HULK ASSEMBLAGES:
Assessing the national context

Final report

English Heritage Project No. 5919

September 2011

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Executive Summary

This document details the Hulk Assemblages Project, undertaken by Museum of London Archaeology, with input from the Thames Discovery Programme and the Nautical Archaeology Society. The project was funded by the Historic Environment Enabling Programme, administered by English Heritage. The aim of the project was to create a method for quantifying known hulk assemblages in England, and to create a nationwide database of hulk assemblages, that could be used to identify thematic, geographic and temporal gaps in the known data.

Great Britain is a series of islands, the population of which once had a strong maritime culture and for whom the development and use of boats, barges and ships was crucial. The archaeological study of those vessels is thus of considerable historic significance. Hulks differ from most other historic environment asset types in that their location, visibility and condition are all subject to change. Such vessels can be moved, may be covered by estuarine silts or uncovered by tidal scour and exposed to the elements. Since they have no statutory protection, they can and are broken up or removed. The significance of these vessels lies not just in the individual contribution each vessel can make to technological and structural aspects of nautical archaeology, but in the enhanced value that such a group of vessels can make to economic, social or military studies in a local, regional or national context. Assemblages of hulks in England can contribute to the story of a landscape, demonstrating how landscapes have been used in the past and continue to be used in the present. They have often been deliberately deposited in large numbers to serve a purpose such as to reinforce a river bank.

A comprehensive survey of hulks or hulk assemblages in England has not previously been conducted. This project brings together data from multiple sources, including Historic Environment Records, the National Record of the Historic Environment, Rapid Coastal Zone Assessments, the National Historic Ships Register, and that held by specialist societies and research groups. The project did not entail any field survey to discover and record previously unknown hulks, and makes use of existing records only. The sites described in this report and entered into the project database have not been visited to verify their existence, as this was outside of the scope of the project.

The results of the project provide a snapshot of what is known about the hulks resource in England at present. A total of 199 hulk assemblages have been identified, ranging in size from two to more than 80 vessels; nine assemblages contained more than 20 vessels. Assemblages are most likely to be found in estuaries, creeks and harbours, however their distribution around England is biased by past recording, especially systematic recording done by local maritime and nautical archaeology societies and university departments.

The study has revealed much variation in how hulks are recorded in Historic Environment Records, and in how they are described. A 'hulk' as a deliberately abandoned vessel is rarely distinguished from a historic 'wreck' which has been accidentally lost, suggesting that terminology should be based on the manner of loss of a vessel, rather than its current appearance.

Obvious geographic gaps in the distribution of assemblages are apparent. Densities of assemblages often coincide with areas where local specialist societies are particularly active. These asset densities and gaps provided the basis for a number of general research priorities, such as known assemblages that have not been subject to detailed survey, and areas that would benefit from field survey to discover new assemblages.

Hulk assemblages have been plotted against natural environment designations, to show which are located on land that is currently afforded some kind of protection. Over half of the assemblages recorded are located in SSSIs, RAMSAR sites and Special Protection Areas.

1 Introduction

1.1 Background

1.1.1 This document details the Hulk Assemblages Project, undertaken by Museum of London Archaeology (MOLA), with input from the Thames Discovery Programme and the Nautical Archaeology Society. The project was funded by the Historic Environment Enabling Programme (HEEP), administered by English Heritage.

1.1.2 The primary aim of the project is to conduct an audit of known hulks, and to plot and quantify all known hulk assemblages located in England above the line of low water.

1.1.3 The principal outputs of this project are this report and associated figures; the database of assemblages, the majority of which has been added directly into the National Record of the Historic Environment (NRHE); and a project GIS.

1.1.4 The report will be downloadable from the Archaeological Data Service.

1.1.5 The project is in accordance with English Heritage research themes;

> A 'Discovering, studying and defining historic assets and their significance'; and
>
> D 'Studying and assessing the risks to historic assets and devising responses' (English Heritage 2005, 4).

1.1.6 The project is also in accordance with the English Heritage Corporate Strategy which is integral to the Strategic framework for Historic environment Activities and Programmes in English Heritage (SHAPE 2008). In accordance with the SHAPE framework, the primary driver of the project can be identified as Corporate Objective 1A:

> 'Ensure that our research addresses the most important and urgent needs of the historic environment'.

1.1.7 This objective was achieved through Research programme G2 'Defining the questions: Devising research strategies, frameworks and agenda' within sub programme number 11172.110 'Supporting research Frameworks: national, regional, local, diachronic and thematic frameworks'.

1.1.8 The project can also be identified within Corporate Objective 4B:

> 'Develop and disseminate policies, principles, guidelines, standards and exemplars to promote better management of change in the historic environment'

1.1.9 This objective was achieved through Empowerment programme D4 'Guidance for Local Government' (sub programme number 42244.110 'Promoting Characterisation in Strategic Planning').

1.1.10 The results of this project will help inform future research strategies, and decision making about coastline management, see section 1.4.1.

1.2 Report Scope

1.2.1 This report includes:

- A description of the origins, background, financing and personnel of the project (Section 1);
- A description of the aims and objectives of the project (Section 2);
- A discussion of the methodology used to achieve those objectives, including its origins, problems encountered during the project and measures taken to resolve them (Section 3);
- The Resource Assessment – spatial distribution and densities of assemblages (Section 4);
- The Resource Assessment – size of assemblages (Section 5);
- The Resource Assessment – types of vessels, including possible additions to the EH Maritime Craft Type Thesaurus (Section 6);

- The Resource Assessment – Age range of vessels (Section 7);
- The Resource Assessment – Assemblages located on statutorily protected land (Section 8);
- Recommendations for future work (Section 9)
- A conclusion summarising the project origins, methods and results (Section 10) and Acknowledgements (Section 11).
- Bibliography (Section 12) and Appendices (Sections 13 to 16).

1.3 Management and Personnel

1.3.1 This project was undertaken by Museum of London Archaeology at Mortimer Wheeler House, 46 Eagle Wharf Road, London N1 7ED.

1.3.2 The English Heritage (EH) Project Assurance Officer was Barney Sloane.

1.3.3 The management team consisted of:

- David Bowsher, Senior Post-Excavation Manager Museum of London Archaeology (Project Executive).
- Jon Chandler, Assessments Manager, Museum of London Archaeology (Project Manager).

1.3.4 Project Experts:

- Damian Goodburn, Ancient Woodwork Specialist, Museum of London Archaeology – provided specialist advice and first hand experience of the practical management of hulk assemblages
- Gustav Milne, Project Director of the Thames Discovery Programme – provided specialist advice and first hand experience of the practical management of hulk assemblages
- Mark Beattie-Edwards, Programme Director of the Nautical Archaeology Society – provided specialist advice and first hand experience of the practical management of hulk assemblages

1.3.5 MOLA project team:

- Louise Davies, Senior Assessments Team Archaeologist, Museum of London Archaeology – carried out day to day project work, co-ordinated the input of the specialists and produced the final report
- Sarah Jones, Head of Geomatics, Museum of London Archaeology – guidance on the GIS components of the project and provided advice and direction to the experts
- Pete Rauxloh, Head of IT and web design, Museum of London Archaeology – general IT and GIS project support, posting progress reports to web-site
- Tracy Wellman, Senior Designer/Illustrator, Museum of London Archaeology – produced figures for the website and produced the project flier

1.4 Project study area

1.4.1 The project study area comprises every part of England above the mean line of low water. Hulks along the coastline, on areas of inland marsh, and in rivers, estuaries, bays and harbours were included.

2 Aims and objectives

2.1 Aims

2.1.1 The primary aim of the project, as set out in the Project Design (MOLA 2010), is to conduct an audit of the known resource, and to identify, plot and quantify all known hulk assemblages in England. It was intended that the resulting project database would allow geographic, thematic and temporal gaps in known hulk assemblages to be determined, in order to identify priorities for future survey work and asset management strategies/policies. This would provide a tool to facilitate strategic planning decisions and the management and preservation of hulks. The project also aims to increase public, industry and other stakeholders' awareness of assemblages of hulked vessels.

2.2 Objectives

2.2.1 The aims of the project were achieved through a series of objectives:

- The creation of a GIS project and database compatible with the NRHE database: Archives and Monuments Information, England (AMIE).
- Development of a method of assessing hulk assemblages.
- Identification of all known hulk assemblages from the National Record of the Historic Environment (NRHE), Historic Environment Records (HERs) and Sites and Monuments Records (SMRs), Rapid Coastal Zone Assessment (RCZA) data and data in private ownership (where readily available).
- Assessment of the effectiveness of aerial photography in identifying hulk previously unknown hulk assemblages through the consideration of two sample areas.
- Audit of the hulk assemblages within the database in order to provide information (where available) on date range, ownership, past investigations, source of data, type of hulk represented, Natural Environment designation and relevant NRHE, HER and National Historic Fleet Care Collection details.
- Spatial identification of where hulk assemblages are located in areas with Natural Environment designations.
- Identification of any geographic, thematic or temporal gaps in the available hulk assemblages data, the EH Maritime Craft Thesaurus and National Historic Fleet Core Collection.
- Identification of major landowners within whose property hulk assemblages are located (e.g. Crown, Port Authorities, relevant national bodies and private ownership).
- Consultation with local, community and special interest stakeholders (including the Advisory Committee on National Historic Ships) regarding the origin and development of the project and its final outcomes.
- Recommendation of sites for further investigation.
- Development of relationships with relevant national and local stakeholders to ensure the project is relevant to current needs and policy.
- General recommendations as to the use and improvement of the database in the future.
- Recommendations for expansion to the EH Maritime Craft Thesaurus for vessel types as appropriate.
- General recommendations for the management of hulk assemblages including proposals for further research to fill gaps in available national or local datasets and identify opportunities for local community involvement.

- Production of a resource for wider dissemination and public consumption either through existing online or offline heritage resources (e.g. Heritage Gateway) or through a dedicated website, should this be deemed appropriate.
- Presentation of the project and its results at a suitable forum for further dissemination.
- Production of an Archive and a Project Report documenting all aspects of the project and to make a presentation on the results of the project at an appropriate national or international conference.

3 Methodology

3.1 Introduction

3.1.1 The project entailed the following stages:

Stage 1: Set up and Familiarisation

- Initial project team meeting - project design, English Heritage brief, and current planning and management context discussed. Internal project targets set.
- Data providers and potential key stakeholders identified.
- Project flier designed.
- Project webpage on MOLA website set up.
- Project Inception meeting –working relationship with English Heritage and MOLA discussed, steering group meeting dates confirmed, work done so far reviewed, development of ArcGIS project and database discussed.

Stage 2: Data Collection and Collation

- Stakeholders contacted and details added to spreadsheet.
- Data from local authority HERs and Sites and Monument Records (SMRs) obtained in GIS, Excel, Word or PDF format.
- Data converted from Excel, Word or PDF into ArcGIS format.
- Data plotted in ArcGIS.
- Data audited.
- Hulk assemblages identified – two or more hulks within 100m of each other.
- Location of each hulk assemblage recorded in a spreadsheet, done on a county by county basis.
- Training on using AMIE completed at EH in Swindon.
- Input of assemblage data into AMIE remotely.
- First Steering Group meeting.
- Highlight Report 1 produced.
- NAS Conference attended.
- Trends identified.
- Nations designations plotted.

Stage 3: Aerial photo review – not required for this project so not completed; other Stage 3 tasks were:

- Second Steering Group meeting – preliminary results presented and discussed.
- Highlight Report 2 produced.
- Preliminary results presented at NAS committee meeting.
- TDP website blog produced.

Stage 4: Project Report

- Draft report produced.
- Third Steering Group meeting.
- Highlight Report 3 produced.

Stage 5: Editing and dissemination

- Data returned to HERs/SMRs.
- Results disseminated.
- Project archived and OASIS form submitted.

3.2 Identifying and contacting data providers and stakeholders

HERs

3.2.1 The main data providers were local authority Historic Environment Records/Sites and Monuments Records, and Urban Archaeological Databases (referred to as 'HERs' in this report). A total of 82 HERs were identified within the project study area. Contact details for each HER were gathered from online sources and entered into a spreadsheet.

3.2.2 Each HER was sent an introductory email, the project flier, a link to the project website, and a letter explaining the project and requesting data as GIS files. HERs were also issued with a list of key words, which could be used to search their records for data on hulks to ensure all relevant data was captured for isolated hulks and those already forming assemblages.

Rapid Coastal Zone Assessments

3.2.3 Another key data source was Rapid Coastal Zone Assessments (RCZAs). RCZAs have been produced regionally by archaeological organisations in association with English Heritage. A total of 11 out of 13 areas of English coastline have currently been assessed, with the South East of England (south Kent, East Sussex and West Sussex) assessment currently underway. The only area that appears to be outstanding is Cornwall and Devon. RCZAs comprise two or three phases: a desk-based assessment of the coastline, a rapid field survey, and an assessment of aerial photos.

3.2.4 Only one RCZA, the North West of England, had GIS data available to download; this was incorporated into the project GIS. Other RCZAs had tables of data in PDF format, from which information about hulks was extracted.

3.2.5 RCZAs incorporate an assessment of data on wrecks and hulks obtained from numerous sources, including from the Receiver of Wreck. Receiver of Wreck data mainly encompasses historic wreck sites out at sea rather than hulks, and has therefore not been re-consulted for this project.

National Record of the Historic Environment

3.2.6 The NRHE already contains data on hulks. This was extracted and delivered to MOLA in a spreadsheet with grid references, which was used to plot hulks as points in the GIS.

National Historic Ships

3.2.7 National Historic Ships is a non-departmental public body reporting to the Department of Culture Media and Sport, with a specific remit to advise the Secretary of State and other public bodies on ship preservation and funding priorities. The organisation maintains a register of vessels that are of pre-eminent national or regional significance. Vessels in the register may be good examples of changes in construction and technology and merit a higher priority for long term preservation.

3.2.8 The website of the National Historic Ships register was used to assess the suitability of the resource. The website contains details of all ships on the register. It was not, however, practical to use information from the website for inclusion in the project, as it was not easy to search for hulks rather than vessels still in use.

3.2.9 Staff at the National Historic Ships register were contacted by email to obtain filtered data on all 'laid up' ships, i.e. those that would be classed as hulks for the purposes of this project.

Stakeholders

3.2.10 A large number of organisations were invited to become stakeholders in the project.

Data on stakeholders was primarily gathered from online sources. Contact details were entered into a spreadsheet and listed under three categories: Maritime societies and organisations, Government organisations, and local interest groups. The list of stakeholders contacted is available in Appendix 1.

3.2.11 Additional stakeholders were identified as the project progressed through recommendations and following advice from the Project Experts.

3.2.12 Stakeholders were contacted by email with the project flier, a link to the project website and a letter explaining the project. They were also issued with a hulks recording sheet, based on that developed by Milne and Goodburn 1998. Stakeholders were asked to provide information about any known hulks by filling in the record sheet. A copy of the sheet can be found in Appendix 3.

3.2.13 Stakeholders supplied information about various detailed hulk surveys that have taken place along the English Coastline.

3.3 Definition of the study area

3.3.1 The study area was classed as any part of England above the line of low water. The extent of low water used was the limit of mean low water, otherwise known as the 'Extent of Realm', defined by the Territorial Waters Jurisdiction Act 1878 and the Territorial Waters Order in Council 1964. This was obtained as a GIS polygon shapefile from Ordnance Survey, via English Heritage. The study area therefore included all rivers and estuaries in England.

3.3.2 Hulks were plotted as points in ArcGIS, and those located outside the line of low water polygon were selected and deleted from the study. A limitation of this technique is that point grid references may be inaccurate, meaning some legitimate hulks would be missed, and others included.

3.4 Data collection

Data received from HERs

3.4.1 The majority of HERs replied promptly to the data request, and supplied data in their possession. Of the 82 HERs contacted, 56 (68%) responded, and 26 (32%) had not responded by the end of the project.

3.4.2 A minority of HERs (4) stated that they could not provide data free of charge. It was therefore agreed with English Heritage that these HERs would be paid a fee for the search, incurring additional costs for the project.

3.4.3 Of the 56 HERs that responded to the data request, 29 (52%) sent data, and 27 (48%) had no data to send. The vast majority of those HERs that had no data to send were located in land-locked areas; only five were in local authorities with sections of coastline. The responses from HERs are recorded in Appendix 2.

3.4.4 It was requested that HER data was returned in GIS format, so it could be immediately loaded into the project GIS. This was not always possible, and data was received in a variety of formats:

Table 1

Data format received	**Number of returns**
GIS shapefiles – point and polygon data	19 (65.5%)
Word document	5 (17%)
Excel spreadsheet	4 (14%)
PDF	1 (3.5%)

3.4.5 Data sent in GIS format was generally quicker to deal with, as it could be loaded

directly into the project GIS. Some GIS data was sent as a combination of points and polygons and required extra processing.

3.4.6 All data not already in GIS format had firstly to be converted into Excel spreadsheets. One spreadsheet was created for each local authority area. This involved copying and pasting from PDF and Word documents, which in the case of one county (Kent) which contained 361 records, was very time consuming, leading to project delays.

3.4.7 Spreadsheets were given standard minimum headings of:

- Location/name
- National Grid Reference – Easting (6-figures)
- National Grid Reference – Northing (6-figures)
- HER refs

3.4.8 At this stage HER entries that were obviously not relevant, such as boat houses, jetties, weirs etc, were removed.

3.4.9 The HER entries were then plotted on the GIS as single points, along with the data that had been received as shapefiles.

Data received from NRHE

3.4.10 Some hulks data already existed in the NRHE database AMIE, resulting from a programme of maritime recording, and from the entry of vessels listed in a publication called 'Last Berth of the Sailorman', a survey of hulks published in 1987 (Society for Spritsail Barge Research).

3.4.11 Data was extracted from AMIE by EH staff onto a spreadsheet. AMIE was searched for entries with the Craft Type of 'hulk', or with the word 'hulk' in the summary. Maritime records classed as 'casualty records', i.e. those records created for wrecked ships from historic sources such as newspaper articles, were filtered out. This resulted in 48 entries, some of which related to multiple hulks or groups of hulks with the same grid reference.

3.4.12 A second search of AMIE was then conducted, this time to search for non-casualty records with the Craft Type of 'barge', located in the inter-tidal zone. This resulted in 314 entries, some of which were duplicates of the first search. Again, some of the entries returned were for multiple vessels located on the same spot.

3.4.13 The NRHE data was entered into the project GIS as points and was cross-referenced with the HER data. In some cases the same hulks were recorded in both the NRHE data and in county HERs. It was important to double check this so no duplicate records were introduced into the project.

Data from RCZAs

3.4.14 Over the last 12 years, Rapid Coastal Zone Assessments have been conducted in England regionally. The objective of the assessments is to enhance knowledge of the coastal historic environment in an effort to inform future Shoreline Management Plans (SMPs), to ensure effective mitigation of coastal change through the 21st century.

3.4.15 Those RCZAs that are complete or partially complete, and were available for inclusion in this project were:

- North East England
- Yorkshire and Lincolnshire
- Norfolk
- Suffolk
- Essex
- North Kent

- The New Forest
- Dorset
- Isles of Scilly
- Severn Estuary
- North West England

3.4.16 Areas outstanding that no data was obtained for, were the South East of England (southern Kent, East Sussex and West Sussex), and Cornwall and Devon.

3.4.17 In the cases of Dorset, North Kent, Suffolk and part of North East England, data on hulks from the RCZAs had already been added to HERs.

3.4.18 All available RCZA data, in the form of PDF reports, was downloaded from the English Heritage and Archaeological Data Service websites. Only one region: the North East of England, had GIS data available for download. This was incorporated into the project GIS and resulted in the discovery of one new hulk assemblages in Northumberland.

3.4.19 All available RCZA reports were inspected, and data on hulks and wrecks extracted from the report gazetteers and inserted into spreadsheets, which were converted so the data could be displayed in the project GIS. This resulted in a previously unknown hulk assemblage being discovered in Merseyside.

3.4.20 In general, RCZAs did not add a great deal of information to this project. Where aerial photo analysis had been done then this was found to be most useful in providing additional data.

Data from the National Historic Ships register

3.4.21 Data was received from the National Historic Ships register in the form of a spreadsheet showing 16 'laid-up' (permanently moored) vessels located in England. This was supplemented with additional information obtained from the National Historic Ships website. The vessels in the spreadsheet were cross-referenced with HER and NRHE data to see if any had been incorporated into those databases (see Appendix 4).

3.4.22 Hulks recorded in this project appear to be under represented in the register of National Historic Ships. Only one HER, Gloucestershire, referenced a named vessel that is listed in the register (The *Harriett* at Purton), despite some probably describing the same vessel.

Data from Stakeholders

3.4.23 A total of 30 stakeholders were contacted concerning the project, as listed in Appendix 1. None of the stakeholders returned the hulks recording sheet with data.

3.4.24 Maritime and nautical archaeology organisations and museums provided the most useful information for the project, in the form of information about regional hulk surveys and reports, all of which were located in the south of England. Hulk survey reports examined comprise:

- Exe Estuary and Topsham, Devon
- River Hamble Survey, Hampshire
- River Itchen Survey, Hampshire
- Forton Lake, Hampshire
- Thames Archaeological Survey
- Chichester/Portsmouth/Langstone Harbours Surveys, Hampshire
- Tamar Estuary, Devon
- Hooe Lake, Devon

3.4.25 An additional report on the hulks in Forton Lake (Beattie-Edwards and Satchell

2011) was published after the analysis for this project was complete. The information on hulks in Forton Lake used for this project was taken from the Nautical Archaeology Society website.

3.4.26 Data from these surveys was added to the project GIS, and resulted in new assemblages being included, and enhancement of existing HER data.

3.5 Identifying hulk assemblages

3.5.1 Once data from all available sources had been converted to GIS files and added to the project GIS as points, it was analysed to locate hulk assemblages.

3.5.2 Each point on the map was buffered with a 50m radius buffer. Areas of the map were then zoomed to and examined in detail to see where buffers clustered. Where two or more buffers were found to touch, i.e. where points were located 100m or less from each other, this was classed as an assemblage of hulks. The points were cross-referenced and checked for duplicates. Vessels located more than 100m apart were discarded from the study.

3.5.3 In some cases there were multiple hulks each having the same grid reference, therefore the points were located one on top of another and not immediately recognisable as an assemblage. Each point on the map was identified using the 'i' button in GIS in order to see whether this was the case.

3.5.4 Some individual HER and NRHE records were found to relate to a group of hulks, but only showed as one point on the map. Various methods were used to detect this. In the first instance, each Word or PDF document containing descriptive text on the vessels was searched using key words such as: 'assemblage', 'group', 'pair', 'hulks', 'wrecks', 'barges', 'boats' etc. Points on the map were also double-checked by clicking with the 'i' button in GIS to get a description of the point.

3.5.5 Once assemblages were identified, a central point for each assemblage was taken from the GIS as two, six-figure grid references. These grid references were recorded in a spreadsheet to create a definitive table of assemblages, along with other fields such as:

- location of assemblage
- number of vessels in assemblage
- HER/NRHE reference number
- types of vessels
- provisional age of vessels
- local authority unit

3.5.6 The final table of assemblages can be found in Appendix 5.

3.5.7 The assemblages spreadsheet was then used to plot the assemblages onto the map as points to show their distribution (Fig 1).

