad Type.**



- 5.9 The style file can be applied in an MXD containing the National\_HSC feature class. In the National\_HSC *Properties*, using the 'Match symbols in a style' option, the HSC\_Style\_File can be applied to the National\_HSC feature class (
- 5.10 **Figure 5.6)**
- 5.11 The benefit of using the style file over the layer files is that symbology for Broad Character Type, Type and Sub-Type are all in one style file.

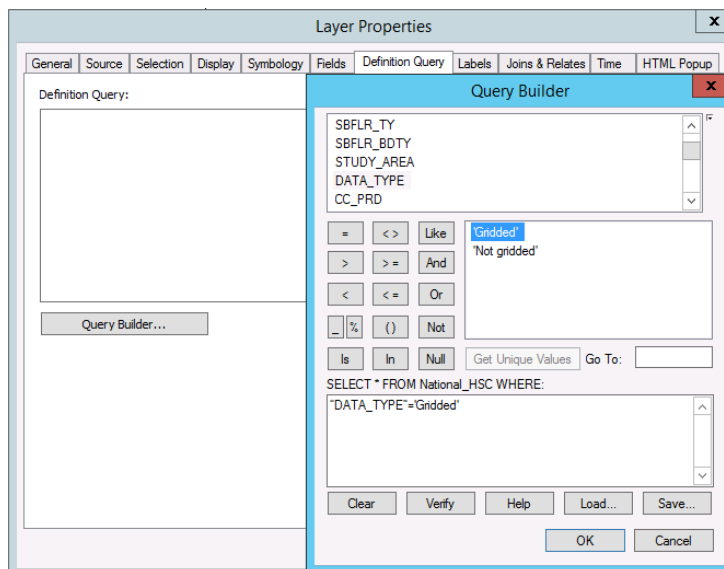
**Figure 5.6 Applying the style file**



## Filtering and selecting

5.12 Fields with fixed terms can be used to easily sort or select data in ArcMap. For example, the following could be used as a Definition Query in order to only display 'Gridded' sea data (**Figure 5.7**): "DATA\_TYPE"='Gridded'

**Figure 5.7 ArcMap Definition Query builder**



Wildcard searches can be used on fields to find partial terms in the data sets. % can be used to represent any number of characters and \_ can be used to represent one character. For example, if the following is entered in to the ArcMap Select by Attribute tool: "CC\_SBTY LIKE '%netting'", the following terms could be returned:

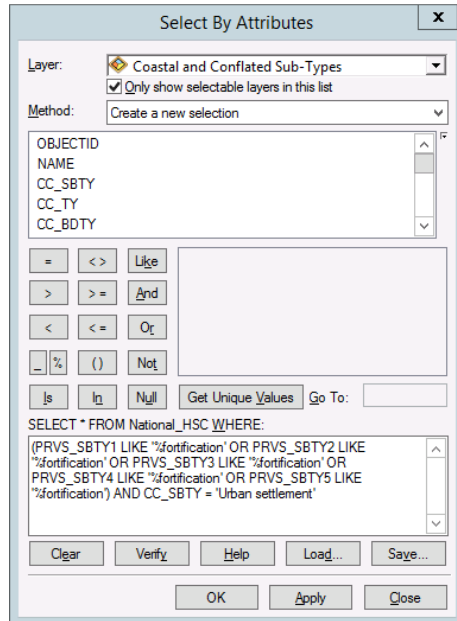
- Drift netting
- Fixed netting
- Hand netting

- Seine netting

5.13 More complex searches can be made using a combination of searches on fixed terms, as well as used of wildcard characters. The following example can be entered in to the ArcMap Select by Attribute tool in order to search for any type of fortification that previously existed in any current urban settlements (**Figure 5.8**):

5.14 (PRVS\_SBTY1 LIKE '%fortification' OR PRVS\_SBTY2 LIKE '%fortification' OR PRVS\_SBTY3 LIKE '%fortification' OR PRVS\_SBTY4 LIKE '%fortification' OR PRVS\_SBTY5 LIKE '%fortification') AND CC\_SBTY = 'Urban settlement'.

**Figure 5.8 ArcMap Select by Attributes tool**





## 6 References

Historic England, 2015. <https://historicengland.org.uk/research/methods/characterisation-2/historic-seascapes/>. Accessed 06/2017.

Tapper, B. and Hooley, D., 2010. *National HSC Method Statement*. Historic England.