3.6 Project database

Development of the project database

3.6.1 The Hulk Assemblages Project Design (MOLA 2010) stated that one of the main outputs of the project would be a 'NRHE-compatible project database'. Any database produced would have to be compatible with the NRHE database AMIE, so the hulk assemblages data could be directly inputted into AMIE. The project design also suggested several additional fields for the database:

- **Group/Name** – A field to identify hulk assemblages in order to facilitate the extraction of the Hulk Assemblage dataset from the NRHE in future.
- **Number** – Number of assets within the assemblage
- **Ownership of assets** – Ownership of the assets (e.g. crown/private)

- **Ownership of matrix** – Ownership of the river, port, estuary etc within which the assets are located.
- **Maritime Region** – Likely to encompass the craft type, construction method, likely use and geographic region of the vessel but other indicators are likely to be identified during the project. It should be noted that a vessel may belong to a maritime region different from the area in which it is actually physically located (e.g. a barge typical of the Severn located on the Thames).
- **Past investigation** – To allow easy searches of whether the assemblages have been subject to past investigation.
- **Level of Recording** – The levels have been modified from levels of recording of individual vessels in IFA (2008, 7) *Standard and Guidance* and levels of foreshore survey identified in the RCHME publication on hulk survey and recording (Milne et al 1998, 51).
    a. **Level 1a** –*Some* vessels within the hulk assemblage identified (with mapped position) in an initial field reconnaissance survey (Conforming to Stage 1 in Milne et al 1998, 51)
    b. **Level 1b** – *All* vessels within the hulk assemblage identified (with possible map and limited description) in an initial field reconnaissance survey (Conforming to Stage 1 in Milne et al 1998, 51)
    c. **Level 2a**– Evaluation survey (no excavation) of *some* vessels within the assemblage, recording basic dimensions, hull form, and limited photographic coverage or sketching (Conforming to Stage 2 in Milne et al 1998, 51 and Level 1 in IFA 2008, 7).
    d. **Level 2b** – Evaluation survey (no excavation) of *all* vessels within the assemblage, recording basic dimensions, hull form, and photographic coverage or sketching. Scale drawings of particularly relevant features could be taken if appropriate (Conforming to Stage 2 in Milne et al 1998, 51 and Level 1 to 2 in IFA 2008, 7).
    e. **Level 3a** – Excavation of *some* of the vessels within the assemblage followed by scaled survey (plan, profile and selected features at larger scale), description , a full photographic record and dendrochonological samples if appropriate (Conforming to Stage 3 in Milne et al 1998, 51 and Level 3 in IFA 2008, 7).
    f. **Level 3b** – Excavation of *all* of the vessels within the assemblage followed by scaled survey (plan, profile and selected features at larger scale), description , a full photographic record and dendrochonological samples if appropriate (Conforming to Stage 3 in Milne et al 1998, 51 and Level 3 in IFA 2008, 7).
- **Natural Environment Designation** – To allow easy searches of whether the assemblages are subject to a Natural Environment Designation.

3.6.2 After discussions with English Heritage and data managers at the NRHE is quickly became apparent that it would not be possible to add these new fields. AMIE is a well-established database to which it is not possible to add new fields. It was decided that data that would fall within the suggested new fields would be incorporated in the 'General Descriptive Text' description of each assemblage, where appropriate.

3.6.3 It was also decided that the best way forward would be to add the hulk assemblages data directly into AMIE as Maritime records, rather than create a separate database, as it is not possible to transfer data from a separate database directly into AMIE.

This method would avoid double handling of the data, and mean that data would be directly inputted by the project specialist and would be immediately available for use.

Populating the database

3.6.4 Training on data standards and how to input data into AMIE was given to the author at EH in Swindon, and a remote log-on for AMIE set up so the data entry could be done from the MOLA office. Multiple problems occurred while trying to access AMIE remotely from the MOLA office, resulting in days of delays to the project. It was decided that the project expert would work from the English Heritage office in London where a more stable connection to the AMIE database could be maintained. In total data entry took approximately 20 days, during which time 182 assemblages were added to AMIE and connected to the Hulk Assemblages Project.

3.6.5 Data for each assemblage record created in AMIE was taken from the main assemblages spreadsheet and supplemented with the long records provided by HERs.

3.6.6 Some individual vessel records forming part of assemblages were already existent in AMIE. In these cases, the individual vessel records were linked to the newly created assemblage records with a parent-child relationship. No new individual vessel records were added to AMIE, however these may be added at a later date.

3.6.7 An AMIE Event record for the Hulk Assemblages Project was created (UID 1524494), and added as an Associated Event in the background menu of each assemblage record. This was used to tie all the assemblage records together so they could be searched for easily within AMIE.

3.6.8 The term 'Hulk Assemblage' was added as an alternative to the already existing NRHE Thesaurus Maritime Monument Type 'Ship Graveyard'; the description being 'an area of the sea or coastline where vessels have been abandoned'. This was used as the Monument Type for each assemblage record created.

3.6.9 As much information as possible was added to each AMIE record created. Fields completed were:

- Name
- Location: Parish, District, County
- Grid Reference, converted to latitude and longitude
- Date of loss
- Summary: brief description of the assemblage
- Monument Types: 'Hulk' was always added, along with Maritime Craft Type: 'barge', 'keel', 'flat' etc)
- Evidence, i.e. 'documentary' or 'vessel structure'
- Land use, i.e. 'inter-tidal', 'salt marsh')
- General Descriptive Text, included a description of individual vessels within the assemblage along with their HER reference etc.
- Source (i.e. local authority HER, RCZA etc)

3.6.10 The result of using AMIE directly is that the project database is not directly linked to the project GIS. The GIS is linked to an Excel spreadsheet with basic information about each assemblage. This spreadsheet does not contain any summary or long general descriptive text information, but the spatial information and assemblage numbers in the spreadsheet otherwise match the corresponding AMIE records.

3.7 Data audit (Resource Assessment)

Identifying geographic, thematic or temporal gaps in the data

3.7.1 Once assemblages had been plotted in the project GIS and added into AMIE, the

data was audited to find information on:

- Spatial distribution and density of assemblages
- Number of vessels in the assemblages
- Type of vessels in assemblages
- Provisional age range of vessels present
- Where assemblages were located on statutorily protected land/Natural Environment designation

3.7.2 The audit enabled geographic, thematic or temporal gaps in the available hulk assemblages data to be identified.

3.7.3 Additional assemblages were discovered through various sources during the data audit. It has not been possible to add these subsequent assemblages to AMIE, however they are recorded in the project GIS and Excel spreadsheet in Appendix 5 and will be added to AMIE at a later date.

Ownership of assemblages

3.7.4 One of the project aims stated in the project design was to provide data on the ownership of assemblages. Ownership of assemblages could be interpreted as the ownership of the vessels themselves, or the ownership of the land upon which the vessels are located. The ownership of vessels themselves is extremely difficult to ascertain, especially if they have been abandoned for more than 50 years. Due to confidentiality issues and lack of available data it was not possible during the course of the project to establish this.

3.7.5 The majority of vessels were located on the foreshore/in the intertidal zone. The Crown Estate owns over half of the foreshore around the UK coast, including much of the coast of England, and leases it to third parties such as local authorities and Natural England. Other large foreshore land owners in England are:

- The Duchy of Lancaster: foreshore between the centre point of the River Mersey and Barrow-in-Furness
- The Duchy of Cornwall: much of the coastline, rivers and estuaries in Cornwall and Devon
- Port of London Authority: majority of the River Thames
- The Duke of Beaufort: Severn Estuary
- Smaller sections owned by bodies such as local authorities, port authorities, statutory bodies, and government departments

3.7.6 Where land ownership is known it has been entered into the spreadsheet of assemblages in Appendix 5. It was possible to ascertain land ownership for 100 out of the 199 assemblages.

3.8 Review and dissemination

3.8.1 The draft report was reviewed by the Project Team prior to submission to English Heritage for comment and review. The agreed final report will be disseminated as Word and PDF documents to English Heritage and stakeholders.

Copies of the report

3.8.2 Hard copies of the completed report will be disseminated to English Heritage (3 copies).

3.8.3 CD copies of the report will be disseminated to English Heritage. These will include a version to be sent to the Archaeological Data Service (ADS) website.

4 Resource Assessment: spatial distribution and densities of assemblages

4.1 Geographic distribution of all hulks

4.1.1 A total of 29 HERs returned data for inclusion in the project. A varied amount of data was received from each of the HERs; this did not directly relate to the length of coastline of the local authority. Those HERs that returned data are listed below, along with the number of entries sent (after those located below the line of low water had been discounted). The results are represented on Fig 2.

Table 2

HER	No of entries returned
Cheshire	13
Cornwall and Scilly	40
Cumbria	4
Devon	297
Dorset	53
Dudley	1
Durham	8
East Sussex	113
Essex	55
Exmoor National Park	24
Gloucestershire	20
Greater London	26
Greater Manchester	2
Hampshire	242
Isle of Wight	42
Kent	292
Lancashire	149
Lincolnshire	8
Norfolk	102
North Lincolnshire	4
North Yorkshire	1
Northumberland	24
South Gloucestershire	3
Southampton	23
Suffolk	114
Tees	1
Tyne and Wear	14
Winchester	1

Worcestershire	4
Total	**1680**

4.1.2 Large densities of vessels were present in Devon, Hampshire and Kent. This is a direct reflection of the number of hulk surveys that have been done by local groups in these areas. The results of these surveys have subsequently been fed into the local HERs.

4.1.3 Lancashire HER also returned a large number of entries. Inspection of the Lancashire HER entries revealed that many of these were 'casualty reports' of historic wrecks (often added to the HER from contemporary newspaper articles describing ship wrecks), rather than records of hulks observed during survey or aerial photo analysis.

4.1.4 Local authorities with lengthy coastlines but a notable lack of relevant HER entries were Cumbria, Lincolnshire, North Yorkshire, and Somerset. This may point towards gaps in the data set rather than lack of hulks in these areas.

4.2 Geographic distribution of assemblages

4.2.1 Hulks plotted as dots in the GIS project were analysed to find those that were part of assemblages. Dots from the NRHE, regional surveys and RCZAs were also plotted. As described above in Section 3.5, assemblages were classed as two or more hulks located within 100m of each other.

4.2.2 The results of this analysis produced a total of 182 assemblages, which were added to AMIE. Subsequent analysis and new data received after the AMIE data-entry had finished has brought this total to 199 assemblages, all of which are recorded in the project GIS and in Appendix 5. The distribution of these assemblages is shown on Fig 3.

4.2.3 Not every county that had records of individual hulks also had hulk assemblages; also one assemblage is recorded in Merseyside, despite no HER entries being returned from this area. This assemblage has been picked up from the North West England RCZA.

4.2.4 Those areas where assemblages were identified are:

Table 3

Area	**No of assemblages**
Cheshire	7
Cornwall	9
Devon	10
Dorset	4
Essex	15
Gloucestershire	8
Greater London	22
Greater Manchester	1
Hampshire	14
Isle of Wight	8
Kent	60
Lancashire	2

Lincolnshire	3
Merseyside	1
Norfolk	10
Northumberland	2
South Gloucestershire	1
Southampton	2
Suffolk	17
Tyne and Wear	3
Total	**199**

4.2.5 The county with by far the greatest density of assemblages was Kent. Assemblages were especially prevalent in the Medway and Swale estuaries; again reflecting the amount of work that has been done in this area in terms of hulk surveys and aerial photo surveys, but also the geographical suitability of this area for preserving hulks. Kent HER also incorporates the North Kent Coast RCZA data.

4.2.6 Of the 199 assemblages, only four were located on sections of coastline, the rest were located in bays, estuaries, harbours and rivers. This indicates the type of environment in which hulks are most likely to survive.

4.2.7 Very few assemblages were found in inland rivers and canals. The assemblages found the furthest in land are located in Runcorn in Cheshire, in Boothstown in Greater Manchester and in the Norfolk Broads.

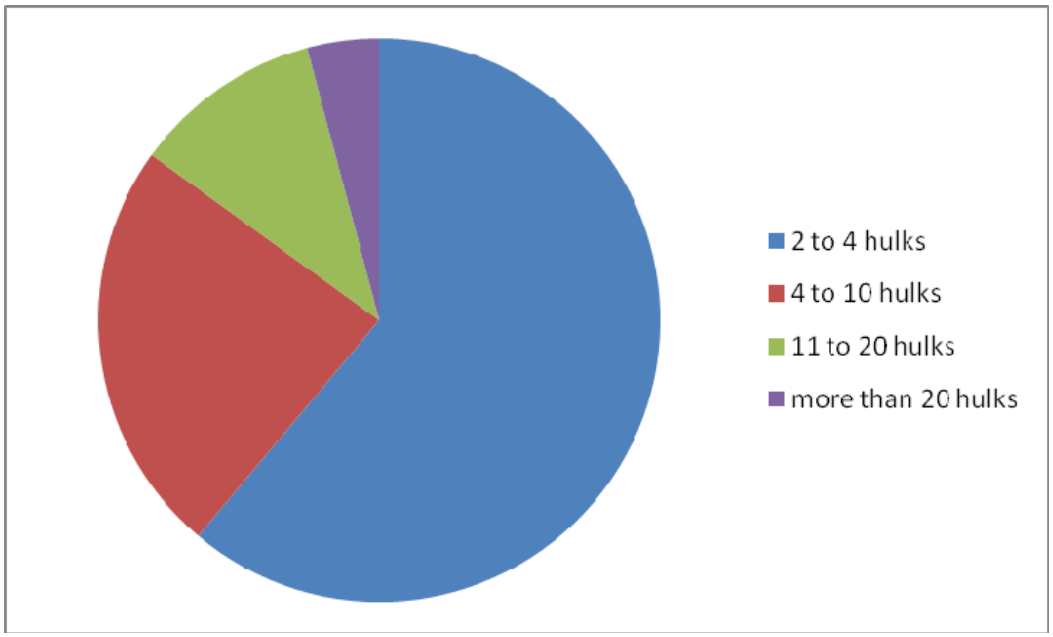
4.3 Notable gaps in the data and areas for future survey

4.3.1 Notable gaps in the distribution of assemblages were found in East and West Sussex, the south Kent coast, Humber, North Yorkshire, Lincolnshire, Cumbria and Merseyside, all of which are counties with lengthy coastlines. This appears to point towards gaps in the data set rather than lack of hulks in these areas, indicating these areas should be prioritised for future surveys.

5 Resource Assessment: size of assemblages

5.1 Summary

5.1.1 The number of vessels within each assemblage varied greatly from two vessels to more than 80. The vast majority of assemblages were small, containing between two and four vessels. The number of vessels in each assemblage is summarised in the chart below, listed in the assemblages table in Appendix 5, and shown on Fig 4.



5.1.2 Only nine of the 199 assemblages contained more than 20 vessels. The largest assemblage by far was that recorded at Purton in Gloucestershire, with more than 80 hulks recorded.

5.1.3 Other large assemblages discovered were:

- 42 at Big Pool, Runcorn, Cheshire
- 37 at Old Basin and Bridgewater Canal locks, Runcorn, Cheshire
- >30 at Old Port Basin, Chester
- >25 at Barksore Marshes, Kent
- >25 at Sutton Locks, Cheshire
- 24 at Boothstown, Greater Manchester
- 23 at Brentford, Greater London
- 22 at Holes Bay, Poole, Dorset

5.1.4 These are summarised below.

5.2 Purton, Gloucestershire

5.2.1 This assemblage has been well documented, researched and recorded, and is described in detail on the Friends of Purton website (www.friendsofpurton.org.uk). At Purton, boats were deliberately run aground at high tide, from 1909 until the 1970s, to strengthen the canal bank and prevent erosion. The assemblage is diverse containing many different types of vessel, including Schooners, Severn Trows, Lighters, and Barges (wooden and ferro concrete barges). The assemblage includes the remains of one vessel, The *Harriett*, which is the last known example of Kennet built barge within the UK, and is included in the National Historic Ships Register, and is a Scheduled Monument.

5.3 Big Pool, Runcorn, Cheshire

5.3.1 The data for this assemblage comes from the Cheshire HER. The assemblage is listed under one HER number, and is one of the only HER records received from any area to use the term 'hulk assemblage'.

5.3.2 The assemblage comprises c 42 'Mersey Flats' in Big Pool, Runcorn. Mersey Flats are a type of shallow draft barge, used locally on inland and coastal waters. They were built in large numbers from the early 18th century and were used to transport goods. This assemblage of Mersey flats could be seen on a plan of Big Pool dated to 1927, and were still present on aerial photos dating to the 1970s.

5.3.3 Big Pool has now apparently been filled in and the hulks covered over. This assemblage would not therefore be suitable for future study at present.

5.4 Old Basin and Bridgewater Canal locks, Runcorn, Cheshire

5.4.1 An assemblage of 37 Mersey Flats listed in Cheshire HER under one record. The Mersey Flats were sunk or abandoned in an old flight of locks and adjacent basins on the Bridgewater canal at Runcorn in the early 1950s. The area has apparently been since filled in and the hulks covered over. This assemblage would not therefore be suitable for future study.

5.5 Old Port Basin, Chester

5.5.1 An assemblage of over 30 vessels, most likely Mersey Flats, listed in the Cheshire HER under one record. The vessels are known to have been deliberately sunk at the Dee canal basin, Chester in the 1950s. One of these boats, the Earl is documented in the HER as being registered in 1804. Exploratory trenches were dug in 1996 prior to the redevelopment of the area, to locate and record this boat which was a 72 foot long Mersey Flat.

5.5.2 It is not known whether this area has since been filled in and the hulks covered over. A sketch plan from the Ellesmere Port Boat museum archives apparently shows the locations and names of the vessels abandoned, and would provide valuable information if the site was excavated.

5.6 Barksore Marches, Kent

5.6.1 This assemblage of probably more than 25 barges, comprises two records of individual hulks from the Kent HER; and three records, each for multiple hulks, from the NRHE. One of the NRHE records describes a group of 16–20 barges. All hulks in the assemblage are thought to be concrete barges, dating to the mid-20th century.

5.6.2 The Kent HER gives the most detailed information about these barges, stating that no barges are present in this location on aerial photos dating to 1960, but have appeared by 1967, and are again present in 1990. The two vessels listed in Kent HER were noted during surveys for the North Kent Coast RCZA in 2002.

5.6.3 A brief view of modern online aerial mapping shows ten, apparently identical concrete barges in this location. Due to the barges' location on mud, some may be periodically covered and exposed by the tide. This assemblage would be a good candidate for future detailed survey.

5.7 Sutton Locks, Cheshire

5.7.1 This assemblage is listed in Cheshire HER under one record number, and is referred to as a 'boat graveyard'. The assemblage comprises at least 25 vessels that have been abandoned here since the Sutton Locks on the Weaver Navigation were abandoned in 1955.

5.7.2 The assemblage comprises canal narrow boats and 'Mersey Flats'. These include

the flat ‘Daresbury’ built in 1772 for the Weaver Navigation Company and still in use in 1957.

5.7.3 Modern online aerial mapping shows a large number of hulks in this location, some overgrown with grass and others partially submerged in water. This assemblage would be a good candidate for future detailed survey.

5.8 Boothstown, Greater Manchester

5.8.1 This assemblage of 24 hulks was discovered when a rectangular basin on the north side of the Leigh branch of the Bridgewater Canal was drained. The hulks were arranged in two layers. The condition of the hulks and safety issues precluded the removal or accurate survey of the vessels at the time, although some features were removed and saved. The assemblage consisted of 14 wide barges, five early box barges, two inspection boats, one narrow boat, one narrow or box barge, and one hulk that was not identified.

5.8.2 The area has since been redeveloped, therefore would not be suitable for future survey.

5.9 Brentford, Greater London

5.9.1 An assemblage of 23 hulks, mainly barges, was recorded at Brentford during the Thames Archaeological Survey, conducted in the 1990s. The survival of hulks in this assemblage is not currently known. The hulks are not recorded in the Greater London HER. Some hulks are visible in the mud in this area on modern online aerial photos. This site would merit further detailed survey.

5.10 Holes Bay, Poole, Dorset

5.10.1 This assemblage comprises 22 individual records in Dorset HER, each describing one ‘hulked vessel’, dating from the 1950s. The hulks were recorded from 2009 aerial mapping. This assemblage would merit further detailed survey in the future to ascertain the types of hulks present.

6 Resource Assessment: terminology and types of vessels

6.1 Introduction

6.1.1 Traditionally, 'hulk' has been used to describe a vessel as an old, unseaworthy ship that had been stripped of its fittings and converted for another use, such as storage, which did not require it to move under its own power. This description is reflected in the definition of 'hulk' in the EH Maritime Craft Type Thesaurus:

HULK

* COAL HULK
* PRISON HULK
* SHEER HULK
* STORAGE HULK
    - GRAIN HULK
    - POWDER HULK

6.1.2 The definition of hulk for the purpose of this project is that described in the Oxford English Dictionary: 'an old ship stripped of fittings and permanently moored'. This is the definition used by current maritime and nautical archaeologists to describe a laid-up or derelict boat that has usually been deliberately abandoned, and sometimes serves a purpose such as re-inforcing a bank or section of shoreline.

6.1.3 The traditional definition of a 'wreck' is a vessel that has been accidentally lost. This suggests that terminology should be based on the manner of loss of a vessel, rather than its current appearance or its presence on the foreshore.

6.2 'Hulks' and HERs and RCZAs

6.2.1 'Hulks' are rarely mentioned in HERs, although HERs do contain information on hulks. When first contacted, HERs were issued with a list of key words which could be used to search their databases for hulks to ensure all relevant data was captured. This list was initially developed from the EH Craft Type Thesaurus, but was added to by the project experts so included vessel types not currently included in the Craft Type Thesaurus. As the majority of HERs use the EH Craft Type Thesaurus for their own records, thesaurus-based hierarchical searching was used. Key word searching using the craft types not currently included in the thesaurus was also used to search HERs where possible.

6.2.2 Hulks were sometimes mentioned in HERs as the 'hulk of a boat', 'hulk of a wreck', or a 'hulked vessel'. HERs also rarely distinguish between a wreck, that has been accidentally lost at sea, often in antiquity, and a hulk that has been deliberately abandoned and may have been added to the HER from aerial photo evidence. This has meant that some vessels that are strictly 'wrecks', only identified through historic sources, have been included in this project.

6.2.3 Only one HER, Cheshire, used the term 'hulk assemblage', but also used 'boat graveyard'.

6.2.4 RCZAs are not consistent in the terminology used for hulks. Often during one report, 'hulk' and 'wreck' are used interchangeably. The North West England RCZA describes one hulk assemblage in the River Mersey as a 'cluster of abandoned wrecks'.

6.3 Vessels types in the assemblages data

6.3.1 Wherever possible vessel types were recorded, and are listed in the table of assemblages in Appendix 5. Vessel type was recorded for some or all of the hulks within 141 of the assemblages.

6.3.2 A broad range of vessel types were encountered during the audit of the hulk

assemblages data. Barges were the most common hulk type, with 97 of the 199 assemblages containing them.

6.3.3 The majority of assemblages contained vessels of the same or similar type. One assemblage, located at the western end of Forton Lake, in Hampshire, contained ten different types of vessels: Motor fishing vessel; WWII minesweeper; barges; pinnaces; ferries; motor gunboats; landing craft; lifeboats; and a WWII bomb scow.

6.4 Regional variations in vessel types

6.4.1 The data collected for this project allowed regional vessel types to be mapped against their locations. In general, this process showed that apart from barges, which are present all over England, hulk types were found in areas local to where they had been produced and used. The distribution of hulk types is shown on Fig 4.

6.5 Suggested updates to the EH Maritime Craft Type Thesaurus

6.5.1 During the data processing, several vessel names arose which were not already in the EH Maritime Craft Type thesaurus. It is suggested that the following terms are added to the thesaurus:

- Paddle steamer
- Pleasure Craft
- Dory
- Bomb scow
- North Sea Trader
- Dingy
- Mine Counter Measures Vessel

7 Resource Assessment: Age range of vessels

7.1.1 An assessment of the age of vessels within assemblages was one of the objectives of the project.

7.1.2 There are two ways of interpreting this, one is the date at which vessels were abandoned, and the other is the age of the actual vessels themselves.

7.1.3 It was rarely possible to get an exact date for the age of vessels. Very few vessels within assemblages were identifiable to such an extent. Some, for example some of those in Forton Lake, Hampshire, had been the subject of detailed research, from which the vessel names had been established. It was therefore possible to know the history of the vessel in terms of when it was built, and any subsequent re-fittings and change of use.

7.1.4 In most cases it was only possible to establish a broad date range based on vessel type, or based on the date at which a vessel was first noted on aerial photos.

7.1.5 It was not possible to date 54 of the assemblages; 74 of the assemblages were classed as 'post medieval', probably late 19th or 20th century; 22 were 'modern', probably 20th century; 28 assemblages could only be dated as pre-dating aerial photos that they had been recorded from; and 18 vessels were dated to the 19th or 20th centuries.

7.1.6 Three assemblages were found to contain hulks that pre-dated the 19th century. These were:

- A late 18th century hulk located at The Saltings, Bexley, Greater London
- A Mersey Flat, 'Daresbury', built in 1772, now located at Sutton Locks in Cheshire
- The 'Grace Dieu', a Protected Wreck Site, Henry V's flag ship launched in 1418 now located in the River Hamble, Hampshire.

7.1.7 New hulks are still being laid up in England, but the rate of deposition has drastically reduced in the last 20 years. Hulks are a finite resource. Boats are no longer used for transportation as they were in the past and are therefore no longer being abandoned in great numbers.

8 Resource Assessment: Assemblages located on statutorily protected land

8.1.1 GIS files showing areas of statutorily protected land were downloaded from the Natural England website and plotted in the project GIS. GIS queries were used to establish how many assemblages are located in statutorily protected land, and therefore have some level of protection already.

8.1.2 A total of 140 assemblages are located in protected land, meaning 59 assesmblages are not located in any form of protected land, as detailed in Appendix 6. Many assemblages are located in multiple types of protected land, the largest number being eight separate types of designation recorded for two assemblages in Suffolk. Norfolk also has assesmblages located on many different types of protected land.

8.1.3 No assemblages in Cheshire, Lincolnshire or Tyne and Wear are recorded on protected land; and only two assemblages in London are located in protected land, both located in Kew Gardens World Heritage Site.

8.1.4 Appendix 6 shows which assemblages are located on protected land. A summary of the results of the anyalysis is below:

- 130 assemblages in SSSIs (65%)
- 117 assemblages in Special Protection Areas (59%)
- 116 assemblages in RAMSAR sites (58%)
- 53 assemblages in Special Areas of Conservation (27%)
- 33 assemblages in AONBs (17%)
- 30 assemblages in Environmentally Sensitive Areas (15%)
- 13 assemblages in Local Nature Reserves (7%)
- 12 assemblages in Heritage Coasts (6%)
- 10 assemblages in National Nature Reserves (5%)
- 7 assemblages in National Parks (4%)
- 2 assemblages in World Heritage Sites (1%)

9 Recommendations

9.1.1 A number of recommendations for future work have come out of the project and are listed below.

9.1.2 Assemblages have been identified from secondary sources only. Some of these have been examined on online aerial photos, however many, especially the larger assemblages would merit ground truthing to verify their existence.

9.1.3 The assemblage at Purton has been well documented and researched in comparison to many assemblages described in this report. It should, however, be noted that the Purton assemblage would benefit from further monitoring and survey work so its condition can be recorded over time.

9.1.4 Other large assemblages, which would merit further research and survey are:

- Old Port Basin, Chester. The current state of this site is not known. It may have been destroyed by development. A plan of this site is located in Ellesmere Port Boat Museum, which would be useful if there site were ever excavated.
- Barksore Marshes, Kent. An assemblage of apparently at least 25 barges, even though only ten are visible on modern aerial photos. As all the vessels in this assemblage are likely to be the same type of barge, the site would benefit from targeted survey.
- Sutton Locks, Cheshire. An assemblage of at least 25 vessels abandoned in the old locks. These vessels are mainly flats and barges, including reputedly one flat dating to 1772. Many vessels can be seen in this location on modern aerial photos, over grown with vegetation.
- Brentford, Greater London. This assemblage of 23 hulks was recorded in the Thames Archaeological Survey in 1990s. The site could now be re-visited to check if any have been removed or destroyed in the intervening years.
- Holes Bay, Poole, Dorset. An assemblage of 22 vessels is recorded here, from individual records in the Dorset HER. The hulks were recorded from 2009 aerial mapping. This assemblage would merit further detailed survey to ascertain the types of hulks present.

9.1.5 Once recorded in some form, it is recommended that hulks with no statutory protection should be regularly monitored (i.e. re-surveyed every year or every few years). Vessels deteriorate once exposed, caused by human or natural agencies, and as they fall apart, new structural details are revealed. Such a monitoring programme is beyond the scope of the County Archaeologist, but if it is to be done at all, would rely on volunteer effort. Realistically, hulks can only be preserved by record, and the majority of those records will only be made by volunteer/student groups. Standardised terminology, recording forms and monitoring forms therefore need to be developed and adopted if the value of these vessels is to be rescued.

9.1.6 Notable gaps in the distribution of assemblages were found in East and West Sussex, the south Kent coast, Humber, North Yorkshire, Lincolnshire, Cumbria and Merseyside, all of which are counties with lengthy coastlines. This appears to point towards gaps in the data set rather than lack of hulks in these areas, indicating these areas should be prioritised for future field or aerial photo surveys.

9.1.7 Some RCZA data has been added to HERs, and has provided valuable information for this project, for example in the North Kent Coast area. All RCZA data, especially field survey and aerial photo survey data, should be added to HERs. This may fill some gaps in the available HER data.

9.1.8 Many hulks in greater London have been identified from the Thames Archaeological Survey, conducted in the 1990s. This data does not appear in the Greater London HER, and so should be added, along with the more up-to-date Thames Discovery

Programme survey data.

9.1.9 The majority of the assemblages identified in this project have been added to AMIE, however some additional assemblages were discovered through various sources during the data audit. It has not been possible to add these subsequent assemblages to AMIE, they are only recorded in the project GIS and Excel spreadsheet in Appendix 5. These assemblages should be added to AMIE in the future to complete the project database.

10 Conclusion

10.1.1 The Hulk Assemblages Project has been undertaken by Museum of London Archaeology, with input from the Thames Discovery Programme and the Nautical Archaeology Society. The project was funded by the Historic Environment Enabling Programme, administered by English Heritage. The aim of the project was to create a method for quantifying known hulk assemblages in England, and to create a nationwide database of hulk assemblages, that could be used to identify thematic, geographic and temporal gaps in the known data.

10.1.2 A comprehensive survey of hulks or hulk assemblages in England has not previously been conducted. This project brings together data from multiple sources, including Historic Environment Records, the National Record of the Historic Environment, Rapid Coastal Zone Assessments, the National Historic Ships Register, and that held by specialist societies and research groups. The project did not entail any field survey to discover and record previously unknown hulks. The sites described in this report and entered into the project database have not been visited to verify their existence, as this was outside of the scope of the project.

10.1.3 The resulting data was entered directly into the National Record of the Historic Environment database AMIE. A total of 182 new records were created and added to AMIE. Subsequently, the total number of assemblages recorded in this project has risen to 199. A comprehensive table of assemblages is located in Appendix 5.

10.1.4 The significance of hulks comes from their group value as an assemblage. Assemblages of hulks in England can contribute to the story of a landscape, demonstrating how landscapes have been used in the past and continue to be used in the present. They have often been deliberately deposited in large numbers to serve a purpose such as to reinforce a river bank, or have accumulated in an area of the landscape that has unofficially been designated as a graveyard for boats.

10.1.5 Hulk assemblages might represent three main types:

- A uniform ‘industrial’ assemblage (Mersey Flats or canal barges of the same general form abandoned in a lock or basin where they were last used)
- A mixed local/regional assemblage (e.g. Forton Lake - ferries, lifeboats, fishing boats, WWII landing craft: small, medium and large)
- A bank reinforcement assemblage similar to a mixed local/regional assemblage, but with vessels selected for a particular purpose (often focused on medium to larger vessels)

10.1.6 Clearly, the study of each of these three types would draw different conclusions: the first type relates particularly to a specific industrial complex, throwing light on transportation issues, capacity/loads/cargo-handling as well as the degree of standardisation (or lack of) in vessel design and structure. The latter two have a rather broader reach, and can inform not just national, local and regional studies of vessel types, uses and structure, but also wider comparative social, economic and military studies.

10.1.7 The vast majority of assemblages recorded in this project were small, containing between two and four hulks. Nine assemblages were of considerable size, i.e. contained more than 20 vessels, the largest of which is that located at Purton in Gloucestershire. Several other large assemblages have been highlighted as meriting future survey. Information on vessel provenance and vessel type, as well as detailed locational data, would add to the overall significance of an assemblage of hulks.

10.1.8 A particular density of assemblages is located in north Kent, in the Medway and Swale estuaries. Clusters of assemblages often coincide with areas where local specialist societies are particularly active. Geographic gaps in the distribution of assemblages were recorded in North Yorkshire, Lincolnshire, Dorset, southern Kent, East Sussex and West Sussex. These areas no doubt contain hulk assemblages;

however data about them has not been entered into suitable depositories. These areas would benefit from further surveys, such as field survey or aerial photo survey. It is possible that when RCZA data is added to the HERs that the gap may be filled in the case of southern Kent, East Sussex and West Sussex.

10.1.9 Available information on vessel types has been incorporated into the project, and a variety of regional vessel types were recorded. The distribution of vessel types around England has shown that hulks are largely abandoned in areas local to where they were used and produced. Assemblage records created in AMIE had to conform to vessel types already in the EH Maritime Craft Type Thesaurus. One of the outcomes of this project is a list of suggested words that could be added to this thesaurus.

10.1.10 One hulked vessel in England, the *Harriett* located within the Purton hulk assemblage, has been classed as being nationally important and is a scheduled monument and is on the National Historic Ships Register; also the Grace a Dieu, part of an assemblage in the River Hamble in Hampshire is a Protected Wreck Site. Otherwise, hulks currently have no protection as historic environment assets. They are not classed as protected wrecks; their ownership is dubious and they are often located on land where ownership is not known. They are underrepresented in the register of National Historic Ships. This project has shown that the deposition of hulks in England has drastically reduced in the last 20 years. Hulk assemblages are constantly at risk from tidal erosion and many hulks can currently be broken up or removed without permission. Hulk assemblages have been plotted against natural environment designations, to show which are located on land that is currently afforded some kind of protection. Over half of the assemblages recorded are located in SSSIs, RAMSAR sites and Special Protection Areas.

10.1.11 The results of the project provide a snapshot of what is known about the hulks resource in most of England's coasts and estuaries at present. This has revealed much variation in how hulks are recorded in Historic Environment Records, and in how they are described. A 'hulk' as a deliberately abandoned vessel is rarely distinguished from a historic 'wreck' which has been accidentally lost, suggesting that terminology should be based on the manner of loss of a vessel, rather than its current appearance. The key to the future preservation, recording and promotion of hulk assemblages lies with the detailed local knowledge held by local societies and specialist interest groups, which should feed into HERs so these assets can be more easily taken into account in shoreline management plans, coastline re-development, and the preservation of our coastal, estuary and freshwater heritage and promoted to the wider public.

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12 Bibliography

Allen, M and Gardiner, J (eds) 2000 Our Changing Coast: The Intertidal Archaeology of Langstone Harbour, Hampshire. CBA

Bacilieri, C. Knight, D. and Williams, S. 2009 North West Rapid Coastal Zone Assessment Survey. Air Survey Mapping Report. Archaeological Research Services Ltd

Bacilieri, C. Knight, D. and Radford, S. 2008 North East Rapid Coastal Zone Assessment Survey. Archaeological Research Services Ltd

Beattie-Edwards, M. and Satchell, J. with contributions by Donohue, P, Harvey, M, James, A McKewan, C, Maddocks, J, Pascoe, D, Simons, P, and Whitewright, J 2011 *Nautical Archaeology Society Monograph Series (NAS) 3 The Hulks of Forton Lake, Gosport The Forton Lake Archaeology Project 2006–2009.* BAR 536

Brigham, T. and Buglass, J. 2007 Rapid Coastal Zone Assessment Survey Yorkshire and Lincolnshire: Gibraltar Point to Norfolk. Humber Field Archaeology

Brigham, T. and Buglass, J. 2008 Rapid Coastal Zone Assessment Survey Yorkshire and Lincolnshire: Whitby to Reighton. Humber Field Archaeology

Brigham, T. Buglass, J. and George, R. 2008 Rapid Coastal Zone Assessment Survey Yorkshire and Lincolnshire: Bempton to Donna Nook. Humber Field Archaeology

Brigham, T. and Buglass, J. 2007 Rapid Coastal Zone Assessment Survey Yorkshire and Lincolnshire: Donna Nook to Gibraltar Point. Humber Field Archaeology

Catchpole, T. and Chadwick, A. 2010 Severn Estuary Rapid Coastal Zone Assessment Survey, Phase 2a Pilot Fieldwork Report

DCLG [Department of Communities and Local Government], March 2010 *Planning Policy Statement 5: Planning for the Historic Environment.*

DCLG [Department of Communities and Local Government] 2005 *Planning Policy Statement 1: Delivering Sustainable Development*

English Heritage 2010 Protected Wreck Sites: Moving towards a new way of managing England's historic environment. Draft report

Everett, L 2007 Targeted Inter-tidal Survey. Suffolk County Council Archaeological Service

Good, C and Plouviez, J. 2007 The Archaeology of the Suffolk Coast. Suffolk County Council Archaeological Service

Heal, V 1988 Britain's Maritime Heritage. Conway

Hegarty, C and Newsome, S. The Archaeology of the Suffolk Coast and the Inter-tidal Zone. A report for the National Mapping Programme. Suffolk County Council Archaeological Service

Heppell, E and Brown, N (no date) Rapid Coastal Zone Survey and beyond: research and management of the Essex coast

HWTMA, 2002 The Chichester Harbour Project 2001/2001. Hampshire and Wight Trust for Maritime Archaeology.

HWTMA, 2008 Recording Archaeological Remains on the River Hamble. Hampshire and Wight Trust for Maritime Archaeology. www.hwtma.org.uk/reports-2

IFA, 2001a *Institute for Archaeologists, By-laws, standards and policy statements of the Institute of Field Archaeologists, standard and guidance: desk-based assessment, rev,* Reading

IFA, 2001b *Standard and Guidance for Archaeological Desk-based Assessment, Institute of Field Archaeologists*, compiled 1994, revised 2001

IFA, 2001c *Standard and Guidance for Archaeological Investigation and Recording of Standing Buildings and Structures, Institute of Field Archaeologists*, published 1996, revised 2001

IFA, 2001d *Standard and Guidance for Archaeological Excavation, Institute of Field Archaeologists,* compiled 1994, revised 2001

IFA, 2001e *Standard and Guidance for Archaeological Watching Brief, Institute of Field Archaeologists*, published 1994, revised 2001

Johns, C. Larn, R. and Tapper, B, 2004 Rapid Coastal Zone Assessment for the Isles of Scilly. Cornwall County Council Historic Environment Service

MoLAS 2008 *Health and Safety Policy*
Milne, McKewan and Goodburn, 1998 *Nautical Archaeology on the Foreshore, Hulk recording on the Medway.* RCHME
MoLAS, 2004 *Proposed Sittingbourne Northern Distributor Road (Sections A-D) and Milton and Kemsley Distributor Road (Southern section: Kemsley Marshes and Church Marshes).* An Archaeological Assessment. MoLAS unpublished report.
Mullin, D. Brunning, R. and Chadwick, A 2009 Severn Estuary Rapid Coastal Zone Assessment Survey, Phase 1 Report
Read, M 2000. Tamar Hulks Survey. Unpublished research report. Institute of Marine Studies, University of Plymouth
Read, M 2001. South Hams Intertidal Project Hulk Survey. Unpublished research report. Institute of Marine Studies, University of Plymouth
Robertson, D. Crawley, P. Barker, A. and Whitmore, S. 2005 Norfolk Rapid Coastal Zone Archaeological Survey, Part One: Assessment Report. Norfolk Archaeological Unit
Society for Spritsail Barge Research, 1987 *The Last Berth of the Sailorman.*
Stephenson, G 2010 *Residual Hulks Survey of the Estuary of the River Exe, July to October.* Unpublished research report
Universities of Plymouth and Bristol 2005 Survey of Hulks on the Exe Estuary Unpublished research report.
University of Plymouth, Hooe Lake Hulks Survey. Unpublished research report.
Wessex Archaeology 2002 North Kent Coast Rapid Coastal Zone Assessment Survey, Phase II: Preliminary Field Investigation
Wessex Archaeology 2004 North Kent Coast Joint Fieldwork Report
Wessex Archaeology 2004 Historic Environment of the Dorset Coast, Rapid Coastal Zone Assessment Survey, Phase 1 Project Report
Wessex Archaeology, 2004 Historic Environment of the Dorset Coast, Rapid Coastal Zone Assessment Survey: Survey Phase 1 Project Report
Wessex Archaeology 2005 North Kent Coast Rapid Coastal Zone Assessment Survey, Phase II: Field Assessment, Year One Report
Wessex Archaeology 2006 North Kent Coast Rapid Coastal Zone Assessment Survey, Phase II: Field Assessment, Year Two Report
Wessex Archaeology, 2010 New Forest Rapid Coastal Zone Assessment: Phase 1 Main Report.

Websites:
www.geog.port.ac.uk/webmap/itchen/frameset.html River Itchen Archaeology Project

Hampshire & Wight Trust for Maritime Archaeology & Nautical Archaeology Society 2006 Forton Lake Archaeology Project, Year 1 Report.
www.nauticalarchaeologysociety.org/projects/forton%20lake/Forton%20Lake%20Project%20YR1%20Final%20Report.pdf

Hampshire & Wight Trust for Maritime Archaeology & Nautical Archaeology Society 2007 Forton Lake Archaeology Project, Year 2 Report.
www.nauticalarchaeologysociety.org/projects/forton%20lake/Forton_Lake_Project_YR2_Report_Final.pdf

Hampshire & Wight Trust for Maritime Archaeology & Nautical Archaeology Society 2008 Forton Lake Archaeology Project, Year 3 Report.
http://www.nauticalarchaeologysociety.org/projects/forton%20lake/Forton_Lake_Project_YR3_Report_Final.pdf

13 Appendix 1: List of stakeholders contacted

- National Maritime Museum Cornwall
- Wessex Archaeology Coastal and Marine
- Maritime Historical Studies Centre, Hull
- Residential Boat Owners' Association
- Sailing Barge Association
- The Waterways Trust
- Centre for Maritime Historical Studies, Exeter
- Centre of Maritime Archaeology, Southampton
- Hampshire and Wight Trust for Maritime Archaeology
- Oxford Centre for Maritime Archaeology
- Society for Nautical Research
- Society for Sailing Barge Research
- South West Maritime History Society
- Maritime Heritage East
- National Waterways Museum
- National Maritime Museum
- South West Maritime Archaeological Group
- Thames Discovery Programme
- Nautical Archaeology Society
- National Historic Ships
- Plymouth University
- British Waterways
- National Trust
- Maritime and Coastguard Agency - Receiver of Wreck
- Botley & Curdridge Local History Society
- Brixham Heritage Sailing Trawlers Archive
- Friends of Purton

14 Appendix 2: Responses from HERs

HER	Responded	Data available	Data format
Bath & North East Somerset	N	—	—
Bedford	Y	N	—
Berkshire	Y	N	—
Birmingham City	N	—	—
Black Country	N	—	—
Bristol City	N	—	—
Buckinghamshire	N	—	—
Cambridgeshire	Y	N	—
Canterbury	N	—	—
Central Bedfordshire	Y	N	—
Cheshire	Y	Y	GIS shapefile
Chichester District	Y	N	—
City of York	N	—	—
Colchester	N	—	—
Cornwall and Scilly	Y	Y	Word doc
Coventry	Y	N	—
Cumbria	Y	Y	GIS shapefile
Dartmoor National Park	Y	N	—
Derbyshire	Y	N	—
Devon	Y	Y	GIS shapefile
Dorset	Y	Y	Excel file
Dudley	Y	Y	Word doc
Durham	Y	Y	GIS shapefile
East Sussex	Y	Y	GIS shapefile
Essex	Y	Y	GIS shapefile
Exeter City	N	—	—
Exmoor National Park	Y	Y	Excel file
Gloucester City	Y	N	—
Gloucestershire	Y	Y	GIS shapefile
Greater London	Y	Y	GIS shapefile
Greater Manchester	Y	Y	GIS shapefile
Hampshire	Y	Y	GIS shapefile
Herefordshire	Y	N	—
Hertfordshire	Y	N	—
Humber	Y	N	—

Isle of Wight	Y	Y	GIS shapefile
Kent	Y	Y	Word doc
Lake District National Park	Y	N	—
Lancashire	Y	Y	GIS shapefile
Leicester City	N	—	—
Leicestershire & Rutland	Y	N	—
Lincoln	Y	N	—
Lincolnshire	Y	Y	Word doc
Merseyside	N	—	—
Milton Keynes	N	—	—
Norfolk	Y	Y	GIS shapefile
North East Lincolnshire	N	—	—
North Lincolnshire	Y	Y	PDF
North Somerset	N	—	—
North York Moors National Park	Y	N	—
North Yorkshire	Y	Y	GIS shapefile
Northamptonshire	Y	N	—
Northumberland	Y	Y	GIS shapefile
Nottingham	N	—	—
Nottinghamshire	N	—	—
Oxfordshire	Y	N	—
Peterborough City	N	—	—
Plymouth	N	—	—
Portsmouth City	Y	N	—
Sandwell	N	—	—
Shropshire	N	—	—
Somerset	Y	N	—
South Gloucestershire	Y	Y	GIS shapefile
South Yorkshire	N	—	—
Southampton	Y	Y	Excel file
Southend	N	—	—
Staffordshire	Y	N	—
Stoke-on-Trent	Y	N	—
Suffolk	Y	Y	GIS shapefile
Surrey	N	—	—
Tees	Y	Y	Word doc
Torbay	Y	N	—
Tyne and Wear	Y	Y	Excel file
Warwickshire	Y	N	—

West Berkshire	Y	N	—
West Sussex	Y	N	—
West Yorkshire	N	—	—
Wiltshire and Swindon	Y	N	—
Winchester	Y	Y	GIS shapefile
Worcester	N	—	—
Worcestershire	Y	Y	GIS shapefile
Yorkshire Dales National Park	N	—	—

15 Appendix 3: Hulks recording sheet

MUSEUM OF LONDON ARCHAEOLOGY	PLEASE USE BLOCK CAPITALS AND BLACK PEN

Hulk assemblage record sheet

Location County District	**Ordnance Survey National Grid Reference** (six-figure easting and northing, e.g. xxxxxx xxxxxx; or grid letters, e.g. NZ xxxx xxxx)	
	OR Latitude	Longitude

Visible remains (including sketch if possible)

Size classes in assemblage, number each of:

- ☐ **SB** small boat usually less than 12m
- ☐ **BO** boat, usually in excess of 12m
- ☐ **BA** barge, flat-bottomed vessel usually in excess of 10m
- ☐ **SH** ship, a sea-going vessel usually in excess of 25m

Types of vessels (e.g. cargo, pleasure, fishing)

Date range of vessels

pre-1800 ☐ 1801–1900 ☐ 1901–1950 ☐ 1951–present ☐

Hull construction (e.g. clinker, carvel, dugout)

Propulsion (e.g. engine, sail, rig, manpower, towed)

Materials (e.g. timber, concrete)

Date abandoned (if known)

Vessel name(s)

Condition of vessels

Good ☐ / moderate ☐ / poor ☐ / under threat ☐ (specify)

Numbers of digital images provided with recording sheet

Name of recorder	**Associated organisation**
Contact email/address	**Date**

16 Appendix 4: Laid-up vessels in the Register of National Historic Ships

Vref	Use	Location	Status	VNAME	Type	Comments
61	Laid up	Island Harbour, River Medina		PS Ryde	Paddle Steamer	Hulks located in this vicinity in both Hants and IOW HERs. Neither mentions the hulk by name. Both describe it as an 'unknown vessel'.
105	Laid up	Bideford		Advance	River gravel barge	Not mentioned by name in Devon HER or NRHE.
139	Laid up	West Thurrock	Archived	Light Vessel 38 Gull		Not mentioned in HER.
140	Laid up	Pitsea Creek		Light Vessel 44 Carnarvon Bay	Lightship	Vessel in this location in Essex HER, although not named; not part of an assemblage.
228	Laid up	Benfleet		Scone	Spritsail Barge	Not listed in Essex HER
241	Laid up	Borstal, River Medway		The King		Numerous vessels are listed in this location in the NRHE, however none relate directly to the
437	Laid up	Damhead Creek, Kingsnorth, River Medway		FCB	Concrete fuel lighter	Several vessels shown here in Kent HER, however none can be definitely identified as this barge.
646	Laid up	Birkenhead	Archived	Light Vessel 94 Morecambe Bay		
713	Laid up	Birkenhead (East Float)		Landfall	Landing Craft Tank	Didn’t receive Merseyside HER
716	Laid up	Hoo		Violette	Coasting schooner	Kent HER and NRHE show numerous vessels in this location, however none is named as the Violette
1369	Laid up	Southwick	Archived	Regulus	Admiralty Launch	Not in HER

Vref	Use	Location	Status	VNAME	Type	Comments
2419	Laid up	Purton		FCB67	Stem Head Ferro Concrete Barge	These vessels are not listed individually in the Gloucestershire HER, but are all listed on the Friends of Purton website
2420	Laid up	Purton		FCB75	Ferro concrete barge	
2421	Laid up	Purton		FCB76	Ferro concrete barge	
2422	Laid up	Purton		FCB77	Ferro concrete barge	
2423	Laid up	Purton		FCB78	Ferro concrete barge	

17 Appendix 5: Table of assemblages

Map number	Location/name	Number in assemblage	Local Authority Unit	Easting	Northing	NRHE Assemblage Number	HER reference	NRHE vessel records	Broad date of assemblage	Any additional dating/vessel name information	Vessel types	Materials
1	Canal boats in North Basin, Chester	10	Cheshire	340010	366790	1527054	5020; MCH15369		Post Medieval	five of the boats could be dated : Linnet (1835), Coronet (1863), John (1864), Onward (1869), Herbert (1872)	Mersey flats	unknown
2	Mersey Flats at Widnes West Bank Dock	20	Cheshire	350690	384190	1527050	5010; MCH15357		Post medieval	most intact boat: Sir Robert Peel (1843)	Mersey flats	wooden
3	Mersey Flats at Old Basin and Bridgewater Canal locks, Runcorn	37	Cheshire	350530	383020	1527046	5006; MCH15352		Post medieval	19th to 20th C	Mersey flats	wooden
4	Mersey Flats at Big Pool, Runcorn	42	Cheshire	351690	382470	1527042	5003; MCH15350		Post medieval	19th to 20th C	Mersey flats	unknown
5	Mersey Flats at Spike Island	>2	Cheshire	351600	384330	1527038	4843; MCH15343		Modern	the Eustace Carey (1905)	Mersey flats	wooden
6	Hulk assemblage of Mersey Flats at the Old Port basin, Chester	>30	Cheshire	339920	366580	1527060	5035; MCH15386		Post medieval	one of the boats (the Earl) registered in 1804	Mersey flats	wooden
7	Boat graveyard at Sutton Locks, Weaver Navigation	>25	Cheshire	354180	378440	1527027	4842; MCH15342		18th C	the flat Daresbury dated to 1772, still used in 1957	canal narrow boats; Mersey flats	wooden
8	N shore of St Gluvias Creek, Penryn	2	Cornwall	178800	34500	1526871	38979		Post Medieval	steam drifter 'Fisher Girl' broken on beach 1947	steam drifter and possible schooner	wooden
9	Penpol Creek	2	Cornwall	181285	38656	1526877	38883; 38884		Modern	1906	dredger	unknown
10	Percuil River	2	Cornwall	185985	34321	1526880	50717.10; 50717.20;		Post medieval		unknown	wooden
11	Cant Cove, St Minver	3	Cornwall	195300	74650	1526874	50624		Post Medieval		unknown	probably wooden
12	Pont Pill 1 (NE of Pengegon)	3	Cornwall	213640	51570	1526977	39331; 39333; 39334		Post Medieval		barge	one wooden
13	South east of Cargreen, River Tamar	3	Cornwall	243600	62400	1526865	50027		Modern		barge	unclear if wood or metal
14	Pont Pill 2	5	Cornwall	213890	51600	1526981	39335; 39336; 39337; 39338; 39339		Post Medieval		unknown	wooden
15	south-east of Ponsharden	5	Cornwall	179700	33850	1526868	38977		Post Medieval	Louise (1877), Volant (1941), Lord Landsdown, Emma, Lady Margaret	schooner, brigantine, rye ketch, Plymouth barge, Thames Barge	unknown
16	Gweek Quay	2	Cornwall	170715	26530	1526973	140274; 140275		Post Medieval		barge; fishing vessel	unknown
17	Westward Ho!	2	Devon	243260	129760	to add	58099		Post Medieval		unknown	wooden
18	River Torridge, between Northam and Westleigh	3	Devon	246150	128560	1527304	58145	1518356; 1518368; 1518373	unknown		barges	wooden
19	River Torridge, n-w of Westleigh	3	Devon	246640	129090	1527307	58147	1518411; 1518412; 1518416	unknown		barges	wooden

20	Appledore	3	Devon	246520	130260	no ref	54946; 54948		Modern		carvel built	wooden
21	Wareham Point	3	Devon	274820	40890	no ref	68097; 68098		Modern		landing craft, trawler	unknown
22	East side of Exe Estuary	3	Devon	296650	87750	no ref	71160		Modern		collier, trawler, smack	unknown
23	River Torridge, north of Snuffy Corner	4	Devon	246050	128845	832360	66189/53865	832360	Modern	19th C	carvel built	wooden
24	River Torridge, Appledore Shipbuilding Yard	5	Devon	246506	129544	832364	53867; 53866	832364	Modern		unknown	wooden
25	Tosnos Point, Kingsbridge Estuary	6	Devon	274550	40280	no ref	68099; 68100; 68101; 68102; 68103; 68104		Post Medieval	Rose of Devon schooner (1869) converted into a yawl 1871; trawler Rulewater (1917) converted into yacht 1950 ; Yawl Cresta (1902); Racing Cutter Lverna (1890)	trawler, schooner, yawl, racing cutter, fibreglass vessel	unknown
26	Exe Estuary	12	Devon	296430	87750	no ref	71159		Modern		keels	unknown
27	Holes Bay, Poole, east of Woodlands Avenue	2	Dorset	399750	91070	1527080	MDO25072; 25073		Modern	1950-2000	unknown	unknown
28	Lytchett Bay, Poole (east)	4	Dorset	397550	92390	1527075	MDO25082; 25184; 25185; 25186		Modern	1950-2000	unknown	unknown
29	Lytchett Bay, Poole (west)	12	Dorset	397170	92440	1527078	MDO25187; 25188; 25191; 25193; 25194; 25195; 25196; 25197; 25198; 25199; 25200; 25202;		Modern		unknown	unknown
30	Holes Bay, Poole	22	Dorset	399925	91015	1527083	MDO25050; 25051; 25052; 25053; 25054; 25055; 25056; 25057; 25058; 25059; 25060; 25061; 25062; 25063; 25064; 25065; 25066; 25067; 25068; 25069; 25070; 25071		Modern		unknown	unknown
31	North east of Bradwell disused airfield	2	Essex	602400	209600	1526645	MEX32621		unknown		unknown	unknown
32	Clementsgreen Creek	2	Essex	582050	196820	1526658	MEX1031598		unknown		unknown	unknown
33	east of overland point, Wallasea Island	2	Essex	595500	194700	1526648	MEX41714		unknown		unknown	unknown
34	Leigh Creek, Southend-on-Sea	2	Essex	583640	185550	832404		832404	unknown		barges	unknown
35	Maylandsea	2	Essex	589400	202300	1526676	MEX1035421		unknown		unknown	unknown
36	Mersea Stone	2	Essex	607240	215470	1526643	MEX31404		unknown		unknown	unknown
37	Northey Island	2	Essex	588200	206600	1526661	MEX1033407		unknown		unknown	unknown
38	Upper Collins	2	Essex	593800	207400	1526655	MEX1031365		unknown		unknown	unknown
39	Wrecks NW of Stow Creek	2	Essex	583400	197600	1526652	MEX41953		unknown		unknown	unknown
40	East of Garndeness point, Wallasea island	3	Essex	594780	195080	1526638	MEX31387		unknown		unknown	unknown
41	Heybridge Basin	3	Essex	587300	207700	1526679	MEX1035424		unknown		unknown	unknown

42	East of Maldon Leisure Centre	4	Essex	586400	206300	1526636	37960; 37964; 37968; 37971		unknown	British Lion, Mamgu, Pretoria, william Cleverly	barges	unknown
43	Rat Island	4	Essex	605500	217100	1526669	MEX1035418		unknown		unknown	unknown
44	Pewitt Island	6	Essex	605045	216505		may be same as MEX1035420, but incorrect grid ref		unknown			
45	West of Overland point, Wallasea Island	>4	Essex	595200	195000	1526640	MEX31389		unknown		unknown	unknown
46	Marshfield Timber Ponds, Hinton	2	Gloucestershire	368135	203840	1389853	26100	1389853	Post Medieval		barges	unknown
47	Marshfield Timber Ponds, Hinton	3	Gloucestershire	368330	203920	1389862	26102	1389862	Post Medieval		barges	unknown
48	S end of Marshfield Timber Pond	5	Gloucestershire	368110	203625	1389865	26103	1389865	Post Medieval		barges	unknown
49	SE of Lydney Harbour	6	Gloucestershire	364860	201280	1002183	26111	1002183	Post Medieval		barges	unknown
50	N end of Marshfield timber ponds, Hinton	7	Gloucestershire	368480	204040	1389860	26101	1389860	Post Medieval		barges	unknown
51	Sharpness Canal	16	Gloucestershire	367260	203075	1526859	9528		Modern		barges	unknown
52	Purton	>80	Gloucestershire	369500	204500	1389847	9525	1389847	Post Medieval		boats; barges	unknown
53	South of Lydney Harbour	>2	Gloucestershire	365100	201300	1526845	9500		Post Medieval	The Canterbury	trows	unknown
54	Brentford, slipway at end of River Brent	2	Greater London	518120	177450	1527219	TAS FHL09 A104; A115		Post Medieval		barge?	unknown
55	Greenwich, Bay Wharf	2	Greater London	539000	179220	1527273	TAS FGW07 A112; A113		Post Medieval		boat	Iron
56	Greenwich, Blackwall Point	2	Greater London	538870	180260	1527270	TAS FGW09 A122; A123		Post Medieval		boat	unknown
57	Greenwich, Ordnance Wharf	2	Greater London	538780	180140	1527267	TAS FGW09 A109; A114		Post Medieval		unknown	wooden
58	Kings Reach, Lambeth	2	Greater London	531300	180560	1527250	TAS FSW10 A106; A107		Post Medieval		unknown	unknown
59	N bank of Thames, east of Blackfriars Bridge	2	Greater London	531920	180800	1527253	TAS FCY01 A102; A104		Post Medieval		boat; barge	clinker;
60	Southwark, Barnard's Wharf	2	Greater London	536680	179560	1527265	TAS FSW08 A118; A120		Post Medieval		barge	unknown
61	Tower Stairs	2	Greater London	533280	180540	1527256	TAS FCY04 A106; A109		Post Medieval		unknown	unknown
62	Brentford, Brentford Ait east	3	Greater London	518640	177820	1527229	TAS FRM22 A117; A118; A119		Post Medieval		boats	unknown
63	Cheyne Walk	3	Greater London	526810	177420	1527245	TAS FKN01 A101; A109; A115		Post Medieval		barges; boat	unknown
64	Oliver's Island, Strand on The Green, Hounslow	3	Greater London	519430	177640	1527232	TAS FHL12 A102; A103; A107		Modern		unknown	metal and wooden
65	Southwark, Hanover Stairs	4	Greater London	535390	180050	1527262	TAS FSW03 A103; A105; A116; A149		Post Medieval		house boat; boats; barge	carvel built
66	Wharfs, Putney	4	Greater London	524460	175500	1527235	TAS FWW04 A105; A106; A109; A110		Post Medieval		boats; barge	wooden
67	Havering, Erith Reach	5	Greater London	551540	180090	1527285	TAS FHV05 A103; A104; A105; A108; A111		Post Medieval		unknown; barges	unknown; concrete
68	Bexley, West Street, Erith	6	Greater London	551270	178360	1527282	GLHER MLO75807		Post medieval	1820-1860	barges	unknown

69	Bexley, The Saltings	7	Greater London	552940	178000	1527293	GLHER MLO98252; 98254; 98261; 98262; 98264; 98265; 98266; FBX15 A101; A102; A103; A113; A114; A115; A116		18th C	end of 18th century to modern	barges; skiffs; boats	unknown
70	Greenwich, Piper's Wharf	7	Greater London	539100	178620	1527276	TAS FGW06 A102; A103; A104; A105; A106; A108; A109		Post medieval		boat; barges	carvel
71	Southwark, Reeds Wharf	8	Greater London	534100	179900	1527259	TAS FSW01 A144; A145; A150; A151; A152; A153; A169; A170		Post medieval		barges; pontoon	unknown; wooded
72	Wandsworth Park	9	Greater London	524890	175370	1527238	TAS FWW05 A110; A111; A112; A113; A114; A115; A120; A121; A125		Post medieval		barges; boats	unknown
73	Broken Campshed, Bexley	10	Greater London	552690	177900	1527290		025339; 1025340; 1025342; 1025345; 1025346; 1025347; 1025348; 1025349; 1025350; 1025351	unknown		barges	unknown
74	Greenwich, Durham Wharf	13	Greater London	540950	179180	1527279	TAS FGW14 A305; A306; A308; A313; A315; A316; A318; A319; A325; A329; A330; A331; A333		Post medieval		barge	wooden and metal
75	Brentford, Lots Ait and western part of Brentford Ait	23	Greater London	518380	177700	1527225	TAS FHL10 A105; A106; A107; A108; A109; A110; A111; A112; A113; FRM22 A120; A123; A124; A125; A126; A127; A128; A129; A130; A131; A132; A133; A134; A135		Post medieval		boats; barges	clinker built; unknown; wooden
76	Booth's Hall Road, Boothstown	24	Greater Manchester	372795	400410	to add	883.1.0		Modern	20th C	5 early box barges, 2 inspection boats, 1 narrow boat, 1 narrow or box barge, 14 wide barges	
77	Langstone Harbour	2	Hampshire	469293	100565	1526715	27974; 27976		Modern	1941	tug; grab dredger	unknown
78	Forton Lake, E end	3	Hampshire	461575	100860	1526686	59222; 53065; 59217		Post Medieval		barges; carvel built; Second World War MCMV (Mine Counter Measures Vessel	wooden

79	North of West Itchenor	3	Hampshire	479747	101618	911260	These are in Chichester Harbour. Need survey details from HWTMA.	911260	unknown			
80	Forton Lake, W end	19	Hampshire	461200	100800	1526681	53066; 53067; 53068; 53069; 53070; 53071; 53073; 53074; 57860; 57861; 57862; 57866; 57869; 57872; 57874; 57876; 57878; 57879; 60108		Post Medieval	Post Medieval to Modern; 1939-45	Motor fishing vessel; WWII minesweeper; barges; pinnaces; ferries; motor gunboats; landing craft; lifeboats; WWII bomb scow;	wooden; iron; steel
81	River Hamble, Bunny Meadows	3	Hampshire	448900	108310	1526729	55491; 55492; 55594		Post Medieval		lifeboat	wooden and iron
82	River Hamble, Hamble Common	3	Hampshire	448365	106250	1526744	55565; 55566; 55569		unknown		unknown	unknown
83	River Hamble, Satchell Marsh	6	Hampshire	448640	107790	1526735	55512; 55514; 55515; 55516; 55517; 56040		Post Medieval		one hospital ship or North Sea trader	wooden
84	River Hamble, Bunny Meadows South	7	Hampshire	448840	107370	1526738	55495; 55595; 55607; 56033; 56034; 60057		Modern	1914-1945	warships; fishing boat; motor minesweeper	iron; wooden
85	Lymington Harbour	12	Hampshire	434340	94907	1526718	27701; 58146		Modern	1960-1980	mooring barges; pontoons; dingy	wooden; metal; aluminium; glass reiforced.
86	River Hamble, Warsash Harbour	2	Hampshire	448910	106060	1526741	55568; 56078		Post Medieval		unknown	wooden
87	Ashlett Creek, Fawley	2	Hampshire	446930	103235	1526721	27889; 27890		Modern		unknown	unknown
88	River Hamble, Badnam Creek	2	Hampshire	448380	108370	1526732	42510		Post Medieval	the Five Sisters (1891-1980) and Sandringham (1900-1969)	Ferry; Thames barge	wooden and metal
89	River Hamble, NE of M27, west of Oaken Copse	3	Hampshire	450124	110536	1526726	18094; 56035; 18060		Medieval; 20th C	Grace Dieu 1418-1439; another wreck possibly Holigost (1414)	large ship	wooden; clinker
90	River Hamble, NE of Bursledon Bridge	18	Hampshire	449504	109899	1527144	42536; 55520; 55539; 55540; 55541; 55542; 55543; 55544; 55545; 55546; 55547; 55709; 56045; 56046; 57136; 57138; 57139; 57140	1371138; 1371143; 1371148; 1371149; 1371188; 1371196; 1371197; 1371203	Modern	20th C	hopper barges; crane barge; Thames barge; seaplane towing tender; ordnance barge; landing assault craft	wooden; iron
91	River Medina, near E Cowes Cemetery	2	IOW	450210	94700	1526778	IOW: 5228; 5229		unknown		unknown	unknown

92	River Medina, Wight Marina	2	IOW	450860	91920	1526801	IOW: 4782; 5222; 10692; Hants: 28128; IWSMR 6086;EIW163		Modern	20th C	one Baltic Trader; others unknown	unknown
93	Medina Cement Works	3	IOW	450590	91800	1526797	IOW: 5173; 5174; 5175		unknown		unknown	unknown
94	River Medina, South of Werrar	3	IOW	450610	92230	1526792	IOW: MIW4781; 5165; 5166		Post Medieval		one cowes ketch;	carvel built; iron; clinker
95	River Medina, Somerton	4	IOW	450180	94070	1526783	IOW: 5211; 5212; 5213; 5225		unknown		unknown	carvel
96	River Medina, Pinkmead	5	IOW	450490	92970	1526788	IOW: MIW5168; 5169; 5170; 5171		unknown		unknown	unknown
97	St Helens Duver, Bembridge Harbour	2	IOW	463570	88950	1526805	IOW: 4833; 4834		Modern		unknown	unknown
98	Bembridge Harbour	3	IOW	463640	88360	1526810	IOW: 5066; 5067; 5068		Modern		unknown	unknown
99	Buttercrock Wharf Marina	2	Kent	578730	171250	1526372	17752; 17756		Modern	1910-1980	unknown	unknown
100	Conyer Creek, Conyer	2	Kent	595910	164640	1526369	17800; 17803		Post Medieval	pre 1946	barges	wooden; steel
101	Conyer Creek, creek mouth	2	Kent	596190	165625	1525853	14729; 14728;	1025215; 1025214	Pre 1961		barges	unknown
102	Folly Point, South of Hoo Fort	2	Kent	579690	170220	1526406	17765; 18792		Modern		barge; Barge/lighter	concrete; unknown
103	Higham Creek, Kent	2	Kent	570525	176035	1525610	14886; 14887	1025417; 1025418	Pre 1961		barges	unknown
104	Hoo Flats	2	Kent	579400	171700	1526379	18033; 18034		Post Medieval		barges	wooden; unknown
105	Kemsley Marshes	2	Kent	592410	166860	1025230		1025230	unknown		possible barges	unknown
106	Kemsley Marshes Sewage Works	2	Kent	592250	167130	1025231		1025231	unknown		possible barges	unknown
107	Ladies Hole Point, the Swale	2	Kent	589375	171915	1526009	18744; 18745		Post Medieval	unknown, but pre-2000	barges	unknown
108	Lower Halstow north of Wharf	2	Kent	586030	167620	1526988		1025128; 1025129	unknown		possible barges	unknown
109	Milton Creek, Church Marshes east	2	Kent	591632	164889	1525843	18131;		Post Medieval		barges	wooden
110	Murston Industrial Estate	2	Kent	591580	164790	1025234		1025234	unknown		possible barges	unknown
111	Nagden Marshes, Swale	2	Kent	602150	164340	1025250		1025250	unknown		possible barges	unknown
112	North of Hoo Fort	2	Kent	579400	170570	1526367	12938; 14634	900697; 1025120	Pre 1986		barges	iron; unknown
113	North of pontoons, Gillingham	2	Kent	578090	169660	1526365	14828;	1025358; 1025359	Pre 1985		barges	unknown
114	Oare Marshes	2	Kent	601670	163930	1525923	14766; 14768	1025252; 1025254	Pre 1985		barges	unknown
115	Otterham Creek, southern end	2	Kent	582740	167470	1526984		1025175; 1025176	unknown		barges	unknown
116	Shepherds Creek	2	Kent	588530	172460	1525964	14782; 14783;	1025298; 1025299	Pre 1961		barges	unknown
117	Windmill Hill Caravan Park, Otterham Creek	2	Kent	582960	167450	831759		831759; 1025177; 1025178	unknown		craft; barges	unknown
118	Woodgers Wharf	2	Kent	583170	167910	1527090		1025179; 1025180	unknown		possible barges	unknown

119	Cuxton Brickfield	3	Kent	571820	166950	1527103		1025374; 1025375; 1025376	unknown		barges	unknown
120	East of Halstow Creek, Barksore Marshes	3	Kent	586846	168893	900654		900654	unknown		barges	unknown
121	Isle of Harty, Leysdown	3	Kent	603280	166050	1526361	14777;	1025292; 1025293; 1025294	Pre 1961		barges	unknown
122	Milton Creek, Church Marshes west	3	Kent	591472	164856	1525848	18130;		Post Medieval		barges	unknown
123	Oare	3	Kent	600850	162960	1525913	14769; 14771; 14772	1025255; 1025257; 1025258	Pre 1961		barges	unknown
124	Robins Creek, Gravesend	3	Kent	561800	175000	1527138	MKE 14822; 14823; 14824	1025352; 1025353; 1025354	Pre 1961		barges	unknown
125	West of Hoo Marina, Gull Down Plantation	3	Kent	577790	171200	1526335	14637; 14638; 14639;	1025123; 1025124; 1025125	Pre 1961		barges	unknown; one wooden
126	West of pontoons, Gillingham	3	Kent	577930	169600	1527096	14825;	1025355; 1025356; 1025357	Pre 1961		barges	unknown
127	Wouldham Marshes, west of CTRL	3	Kent	572190	166790	1527093		1025295; 1025296; 1025297	unknown	Alan, Pimlico, Violet	barge	unknown
128	Cliffe Creek, Kent	4	Kent	571470	176810	1525830	14893; 14892; 14894; 14895	1025423; 1025424; 1025425; 1025426	Pre 1967		barges	unknown;
129	Darnet Ness	4	Kent	580650	170605	1526356	14719; 14720; 14721; 14722	1025205; 1025206; 1025207; 1025208	Pre 1990		lighters; barge	concrete; unknown
130	East of Gillingham Marina	4	Kent	578290	169525	1526054	18816; 14830; 14831; 14832	1025360; 1025361; 1025362	Pre 1985		lighter; barges	concrete; unknown
131	Medway Bridge Marina (end of Manor Lane)	4	Kent	572860	167110	1527107		1025377; 1025378; 1025379; 1025380 (check on GIS).	unknown		barges	unknown
132	Oakham Ness Jetty	4	Kent	582490	172790	1527132		900731; 1025334; 1025335	unknown	Silica, Miranda	barges	unknown
133	Sharp's Green	4	Kent	580670	168700	1526089	17771; 14671; 14672; 14673	1025157; 1025158; 1025159	Pre 1985		sailing yacht; barges	unknown
134	Shepherds Creek, Chetney Marshes	4	Kent	588254	172408	900724		900724	unknown		craft	unknown
135	Cuxton Industrial Estate	5	Kent	571590	166830	1527099		1025370; 1025372; 1025366; 1025367; 1025369 (check this on GIS).	unknown		barges	unknown
136	Gillingham Marshes	5	Kent	578850	169265	1526099	19187; 19188; 19189; 19191; 19192	900674; 1025363; 1025363; 1025363;	Pre 1961		lighters; barge	unknown

								1025363; 1025363				
137	Loading Hope Reach	5	Kent	590020	171500	1525977	14707; 14708; 14808; 14809; 14756;	1025193; 1025194; 1025324; 1025325; 1025242	Pre 1990		barges	unknown
138	Lower Halstow	5	Kent	585930	167720	1526343	18242;	1025126;	Post Medieval		barges	unknown
139	Milton Creek (west end), Sittingbourne	5	Kent	590650	164380	1526119	14751; 14754; 14749; 14750; 14755;	1025235; 1025236; 1025237; 1025240; 1025241	Pre 1961		barges	unknown
140	Near Sewage Works, Hoo Flats	5	Kent	579260	171660	1526376	18035;		Post Medieval		barges	wooden
141	Rochester Hathaway Court	5	Kent	573820	168240	1527118		1025393; 1025394; 1025395; 1025397; 1025398	unknown		barges	unknown
142	West of Gillingham Marina	6	Kent	578040	169500	1526081	18196; 18197		Post Medieval		barges	unknown;
143	Medway Bridge Marina	7	Kent	572740	167170	1527113		1025381; 1025382; 1025383; 1025385; 1025386; 1025387; 1025388	unknown		barges	unknown
144	Milton Creek, Church Wharf	8	Kent	591940	165180	1525850	14732; 14733; 14734; 14736; 14737; 14738; 14735; 18108	1025218; 1025219; 1025220; 1025221; 1025222; 1025223; 1025224; 900610	Pre 1946		barges	unknown
145	Rochester north of Yacht Club	8	Kent	573550	168760	1527135		1025408; 1025409; 1025410; 1025411; 1025412; 1025413; 1025414	unknown		barges	unknown
146	Stangate Creek	9	Kent	587720	171490	1525940	14797; 14798; 14799; 14792; 14791; 14790; 14793; 14794; 19875;	1025306; 1025307; 1025308; 1025309; 1025310; 1025313; 1025314; 1025315	Post medieval	remains of Kingfisher barge built in 1899	barges	one wood and iron
147	east of Buttercrock Wharf Marina	10	Kent	578880	171350	1526429	17754 (2); 17755; 19713; 19722; 19728; 19729; 19732; 19734; 19735		Post Medieval		barges; lighter	unknown; wooden; iron
148	Milton Creek, Sittingbourne	10	Kent	590840	164430	1526106	18261; 18265		Post Medieval		barges	unknown
149	Breakwater, by Short Reach, Hoo	11	Kent	577940	171080	1526410	17751;		Modern		lighter	concrete

150	Queenborough	11	Kent	590730	171925	1525619	18065; 19818; 18066; 19817; 18067; 18070; ; 18068; 14497; done: 18069; 14757; 14758	971015; 1025243; 1025244	Pre 1961	possibly includes Spritsail barge, built in 1879	barges; boat	unknown; wooden; iron
151	East of Hoo Fort	12	Kent	579630	170490	1527141	12932; 14625; 14626; 14627; 14629; 14630; 14631; 14632; 14896; 14897; 18795; 19681;	900691; 1025111; 1025112; 1025113; 1025115; 1025116; 1025117; 1025118; 1025427; 1025428	Pre 1985	pre 1990, pre 1985; Post Medieval	unknown; barges; lighter	wooden; unknown; concrete
152	Bedlams Bottom, Kent	17	Kent	589120	169150	1525841	14654; 14655; 14656; 14657; 14658; 14659; 14660; 14661; 14662; 14663; 14646; 14647; 14648; 14650; 14651; 14652; 14653	1025140; 1025141; 1025142; 1025143; 1025144; 1025145; 1025146; 1025147; 1025148; 1025149; 1025132; 1025133; 1025134; 1025136; 1025137; 1025138; 1025139	Pre 1961		barges	unknown
153	Rochester Yacht Club	19	Kent	573420	168520	1527126		1025399; 1025400; 1025401; 1025402; 1025403; 1025404; 1025405; 1025406	unknown		barges	unknown
154	Shipbreakers Yard, w of Queenborough	19	Kent	589700	171645	1527321	14700; 14701; 14702; 14703; 14709; 14711; 14712; 14713; 14714; 14715; 14801; 14802; 14803; 14804; 14811; 14812; 14814; 14815; 14816;	1025186; 1025187; 1025188; 1025189; 1025195; 1025197; 1025198; 1025199; 1025200; 1025201; 1025317; 1025318; 1025319; 1025320; 1025327; 1025328; 1025330; 1025331; 1025332	Pre 1967		barges	unknown

155	Barksore Marshes	26	Kent	587900	169010	1526019	14664; 14665	900655; 1025150; 1025151; 1025152; 1025153	Pre 1961		barges	concrete
156	Bloors Wharf, Lower Rainham	10	Kent	581640	167830	1526350	14675; 14676; 14677; 14678; 14679; 14680; 14681; 14682; 14683; 14684	1025161; 1025162; 1025163; 1025164; 1025165; 1025166; 1025167; 1025168; 1025169; 1025170	Pre 1961		barges	unknown
157	south-eastern edge of the Isle of Harty	>2	Kent	603203	166086	900618		900618	unknown		craft	
158	Swale, on the western bank at Clay Reach	>2	Kent	592388	167909	900635		900635	unknown		craft	unknown
159	Conder Green	2	Lancashire	345640	456040	to add	MLA13384; 30100	909265; 909266;	unknown		unknown	unknown
160	S of Fleetwood Dock	2	Lancashire	334045	446727	to add	25231	909256; 1483590	Post Medieval		unknown	unknown
161	Smiths Wharf, Boston	4	Lincolnshire	532830	343450	1527315	MLI97540		Post Medieval		fishing boats	clinker
162	Quay, Boston	5	Lincolnshire	532670	343220	1527318	MLI97538; 97539		Modern		yacht; fishing boats	steel; clinker
163	Haven Bridge, Boston	8	Lincolnshire	532800	343730	1527312	MLI97534; 97536; 97537		Post Medieval		life boats; fishing boat	clinker; wooden
164	Garston Docks	3	Merseyside	340234	383219	to add		892680	unknown			
165	Hemsby Beach	2	Norfolk	650650	317580	1526594	48298; 22884; 46223		Post Medieval	pre 1940	unknown	unknown
166	Holme Beach	2	Norfolk	571170	345510	1526588	21961; 21962		Post Medieval		unknown	unknown
167	Breydon Bridge, River Yare	2	Norfolk	651623	308163	1526604	46602; 49128		Modern		unknown	unknown
168	Breydon North Flats	2	Norfolk	648310	307250	1526629	47458; 47459		Post Medieval		unknown	unknown
169	Pinchens Creek, Blakeney Point	2	Norfolk	600450	345960	1526579	46103; 46124		Post Medieval		unknown	unknown
170	Wells-next-the-sea	2	Norfolk	592400	343800	1526591	46059; 46060		unknown		unknown	unknown
171	Lockgate Windmill	3	Norfolk	648040	307090	1526626	47457; 47802; 47803		Post Medieval		unknown	unknown
172	West Lynn	>2	Norfolk	561330	319840	1526583	44526		Modern		unknown	unknown
173	Breydon South Flats, River Yare	>5	Norfolk	650870	307560	1526600	46240; 46241; 46587; 49125; 49298		Post Medieval		unknown	unknown
174	Ranworth Broad	>2	Norfolk	635798	315158	to add	MNF48907		Modern	Modern, post 1960	unknown	unknown
175	Walkworth Harbour	9	Northumberland	426310	605070	to add	23824; 23826; 23827; 23829; 23831; 23832; 23833; 23834; 23835	907647; 907649; 1469582	Modern		boats or lighters	wooden
176	Blyth	3	Northumberland	430456	583073	to add	24130	907643	Pre 1947		unknown	unknown
177	Old Passage, Severn	2	South Gloucestershire	356380	189420	to add	17038		Pre 1946		trows	unknown
178	River Itchen (west of railway bridge)	8	Southampton	443500	113700	1526747	S'hants: 2964; 2975		Post Medieval	1850-1945;Post Medieval to Modern	barges	wooden; unknown

179	River Itchen (Northam Bridge)	13	Southampton	443440	113114	1527324	Hants: 55524; 55526; 55527; 55528; 55529; 55530; 55531; S'hants: 1635; 1725; 1726; 1728; 1729; 1730; 1769; 1770; 1771; 1772; 1773; 1774; 1775; 1776; 2622		Post medieval	19th C; 1920-39; 1901-97; post 1945	barges, rowing boat	wooden; iron; steel
180	Levington Creek	2	Suffolk	623740	238820	1526528	20853		unknown		unknown	unknown
181	Orford Ness west	2	Suffolk	643340	249330	1526487	20822		Modern		unknown	clinker, wood
182	Sleighton Hill	2	Suffolk	625450	236870	1526532	20846		Modern		unknown	wood and others
183	South of Waldringfield	2	Suffolk	628710	244190	1526509	20693; 20694		unknown		boat	unknown
184	Bourne Bridge, River Orwell	3	Suffolk	616420	241850	1526526	20279		unknown		unknown	unknown
185	Orford Ness	3	Suffolk	643500	249400	1526493	20818; 20819		unknown		unknown	wooden and clinker
186	Woodbridge, Ferry Cliff	3	Suffolk	627990	248690	1526445	17226; 20621; 20622		Post Medieval	The Dover Castle 1872; others Post Medieval	barge; boat	wooden
187	Crane's Creek	4	Suffolk	624750	236120	1526443	20886; 19586 (check location of this on gis and add later?)		Post Medieval	pre 1945	unknown	metal
188	Melton, south of River Deben	4	Suffolk	628500	250020	1526469	19630; 20649		Post Medieval		boat; others unknown	wooden
189	Waldringfield	4	Suffolk	628530	244880	1526519	20706; 20710; 20711		unknown		unknown; boat; cruiser	wooden; carvel; metal
190	Melton, north of River Deben	7	Suffolk	628660	250190	1526476	20650; 20651		Post Medieval		unknown	unknown
191	Slaughden Yacht Club	7	Suffolk	646290	255610	1526498	20401; 20402; 20404; 20405		Modern		fishing boats	clinker built; concrete
192	East of Pinmill, Chelmondiston	11	Suffolk	621010	238050	1526438	20912; 20913; 20914		Modern		fishing boats	wood and iron
193	Felixstowe Ferry	12	Suffolk	632740	237830	1526524	20670		Post Medieval		house boat	unknown
194	Pinmill, Chelmondiston	16	Suffolk	620670	237990	1526441	20915; 20916; 20917; 20918		Modern		barges; boats; steamer; motor launch	Iron; wooden
195	Woodbridge, Sun Wharf/Sewage Works	16	Suffolk	628120	249390	1526564	17227; 20626; 20627; 20629; 20632; 20633; 20639; 20641; 20643; 20645; 19631; 19674		Post Medieval		barges; boat	wooden; metal
196	Orford Harbour	>10	Suffolk	642440	249480	1526481	20807		Post Medieval		unknown	unknown
197	Ryton side, Newburn bridge, S side of Tyne	5	Tyne and Wear	416360	565170	to add	11986		Modern		wherries	clinker built
198	Northumberland Dock near to Royal Quays	>3	Tyne and Wear	433930	566340	to add	12693		Modern		boat	unknown
199	Lemington Gut	>3	Tyne and Wear	419020	564290	to add	4959		unknown		boat	unknown

18 Appendix 6: Assemblages located on protected land

Map number	Location/name	Local Authority Unit	Site of Special Scientific Interest	Special Protection Area	Ramsar site	Special Area of Conservation	Area of Outstanding Natural Beauty	Environmentally Sensitive Area	Local Nature Reserve	Heritage Coast	National Nature Reserve	National Park	World Heritage Site	NMR Protected Wreck	No designation
1	Canal boats in North Basin, Chester	Cheshire													No designation
2	Mersey Flats at Widnes West Bank Dock	Cheshire													No designation
3	Mersey Flats at Old Basin and Bridgewater Canal locks, Runcorn	Cheshire													No designation
4	Mersey Flats at Big Pool, Runcorn	Cheshire													No designation
5	Mersey Flats at Spike Island	Cheshire													No designation
6	Hulk assemblage of Mersey Flats at the Old Port basin, Chester	Cheshire													No designation
7	Boat graveyard at Sutton Locks, Weaver Navigation	Cheshire													No designation
8	N shore of St Gluvias Creek, Penryn	Cornwall													No designation
9	Penpol Creek	Cornwall					AONB								
10	Percuil River	Cornwall	SSSI			SAC	AONB			HC					
11	Cant Cove, St Minver	Cornwall					AONB								
12	Pont Pill 1 (NE of Pengegon)	Cornwall					AONB			HC					
13	South east of Cargreen, River Tamar	Cornwall	SSSI	SPA		SAC	AONB								
14	Pont Pill 2	Cornwall					AONB			HC					
15	south-east of Ponsharden	Cornwall													No designation
16	Gweek Quay	Cornwall					AONB								
17	Westward Ho!	Devon	SSSI				AONB								
18	River Torridge, between Northam and Westleigh	Devon	SSSI												
19	River Torridge, n-w of Westleigh	Devon	SSSI												
20	Appledore	Devon	SSSI												
21	Wareham Point	Devon	SSSI				AONB		LNR						
22	East side of Exe Estuary	Devon	SSSI	SPA	Ramsar										
23	River Torridge, north of Snuffy	Devon	SSSI												

	Corner															
24	River Torridge, Appledore Shipbuilding Yard	Devon	SSSI													
25	Tosnos Point, Kingsbridge Estuary	Devon	SSSI				AONB		LNR							
26	Exe Estuary	Devon	SSSI	SPA	Ramsar											
27	Holes Bay, Poole, east of Woodlands Avenue	Dorset	SSSI	SPA	Ramsar											
28	Lytchett Bay, Poole (east)	Dorset	SSSI	SPA	Ramsar											
29	Lytchett Bay, Poole (west)	Dorset	SSSI	SPA	Ramsar											
30	Holes Bay, Poole	Dorset	SSSI	SPA	Ramsar											
31	North east of Bradwell disused airfield	Essex	SSSI	SPA	Ramsar	SAC					NNR					
32	Clementsgreen Creek	Essex	SSSI	SPA	Ramsar	SAC		ESA								
33	east of overland point, Wallasea Island	Essex	SSSI	SPA	Ramsar	SAC										
34	Leigh Creek, Southend-on-Sea	Essex	SSSI	SPA	Ramsar						NNR					
35	Maylandsea	Essex	SSSI	SPA	Ramsar	SAC		ESA								
36	Mersea Stone	Essex	SSSI	SPA	Ramsar	SAC					NNR					
37	Northey Island	Essex	SSSI	SPA	Ramsar	SAC										
38	Upper Collins	Essex	SSSI	SPA	Ramsar	SAC					NNR					
39	Wrecks NW of Stow Creek	Essex	SSSI	SPA	Ramsar	SAC		ESA								
40	East of Garndeness point, Wallasea island	Essex	SSSI	SPA	Ramsar	SAC										
41	Heybridge Basin	Essex	SSSI	SPA	Ramsar	SAC		ESA								
42	East of Maldon Leisure Centre	Essex	SSSI	SPA	Ramsar	SAC										
43	Rat Island	Essex	SSSI	SPA	Ramsar	SAC										
44	Pewitt Island	Essex	SSSI	SPA	Ramsar	SAC										
45	West of Overland point, Wallasea Island	Essex	SSSI	SPA	Ramsar	SAC										
46	Marshfield Timber Ponds, Hinton	Gloucestershire	SSSI	SPA	Ramsar	SAC										
47	Marshfield Timber Ponds, Hinton	Gloucestershire	SSSI	SPA	Ramsar	SAC										
48	S end of Marshfield Timber Pond	Gloucestershire	SSSI	SPA	Ramsar	SAC										
49	SE of Lydney Harbour	Gloucestershire	SSSI	SPA	Ramsar	SAC										
50	N end of Marshfield timber ponds, Hinton	Gloucestershire	SSSI	SPA	Ramsar	SAC										
51	Sharpness Canal	Gloucestershire	SSSI	SPA	Ramsar	SAC										
52	Purton	Gloucestershire	SSSI	SPA	Ramsar	SAC										

53	South of Lydney Harbour	Gloucestershire	SSSI	SPA	Ramsar	SAC										
54	Brentford, slipway at end of River Brent	Greater London														No designation
55	Greenwich, Bay Wharf	Greater London														No designation
56	Greenwich, Blackwall Point	Greater London														No designation
57	Greenwich, Ordnance Wharf	Greater London														No designation
58	Kings Reach, Lambeth	Greater London														No designation
59	N bank of Thames, east of Blackfriars Bridge	Greater London														No designation
60	Southwark, Barnard's Wharf	Greater London														No designation
61	Tower Stairs	Greater London														No designation
62	Brentford, Brentford Ait east	Greater London												WHS		No designation
63	Cheyne Walk	Greater London														No designation
64	Oliver's Island, Strand on The Green, Hounslow	Greater London														No designation
65	Southwark, Hanover Stairs	Greater London														No designation
66	Wharfs, Putney	Greater London														No designation
67	Havering, Erith Reach	Greater London														No designation
68	Bexley, West Street, Erith	Greater London														No designation
69	Bexley, The Saltings	Greater London														No designation
70	Greenwich, Piper's Wharf	Greater London														No designation
71	Southwark, Reeds Wharf	Greater London														No designation
72	Wandsworth Park	Greater London														No designation
73	Broken Campshed, Bexley	Greater London														No designation
74	Greenwich, Durham Wharf	Greater London														No designation
75	Brentford, Lots Ait and western part of Brentford Ait	Greater London												WHS		No designation
76	Booth's Hall Road, Boothstown	Greater Manchester														No designation
77	Langstone Harbour	Hampshire	SSSI	SPA	Ramsar	SAC										
78	Forton Lake, E end	Hampshire	SSSI	SPA	Ramsar											
79	North of West Itchenor	Hampshire	SSSI	SPA	Ramsar	SAC	AONB									
80	Forton Lake, W end	Hampshire	SSSI	SPA	Ramsar											
81	River Hamble, Bunny Meadows	Hampshire	SSSI	SPA	Ramsar	SAC										

82	River Hamble, Hamble Common	Hampshire	SSSI	SPA	Ramsar	SAC										
83	River Hamble, Satchell Marsh	Hampshire	SSSI	SPA	Ramsar	SAC			LNR							
84	River Hamble, Bunny Meadows South	Hampshire	SSSI	SPA	Ramsar	SAC			LNR							
85	Lymington Harbour	Hampshire	SSSI	SPA	Ramsar	SAC			LNR			NP				
86	River Hamble, Warsash Harbour	Hampshire	SSSI	SPA	Ramsar	SAC			LNR							
87	Ashlett Creek, Fawley	Hampshire	SSSI	SPA	Ramsar	SAC						NP				
88	River Hamble, Badnam Creek	Hampshire	SSSI	SPA	Ramsar	SAC										
89	River Hamble, NE of M27, west of Oaken Copse	Hampshire	SSSI	SPA	Ramsar	SAC								NMR Protected Wreck		
90	River Hamble, NE of Bursledon Bridge	Hampshire				SAC										
91	River Medina, near E Cowes Cemetery	IOW				SAC										
92	River Medina, Wight Marina	IOW	SSSI	SPA	Ramsar	SAC										
93	Medina Cement Works	IOW	SSSI	SPA	Ramsar	SAC										
94	River Medina, South of Werrar	IOW	SSSI	SPA	Ramsar	SAC										
95	River Medina, Somerton	IOW				SAC										
96	River Medina, Pinkmead	IOW	SSSI	SPA	Ramsar	SAC										
97	St Helens Duver, Bembridge Harbour	IOW	SSSI	SPA	Ramsar											
98	Bembridge Harbour	IOW	SSSI	SPA	Ramsar	SAC										
99	Buttercrock Wharf Marina	Kent	SSSI	SPA	Ramsar											
100	Conyer Creek, Conyer	Kent	SSSI	SPA	Ramsar			ESA								
101	Conyer Creek, creek mouth	Kent	SSSI	SPA	Ramsar			ESA								
102	Folly Point, South of Hoo Fort	Kent	SSSI	SPA	Ramsar											
103	Higham Creek, Kent	Kent	SSSI	SPA	Ramsar											
104	Hoo Flats	Kent	SSSI	SPA	Ramsar											
105	Kemsley Marshes	Kent	SSSI	SPA	Ramsar											
106	Kemsley Marshes Sewage Works	Kent														No designation
107	Ladies Hole Point, the Swale	Kent	SSSI	SPA	Ramsar											
108	Lower Halstow north of Wharf	Kent	SSSI	SPA	Ramsar											
109	Milton Creek, Church Marshes east	Kent														No designation

110	Murston Industrial Estate	Kent														No designation
111	Nagden Marshes, Swale	Kent	SSSI	SPA	Ramsar			ESA	LNR							
112	North of Hoo Fort	Kent	SSSI	SPA	Ramsar											
113	North of pontoons, Gillingham	Kent														No designation
114	Oare Marshes	Kent	SSSI	SPA	Ramsar			ESA	LNR							
115	Otterham Creek, southern end	Kent	SSSI	SPA	Ramsar											
116	Shepherds Creek	Kent	SSSI	SPA	Ramsar											
117	Windmill Hill Caravan Park, Otterham Creek	Kent	SSSI	SPA	Ramsar											
118	Woodgers Wharf	Kent	SSSI	SPA	Ramsar											
119	Cuxton Brickfield	Kent														No designation
120	East of Halstow Creek, Barksore Marshes	Kent	SSSI	SPA	Ramsar											
121	Isle of Harty, Leysdown	Kent	SSSI	SPA	Ramsar											
122	Milton Creek, Church Marshes west	Kent														No designation
123	Oare	Kent	SSSI	SPA	Ramsar			ESA								
124	Robins Creek, Gravesend	Kent														No designation
125	West of Hoo Marina, Gull Down Plantation	Kent	SSSI	SPA	Ramsar											
126	West of pontoons, Gillingham	Kent														No designation
127	Wouldham Marshes, west of CTRL	Kent					AONB									
128	Cliffe Creek, Kent	Kent	SSSI	SPA	Ramsar			ESA								
129	Darnet Ness	Kent	SSSI	SPA	Ramsar											
130	East of Gillingham Marina	Kent	SSSI													
131	Medway Bridge Marina (end of Manor Lane)	Kent							LNR							
132	Oakham Ness Jetty	Kent	SSSI	SPA	Ramsar											
133	Sharp's Green	Kent	SSSI	SPA	Ramsar											
134	Shepherds Creek, Chetney Marshes	Kent	SSSI	SPA	Ramsar											
135	Cuxton Industrial Estate	Kent														No designation
136	Gillingham Marshes	Kent	SSSI	SPA	Ramsar											
137	Loading Hope Reach	Kent	SSSI	SPA	Ramsar											
138	Lower Halstow	Kent	SSSI	SPA	Ramsar											
139	Milton Creek (west end), Sittingbourne	Kent														No designation
140	Near Sewage Works, Hoo Flats	Kent	SSSI	SPA	Ramsar											

141	Rochester Hathaway Court	Kent													No designation
142	West of Gillingham Marina	Kent													No designation
143	Medway Bridge Marina	Kent													No designation
144	Milton Creek, Church Wharf	Kent													No designation
145	Rochester north of Yacht Club	Kent													No designation
146	Stangate Creek	Kent	SSSI	SPA	Ramsar			ESA							
147	east of Buttercrock Wharf Marina	Kent	SSSI	SPA	Ramsar										
148	Milton Creek, Sittingbourne	Kent													No designation
149	Breakwater, by Short Reach, Hoo	Kent	SSSI	SPA	Ramsar										
150	Queenborough	Kent	SSSI	SPA	Ramsar										
151	East of Hoo Fort	Kent	SSSI	SPA	Ramsar										
152	Bedlams Bottom, Kent	Kent	SSSI	SPA	Ramsar			ESA							
153	Rochester Yacht Club	Kent													No designation
154	Shipbreakers Yard, w of Queenborough	Kent													No designation
155	Barksore Marshes	Kent	SSSI	SPA	Ramsar										
156	Bloors Wharf, Lower Rainham	Kent	SSSI	SPA	Ramsar										
157	south-eastern edge of the Isle of Harty	Kent	SSSI	SPA	Ramsar						NNR				
158	Swale, on the western bank at Clay Reach	Kent	SSSI	SPA	Ramsar										
159	Conder Green	Lancashire	SSSI	SPA	Ramsar	SAC									
160	S of Fleetwood Dock	Lancashire	SSSI	SPA	Ramsar										
161	Smiths Wharf, Boston	Lincolnshire													No designation
162	Quay, Boston	Lincolnshire													No designation
163	Haven Bridge, Boston	Lincolnshire													No designation
164	Garston Docks	Merseyside	SSSI	SPA	Ramsar										
165	Hemsby Beach	Norfolk													No designation
166	Holme Beach	Norfolk	SSSI	SPA	Ramsar	SAC	AONB			HC					
167	Breydon Bridge, River Yare	Norfolk	SSSI	SPA	Ramsar			ESA	LNR			NP			
168	Breydon North Flats	Norfolk	SSSI	SPA	Ramsar			ESA	LNR			NP			
169	Pinchens Creek, Blakeney Point	Norfolk	SSSI	SPA	Ramsar	SAC	AONB			HC	NNR				
170	Wells-next-the-sea	Norfolk	SSSI	SPA	Ramsar	SAC	AONB			HC	NNR				
171	Lockgate Windmill	Norfolk	SSSI	SPA	Ramsar			ESA	LNR			NP			
172	West Lynn	Norfolk													No designation
173	Breydon South Flats, River Yare	Norfolk	SSSI	SPA	Ramsar			ESA	LNR			NP			

174	Ranworth Broad	Norfolk	SSSI					ESA			NNR	NP			
175	Walkworth Harbour	Northumberland	SSSI			SAC	AONB			HC					
176	Blyth	Northumberland	SSSI												
177	Old Passage, Severn	South Gloucestershire	SSSI	SPA	Ramsar	SAC									
178	River Itchen (west of railway bridge)	Southampton													No designation
179	River Itchen (Northam Bridge)	Southampton	SSSI	SPA	Ramsar										
180	Levington Creek	Suffolk	SSSI	SPA	Ramsar		AONB	ESA							
181	Orford Ness west	Suffolk	SSSI	SPA	Ramsar	SAC	AONB	ESA		HC	NNR				
182	Sleighton Hill	Suffolk	SSSI	SPA	Ramsar		AONB	ESA							
183	South of Waldringfield	Suffolk	SSSI	SPA	Ramsar		AONB	ESA							
184	Bourne Bridge, River Orwell	Suffolk	SSSI	SPA	Ramsar		AONB								
185	Orford Ness	Suffolk	SSSI	SPA	Ramsar	SAC	AONB	ESA		HC	NNR				
186	Woodbridge, Ferry Cliff	Suffolk	SSSI	SPA	Ramsar		AONB	ESA							
187	Crane's Creek	Suffolk	SSSI	SPA	Ramsar		AONB								
188	Melton, south of River Deben	Suffolk	SSSI	SPA	Ramsar		AONB								
189	Waldringfield	Suffolk	SSSI	SPA	Ramsar		AONB	ESA							
190	Melton, north of River Deben	Suffolk	SSSI	SPA	Ramsar		AONB	ESA							
191	Slaughden Yacht Club	Suffolk	SSSI	SPA	Ramsar	SAC	AONB	ESA		HC					
192	East of Pinmill, Chelmondiston	Suffolk	SSSI	SPA	Ramsar		AONB	ESA							
193	Felixstowe Ferry	Suffolk	SSSI	SPA	Ramsar		AONB			HC					
194	Pinmill, Chelmondiston	Suffolk	SSSI	SPA	Ramsar		AONB	ESA							
195	Woodbridge, Sun Wharf/Sewage Works	Suffolk	SSSI	SPA	Ramsar		AONB	ESA							
196	Orford Harbour	Suffolk	SSSI	SPA	Ramsar	SAC	AONB	ESA		HC					
197	Ryton side, Newburn bridge, S side of Tyne	Tyne and Wear													No designation
198	Northumberland Dock near to Royal Quays	Tyne and Wear													No designation
199	Lemington Gut	Tyne and Wear													No designation

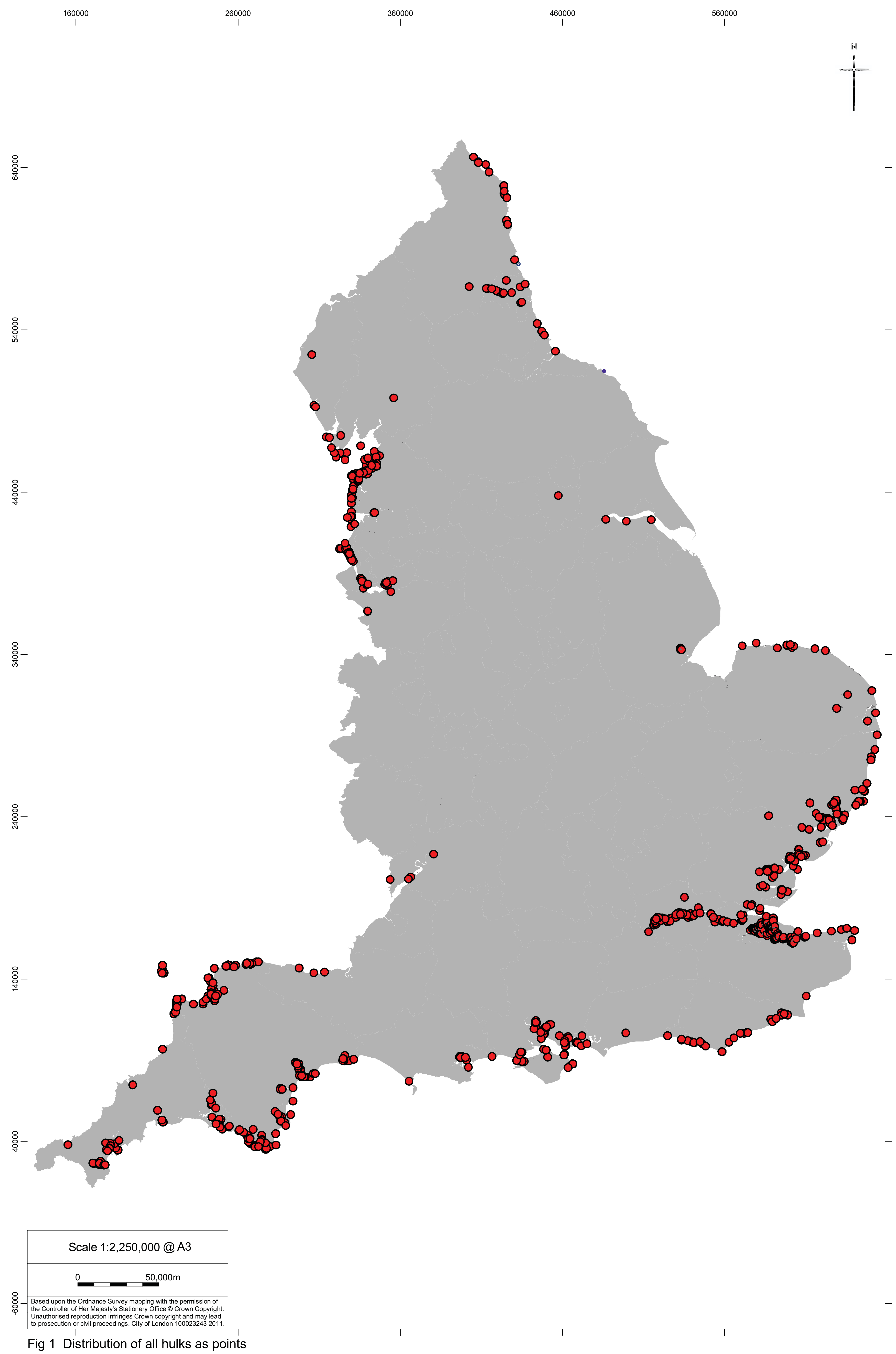

Fig 1 Distribution of all hulks as points

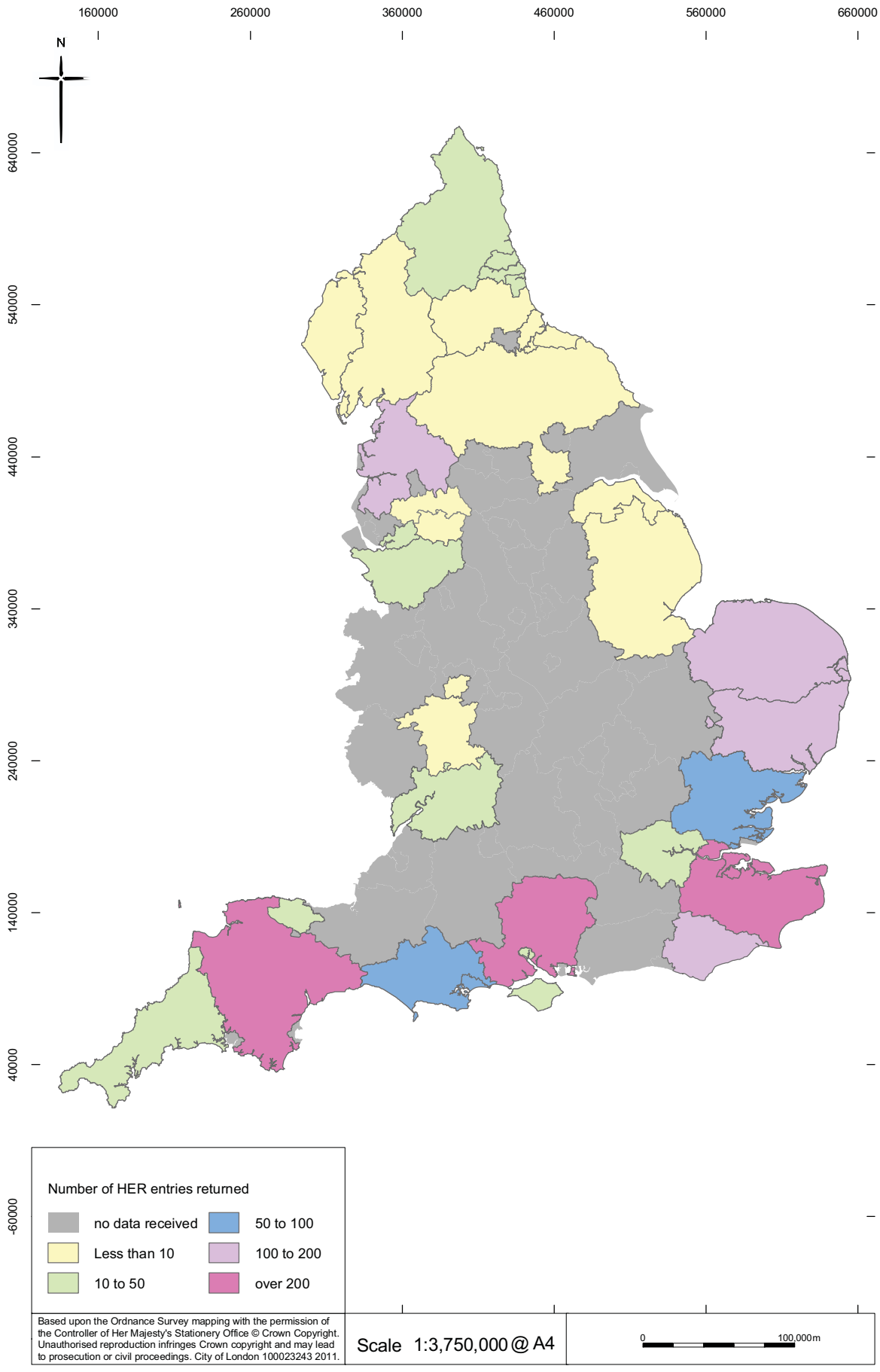

Fig 2 Volume of data received

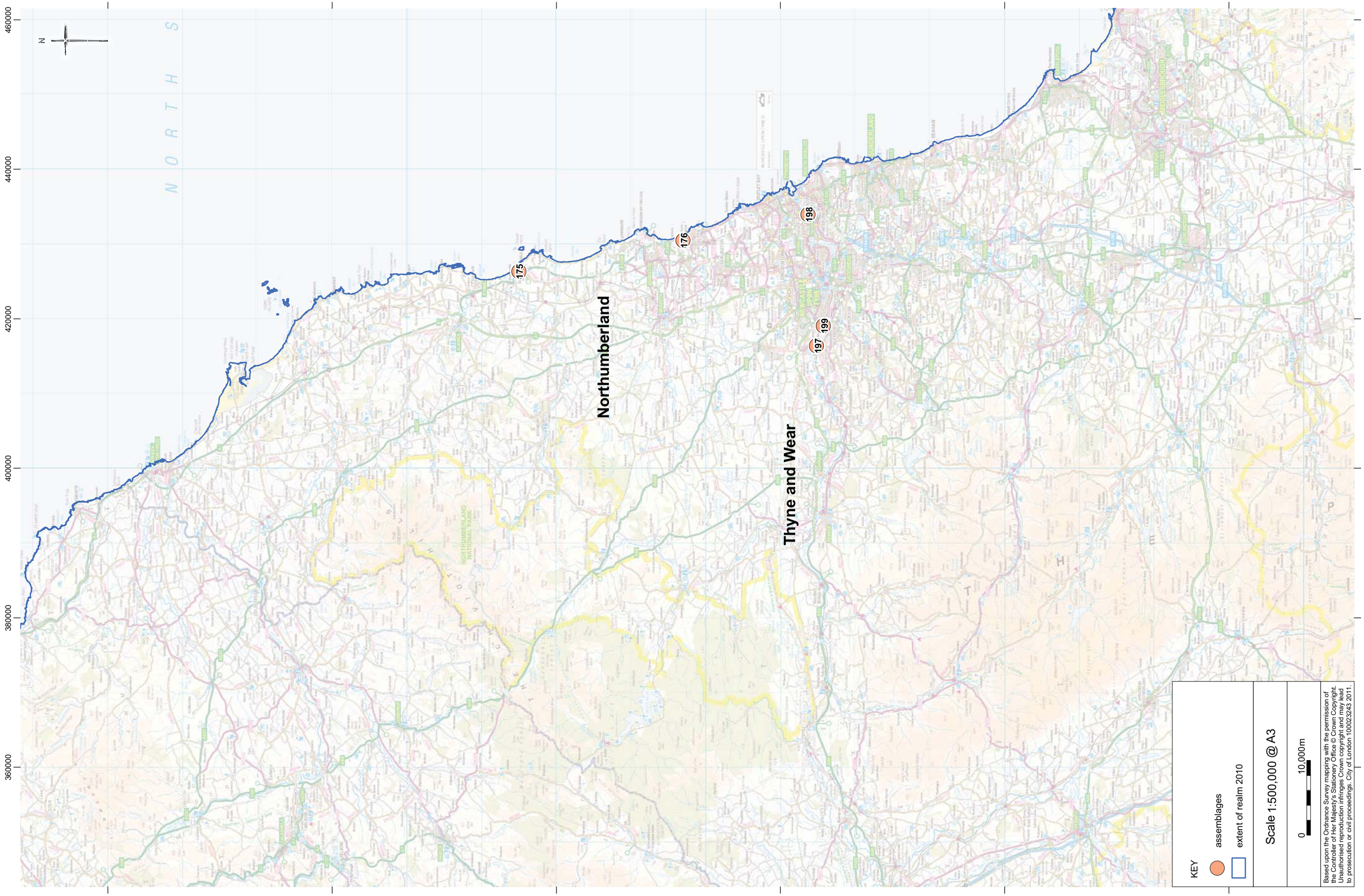

Fig 3a Assemblage distribution: Northumberland and Tyne and Wear

Fig 3b Assemblage distribution: Lincolnshire and Norfolk

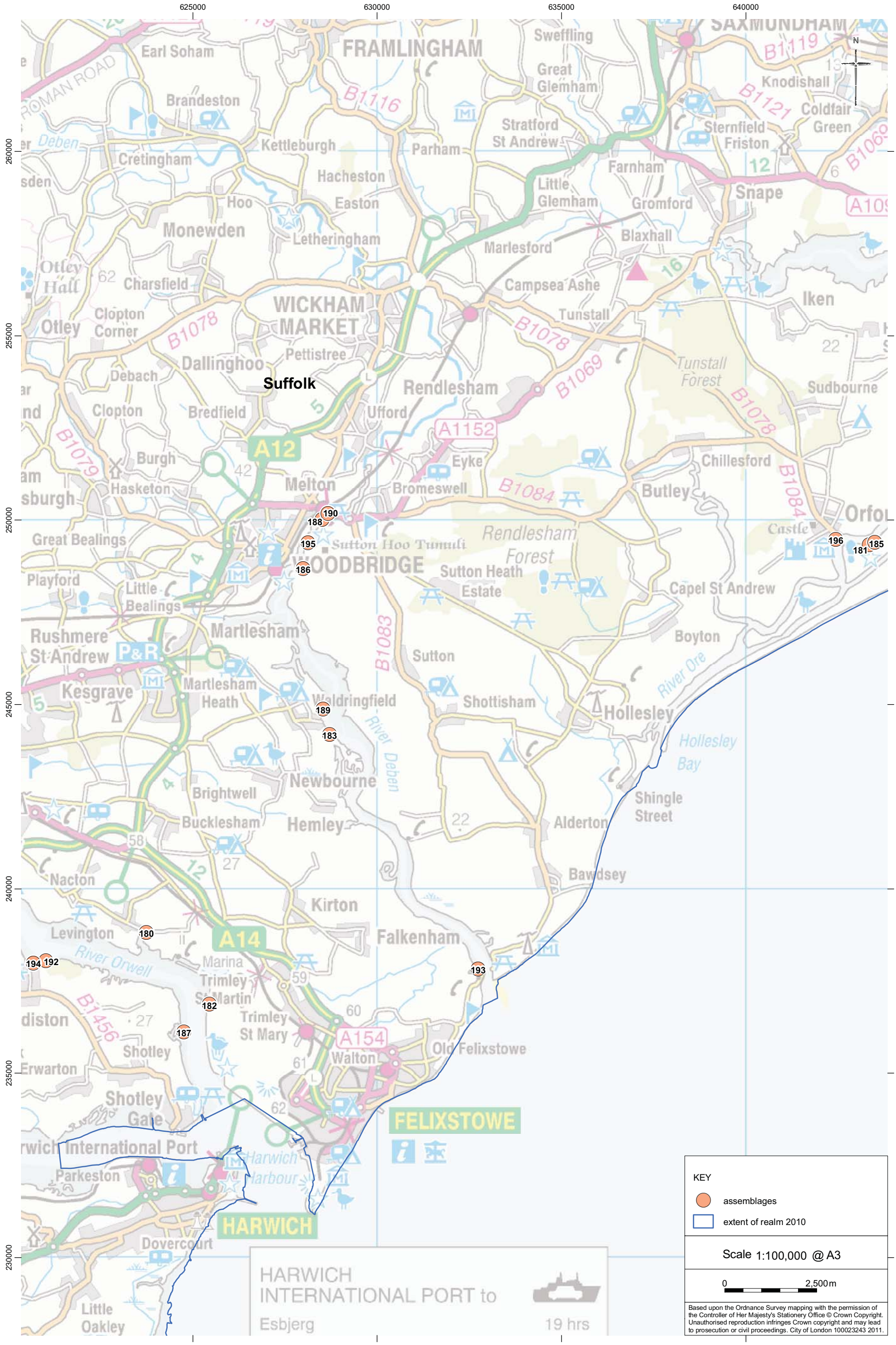

Fig 3c Assemblage distribution: Suffolk

Fig 3d Assemblage distribution: Essex

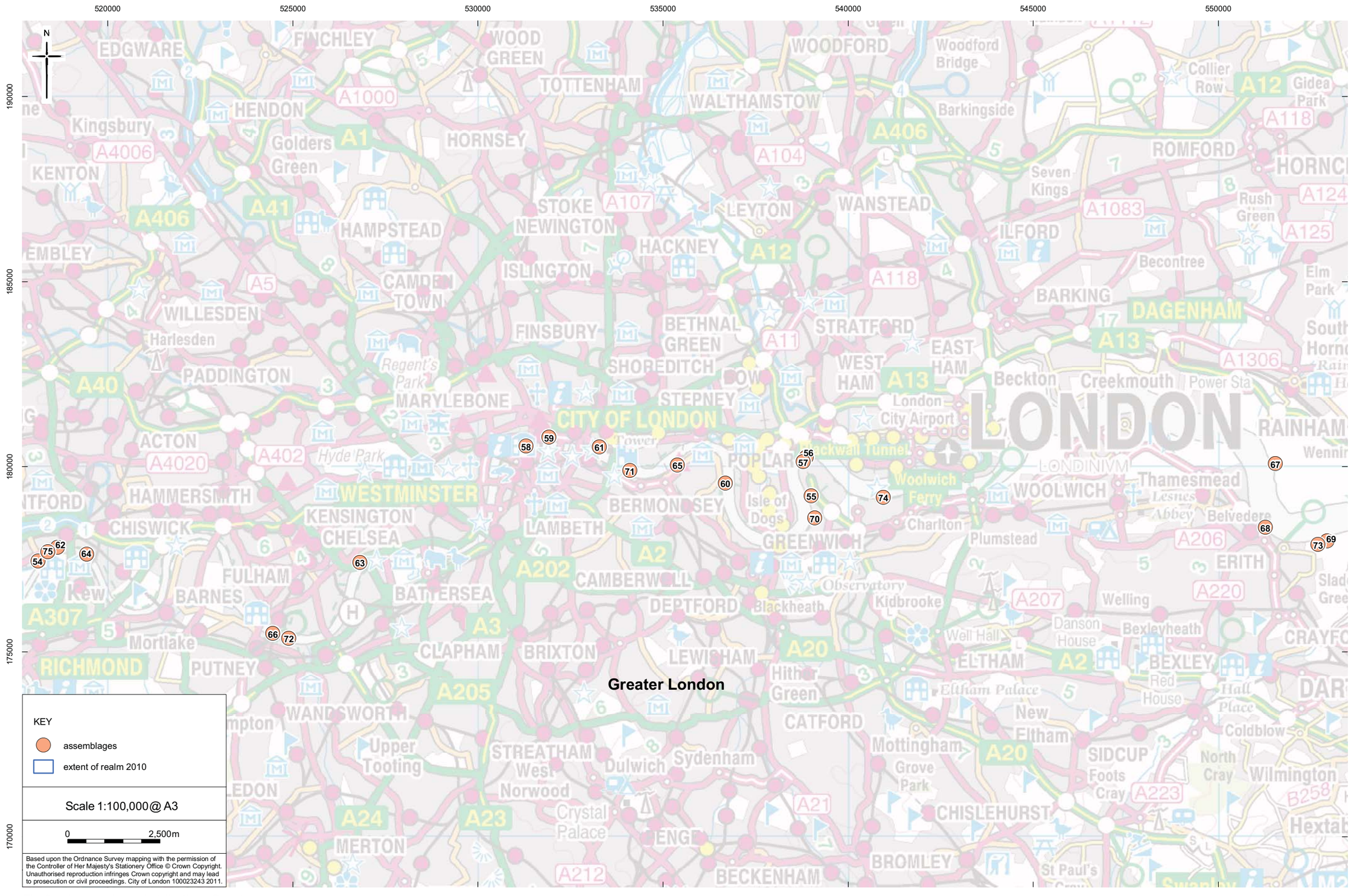

Fig 3e Assemblage distribution: Greater London

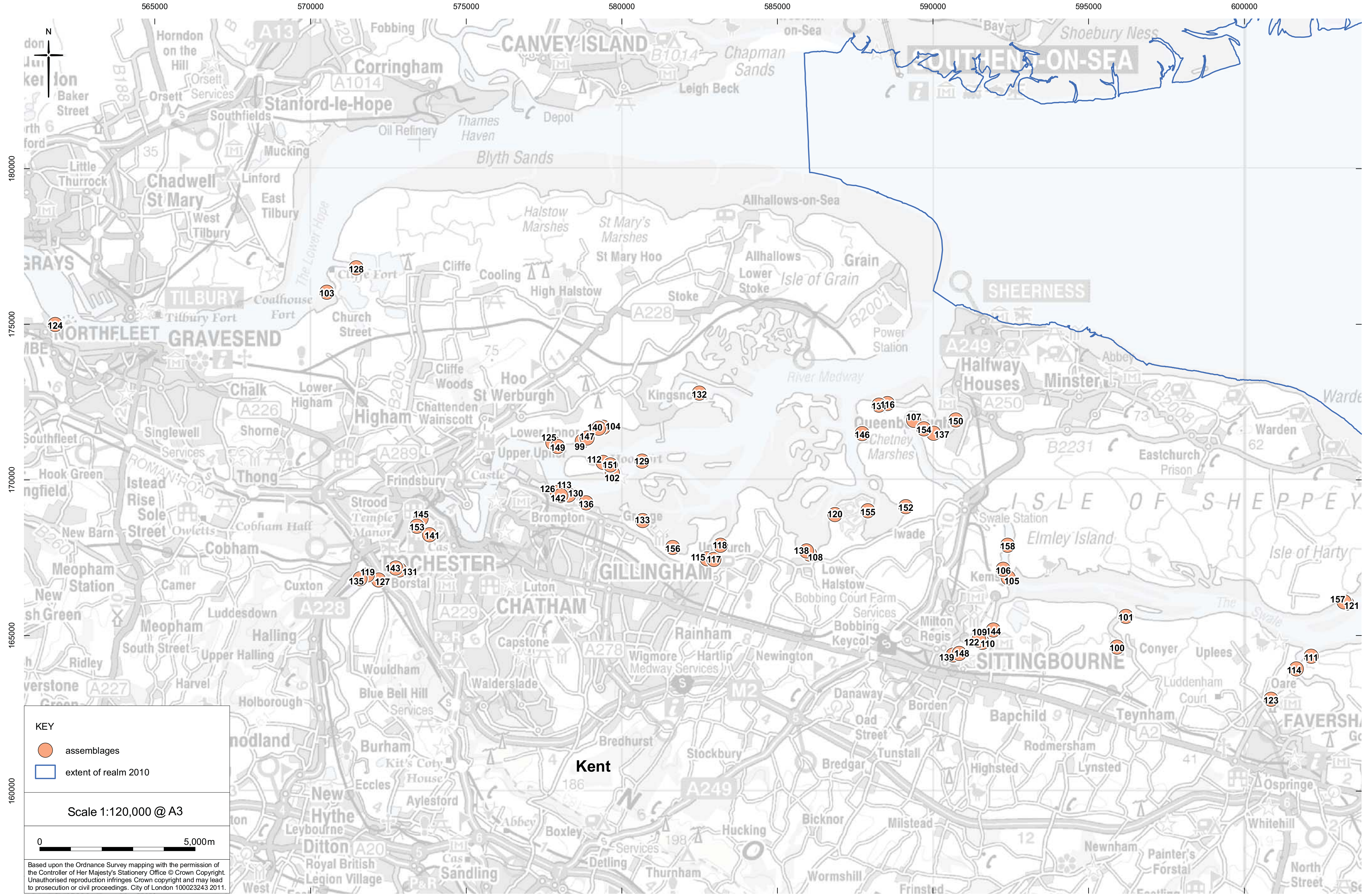

Fig 3f Assemblage distribution: Kent

MULTI1165HEA11#03f

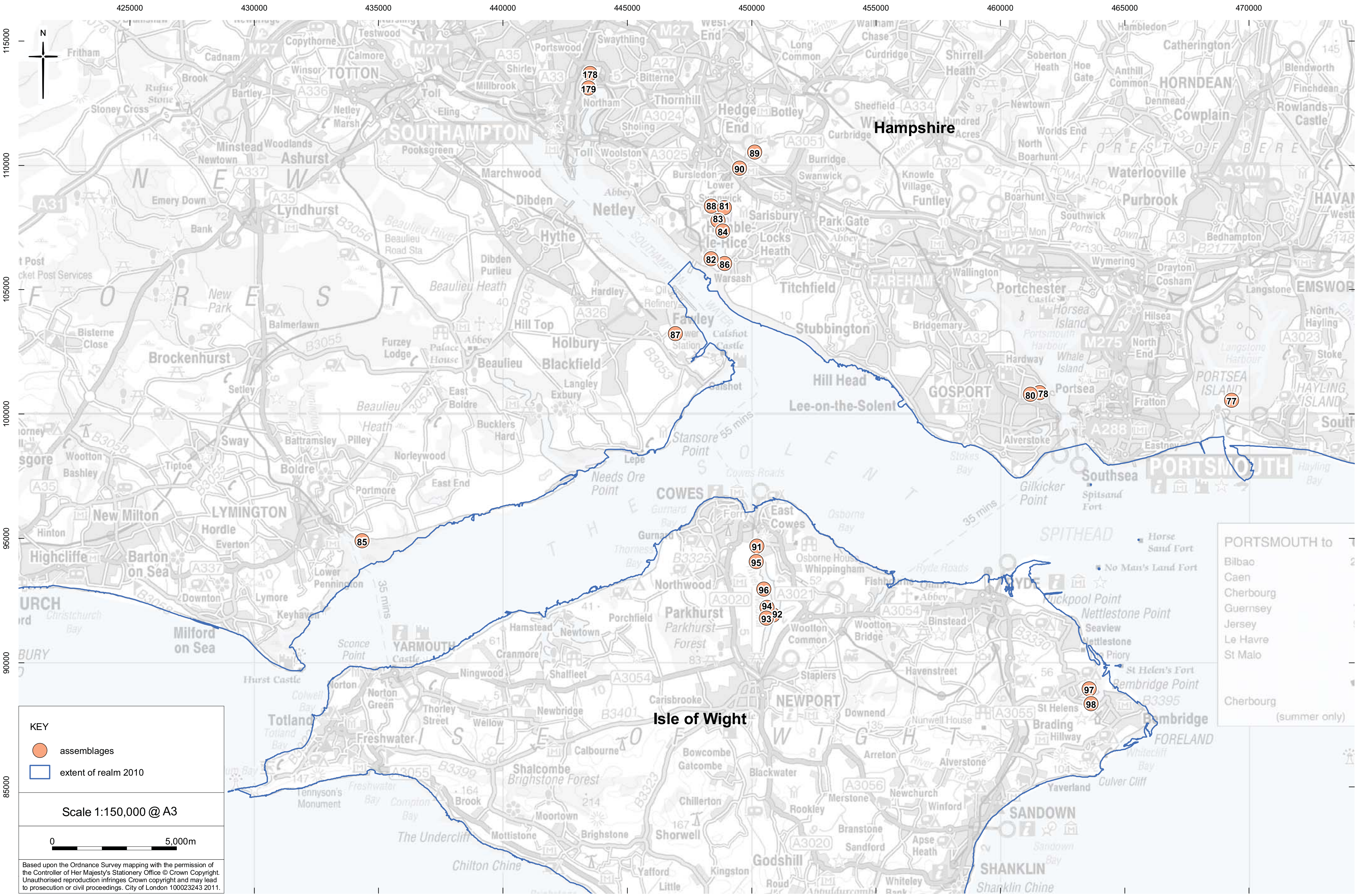

Fig 3g Assemblage distribution: Hampshire and Isle of Wight

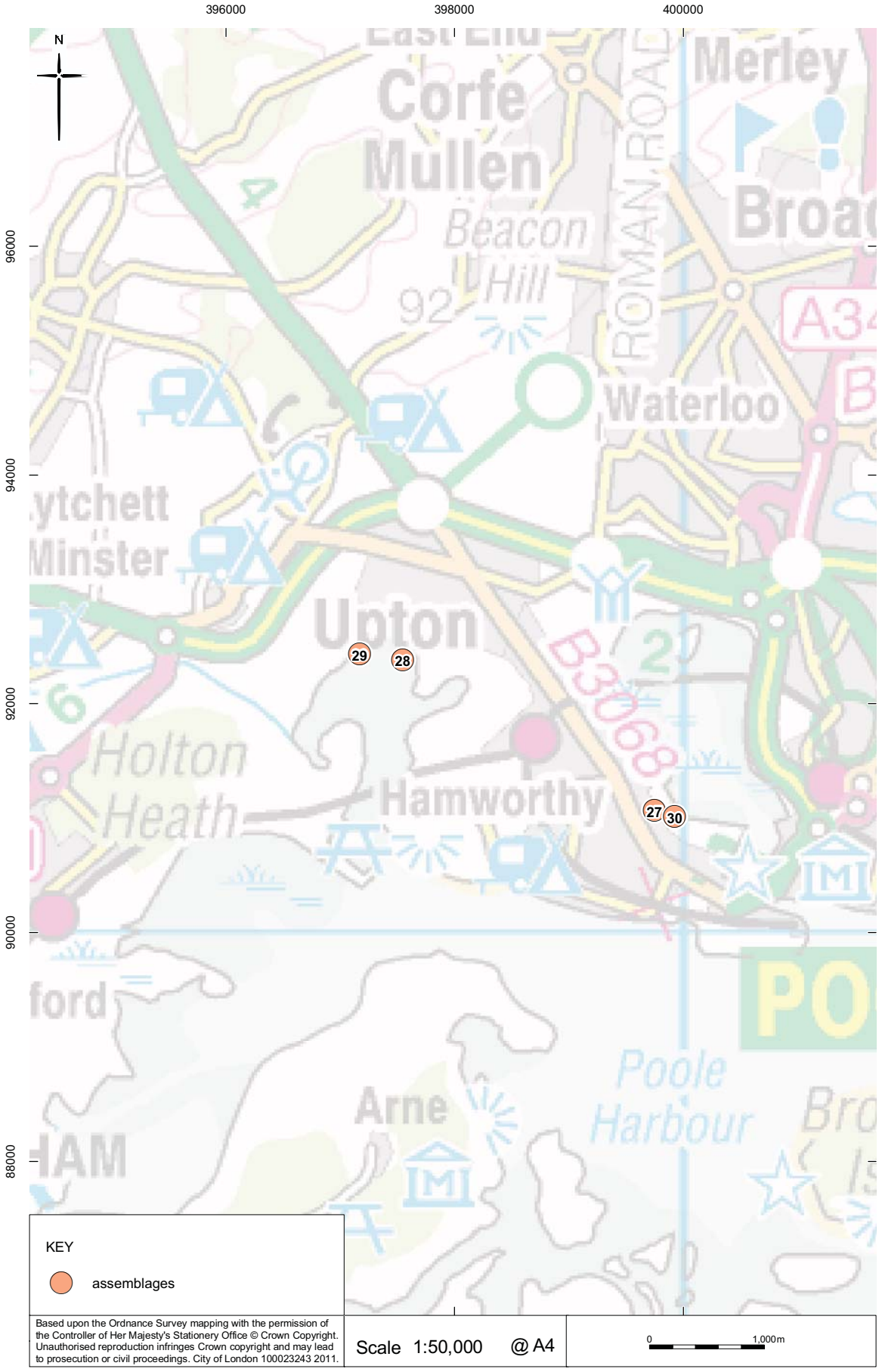

Fig 3h Assemblage distribution: Dorset

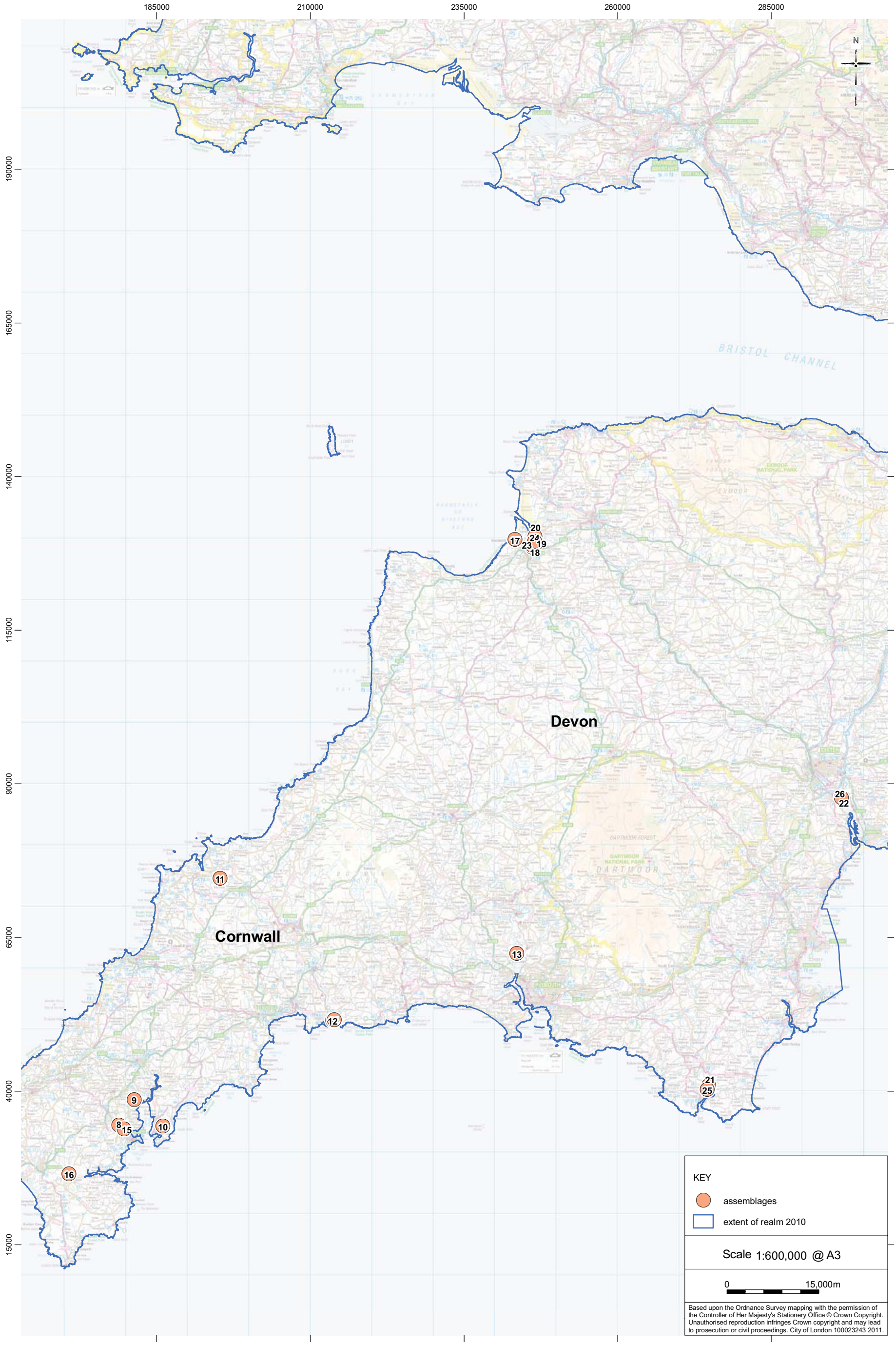

Fig 3i Assemblage distribution: Devon and Cornwall

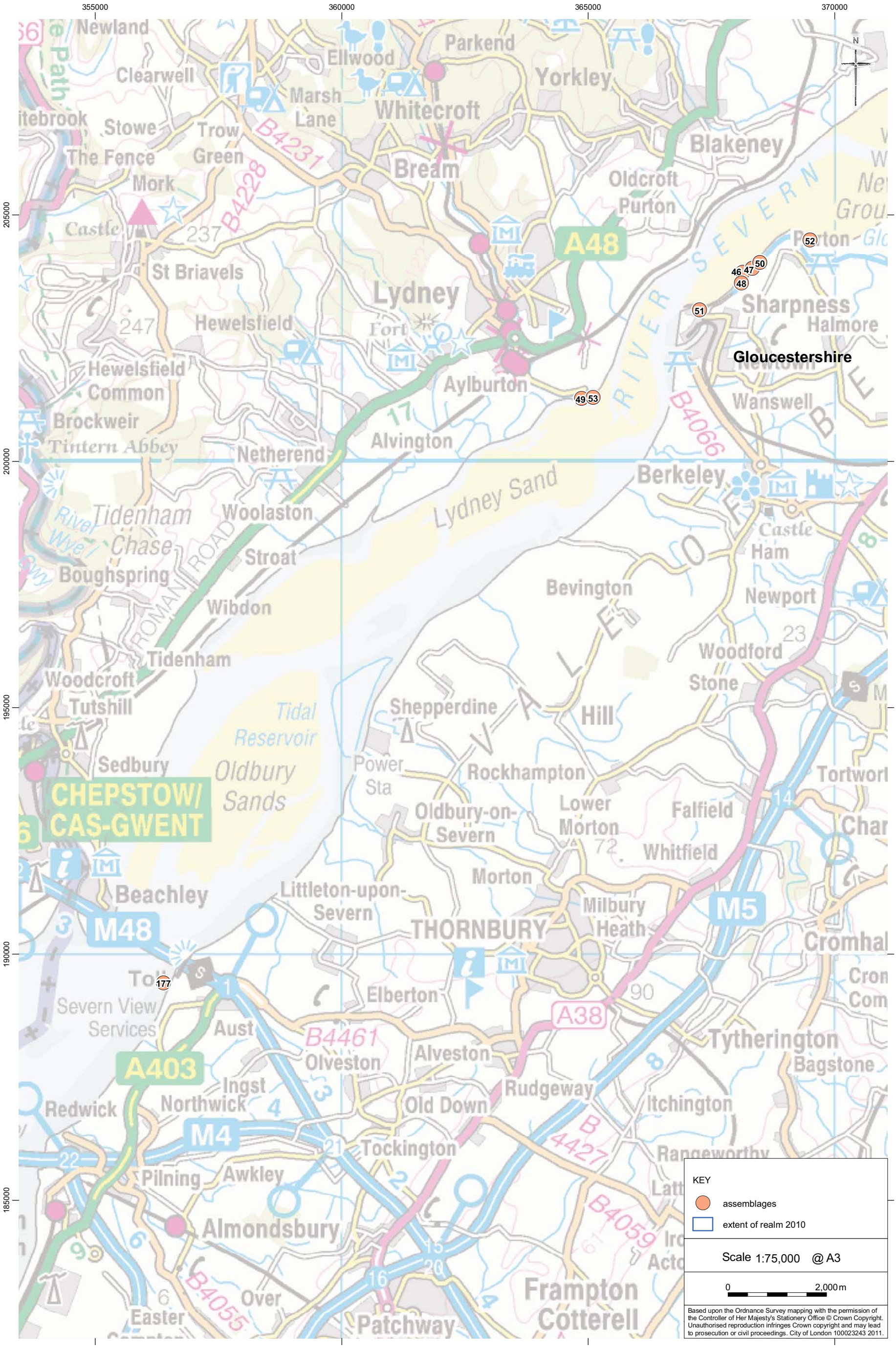

Fig 3j Assemblage distribution: Gloucestershire

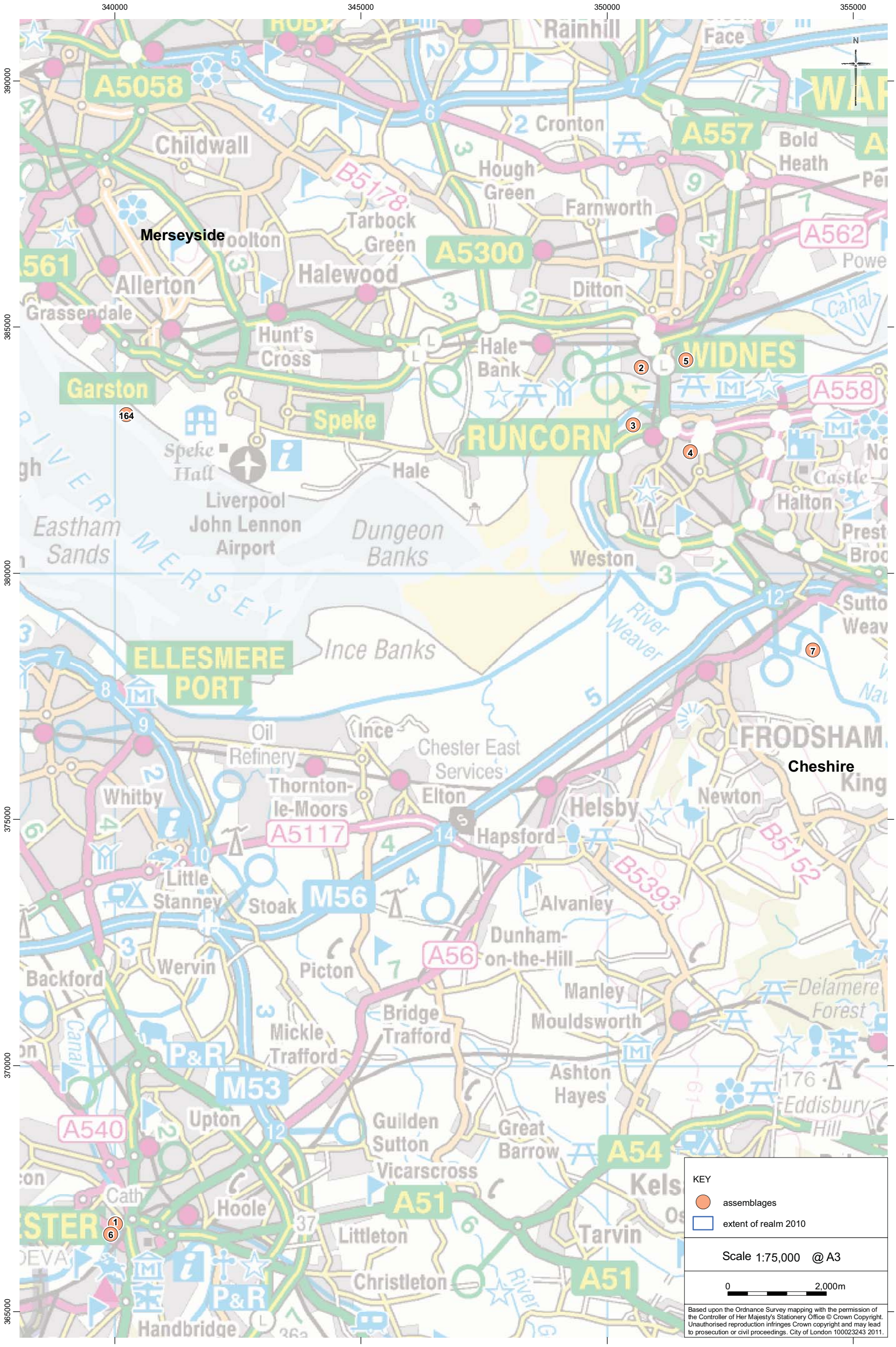

Fig 3k Assemblage distribution: Merseyside and Cheshire

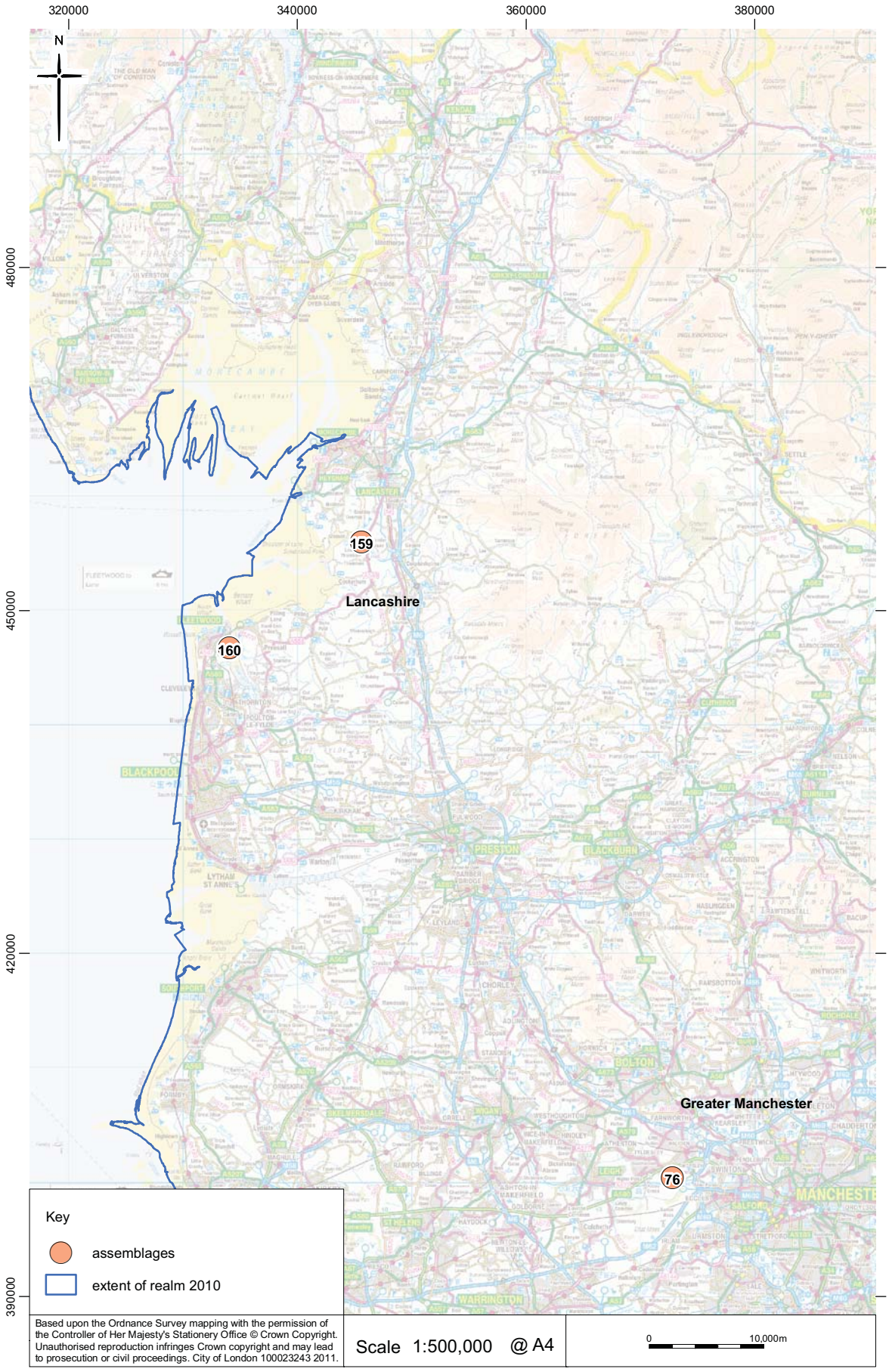

Fig 3l Assemblage distribution: Lancashire and Greater Manchester

160000
260000
360000
460000
560000
660000

630000
530000
430000
330000
230000
130000
30000
-70000

KEY

- 2 to 4 hulks
- 5 to 10 hulks
- 11 to 20 hulks
- over 20 hulks

Scale 1:2,250,000 @ A3

0 50,000 m

Fig 4 Size of assemblages

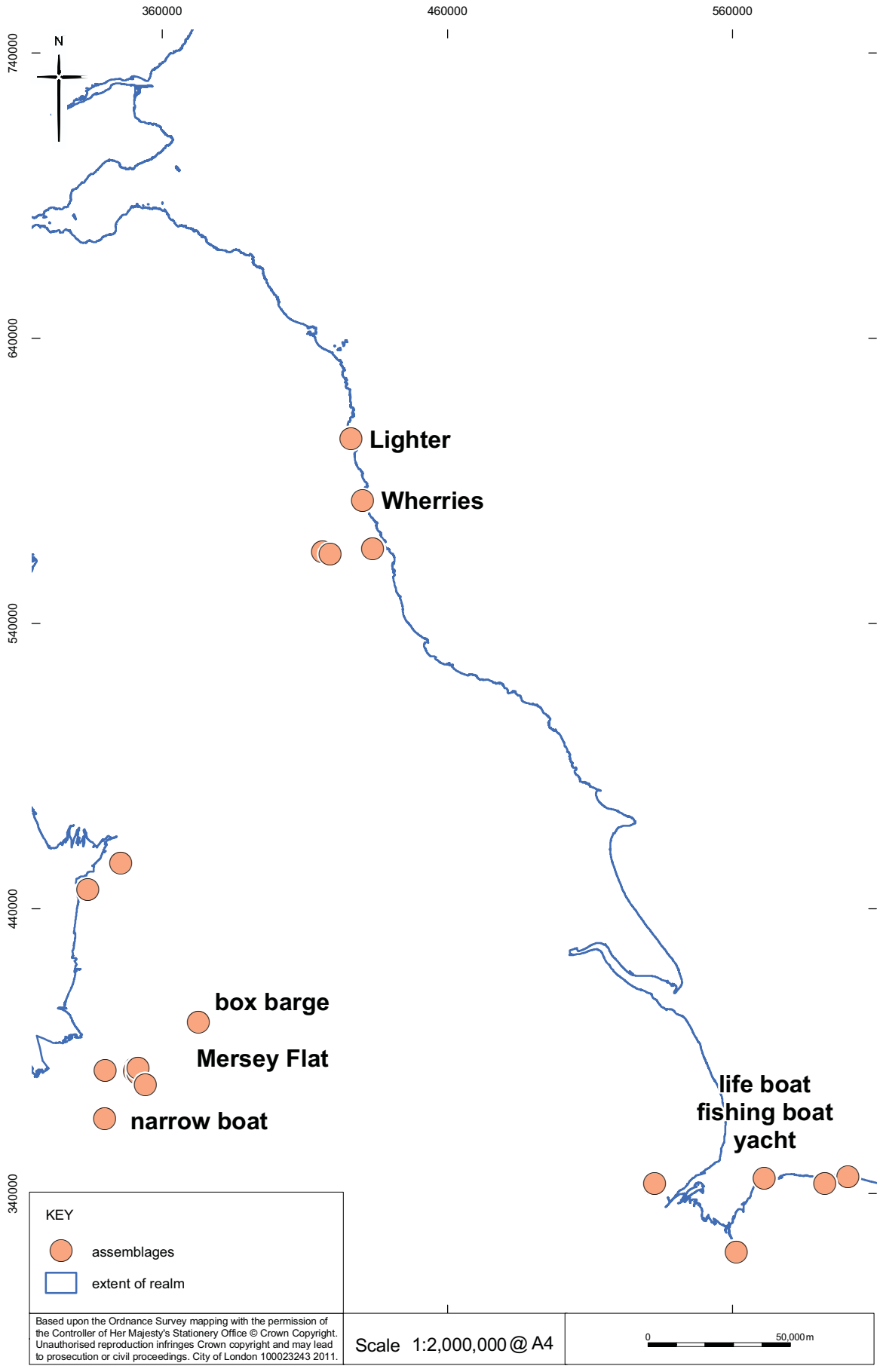

Fig 5a Vessel types

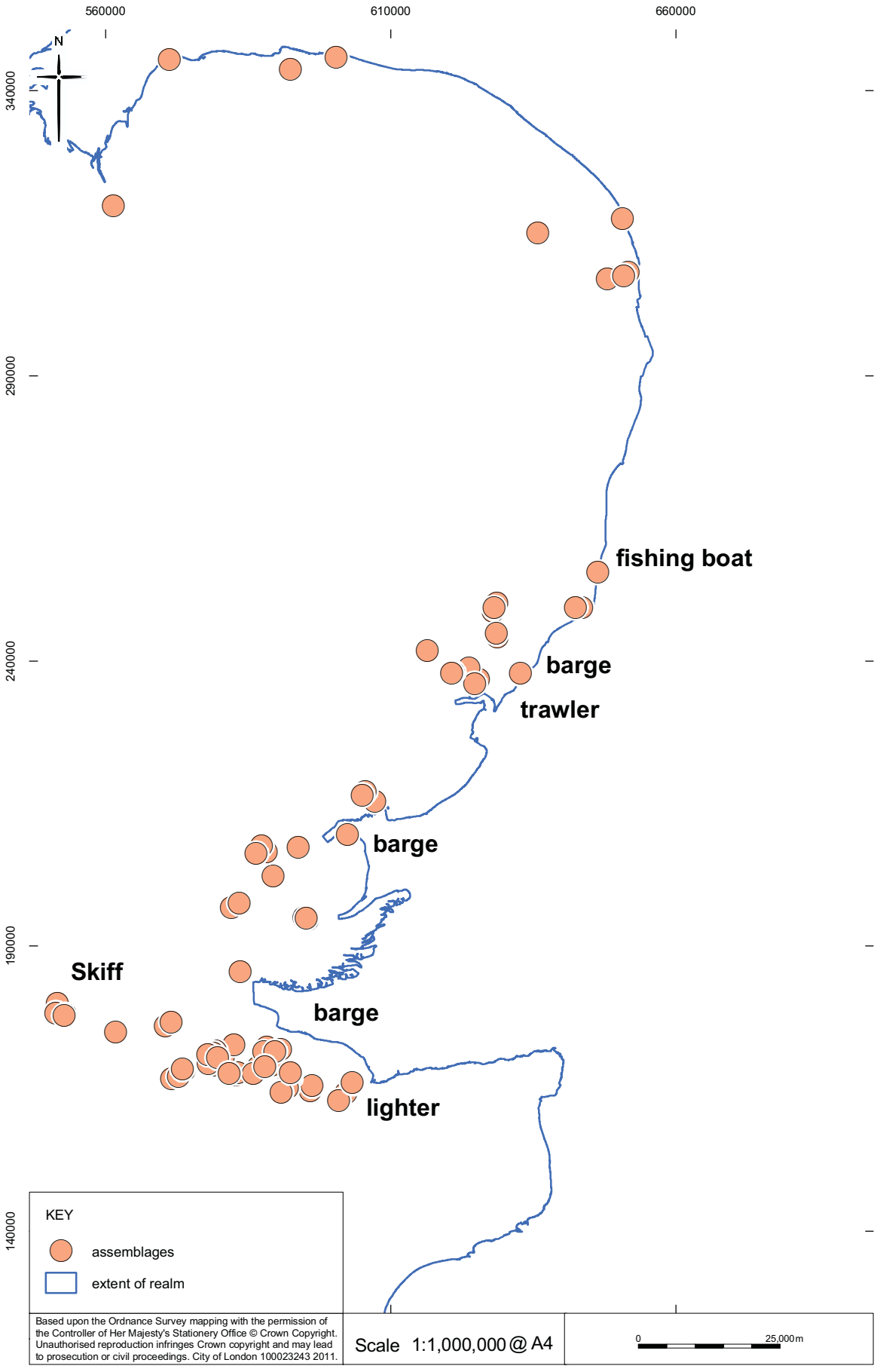

Fig 5b Vessel types

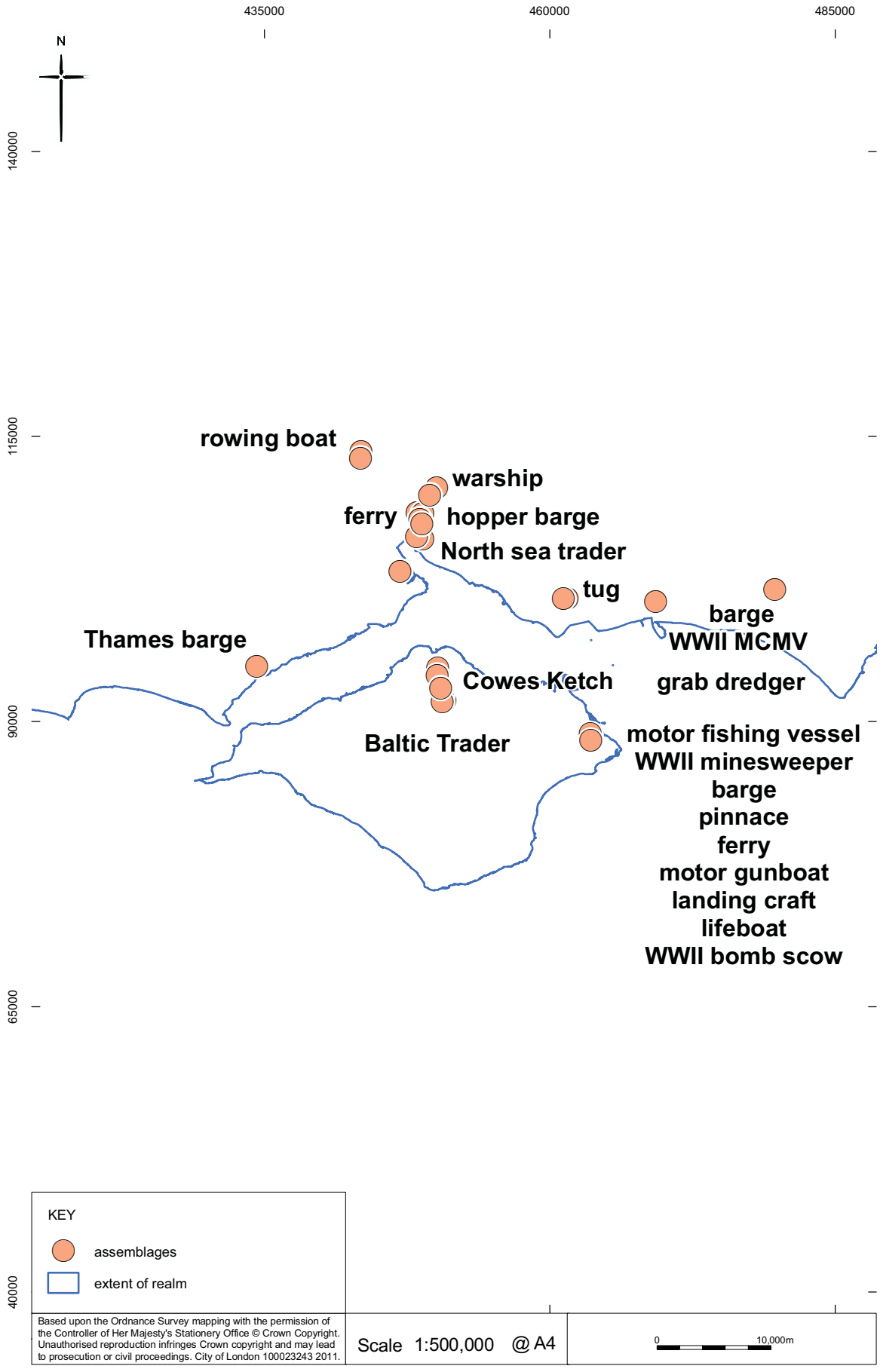

Fig 5c Vessel types

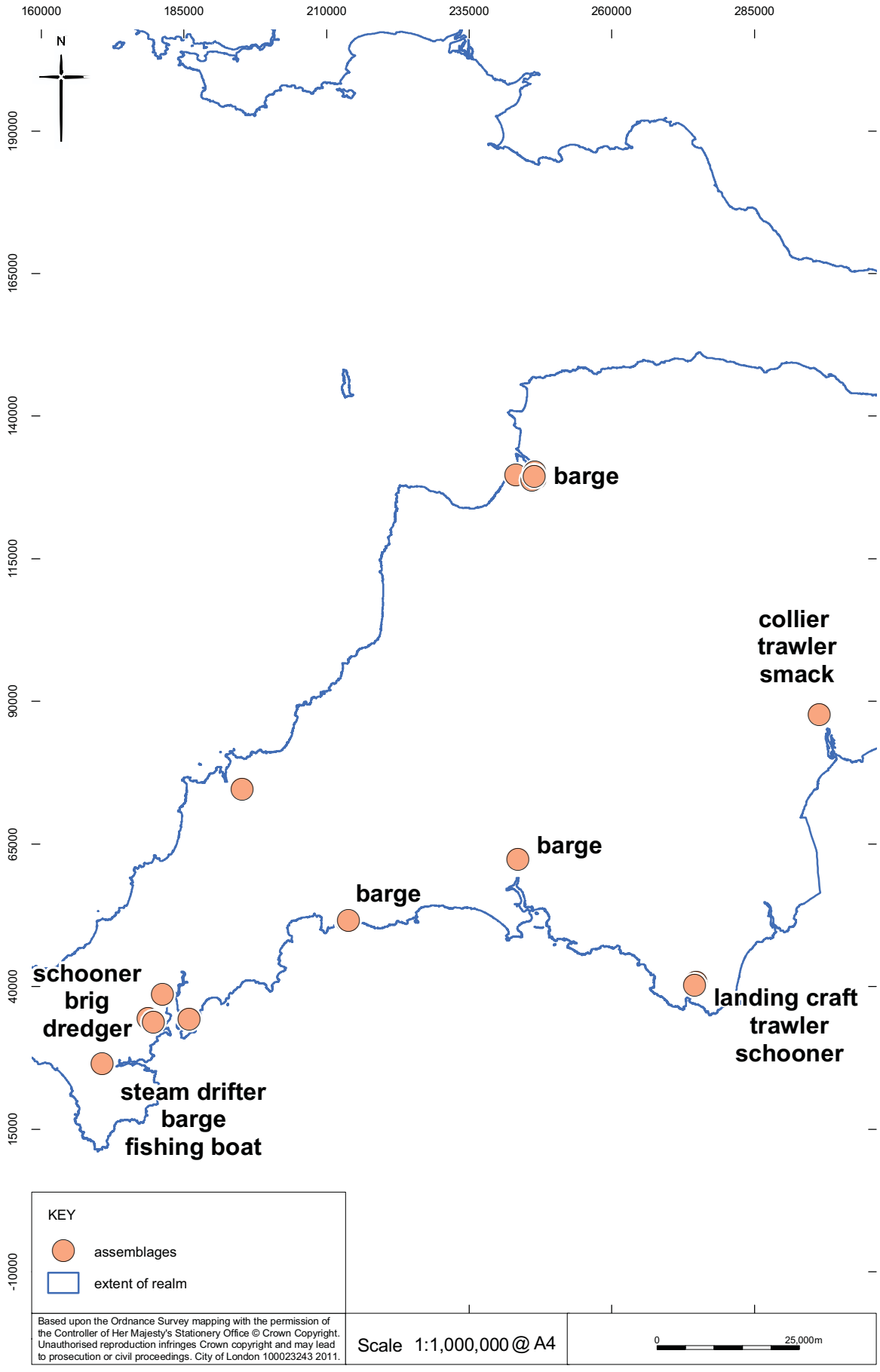

Fig 5d Vessel types

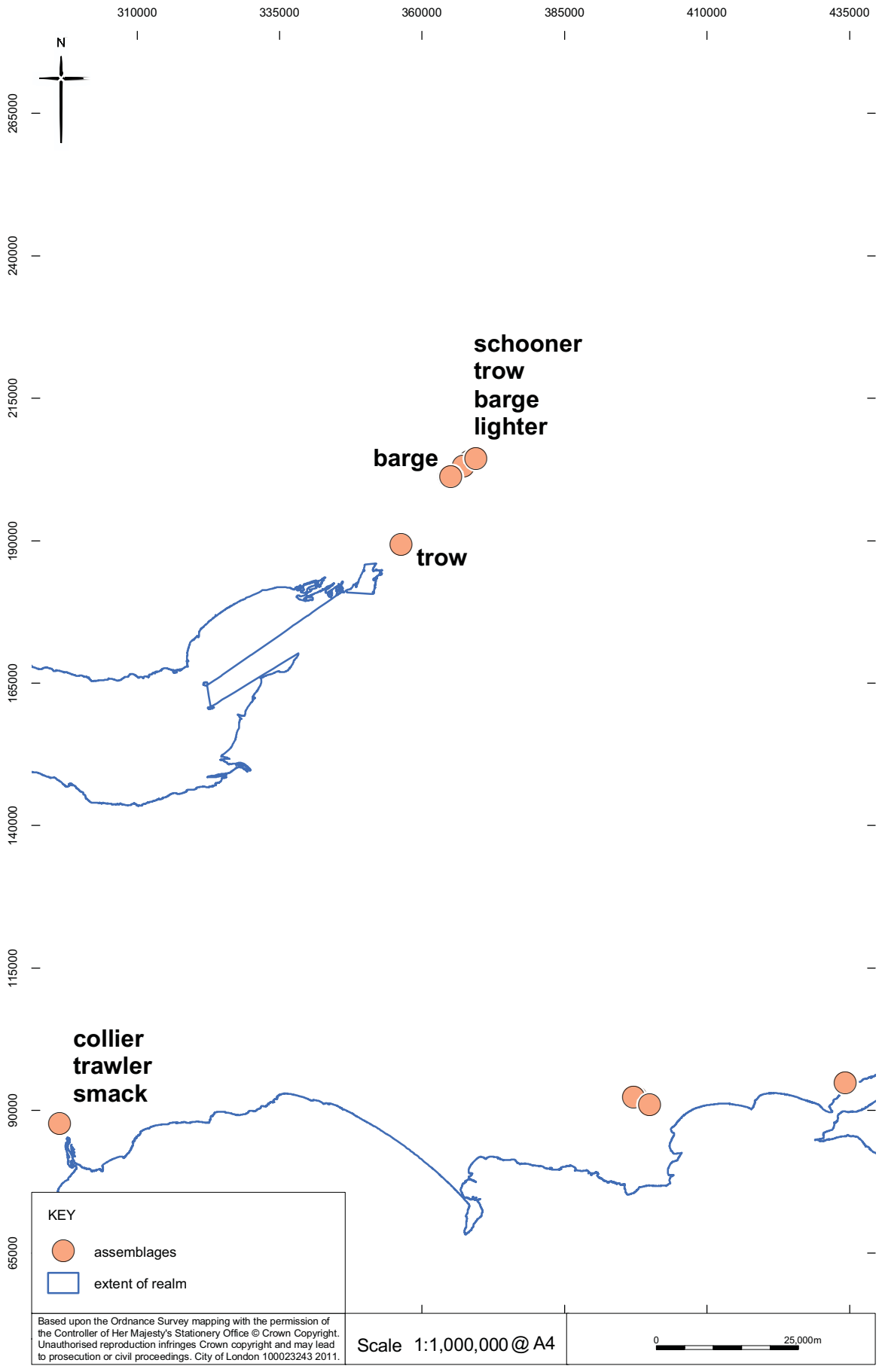

Fig 5e Vessel types